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Contents

Preface

Audience	xcii
Documentation Accessibility	xcii
Diversity and Inclusion	xcii
Related Documents	xciii
Conventions	xciii

1 Changes in This Release for Oracle Database Reference

1.1 Changes in Oracle Database 23ai, Release Update 23.6	1-1
1.2 Changes in Oracle Database 23ai	1-1
1.2.1 New Features	1-1
1.2.2 Deprecated Features	1-7
1.2.3 Desupported Features	1-7

Part I Initialization Parameters

2 Initialization Parameters

2.1 Uses of Initialization Parameters	2-1
2.1.1 Types of Initialization Parameters	2-2
2.1.1.1 Derived Parameters	2-2
2.1.1.2 Operating System-Dependent Parameters	2-2
2.1.1.3 Variable Parameters	2-2
2.2 Basic Initialization Parameters	2-3
2.3 Parameter Files	2-3
2.3.1 Server Parameter Files	2-3
2.3.2 Initialization Parameter Files	2-4
2.3.2.1 About the Character Set of Parameter Values	2-4
2.3.2.2 Specifying Values in an Initialization Parameter File	2-5
2.4 Changing Parameter Values in a Parameter File	2-9
2.4.1 Parameters by Functional Category	2-9
2.4.2 Modifiable Parameters	2-18

2.4.3	Displaying Current Parameter Values	2-27
2.4.4	Parameters You Should Not Specify in the Parameter File	2-28
2.4.5	When Parameters Are Set Incorrectly	2-28
2.5	Reading the Parameter Descriptions	2-28
2.6	Initialization Parameter Descriptions	2-29
2.7	ACTIVE_INSTANCE_COUNT	2-30
2.8	ADG_ACCOUNT_INFO_TRACKING	2-31
2.9	ADG_REDIRECT_DML	2-31
2.10	ALLOW_GLOBAL_DBLINKS	2-32
2.11	ALLOW_GROUP_ACCESS_TO_SGA	2-32
2.12	ALLOW_LEGACY_RECO_PROTOCOL	2-33
2.13	ALLOW_ROWID_COLUMN_TYPE	2-34
2.14	APPROX_FOR_AGGREGATION	2-35
2.15	APPROX_FOR_COUNT_DISTINCT	2-35
2.16	APPROX_FOR_PERCENTILE	2-36
2.17	AQ_TM_PROCESSES	2-37
2.18	ARCHIVE_LAG_TARGET	2-38
2.19	ASM_DISKGROUPS	2-38
2.20	ASM_DISKSTRING	2-39
2.21	ASM_IO_PROCESSES	2-40
2.22	ASM_POWER_LIMIT	2-41
2.23	ASM_PREFERRED_READ_FAILURE_GROUPS	2-42
2.24	AUDIT_FILE_DEST	2-43
2.25	AUDIT_SYS_OPERATIONS	2-44
2.26	AUDIT_SYSLOG_LEVEL	2-45
2.27	AUDIT_TRAIL	2-46
2.28	AUTOTASK_MAX_ACTIVE_PDBS	2-48
2.29	AWR_PDB_AUTOFLUSH_ENABLED	2-49
2.30	AWR_PDB_MAX_PARALLEL_SLAVES	2-50
2.31	AWR_SNAPSHOT_TIME_OFFSET	2-50
2.32	BACKGROUND_CORE_DUMP	2-51
2.33	BACKGROUND_DUMP_DEST	2-52
2.34	BACKUP_TAPE_IO_SLAVES	2-53
2.35	BITMAP_MERGE_AREA_SIZE	2-53
2.36	BLANK_TRIMMING	2-54
2.37	BLOCKCHAIN_TABLE_MAX_NO_DROP	2-55
2.38	BLOCKCHAIN_TABLE_RETENTION_THRESHOLD	2-56
2.39	CIRCUITS	2-56
2.40	CLIENT_RESULT_CACHE_LAG	2-57
2.41	CLIENT_RESULT_CACHE_SIZE	2-57
2.42	CLIENT_STATISTICS_LEVEL	2-58
2.43	CLONEDB	2-59

2.44	CLONEDB_DIR	2-60
2.45	CLUSTER_DATABASE	2-60
2.46	CLUSTER_INTERCONNECTS	2-61
2.47	COMMIT_LOGGING	2-62
2.48	COMMIT_POINT_STRENGTH	2-62
2.49	COMMIT_WAIT	2-63
2.50	COMMIT_WRITE	2-63
2.51	COMMON_USER_PREFIX	2-64
2.52	COMPATIBLE	2-66
2.53	CONNECTION_BROKERS	2-67
2.54	CONTAINER_DATA	2-69
2.55	CONTAINERS_PARALLEL_DEGREE	2-70
2.56	CONTROL_FILE_RECORD_KEEP_TIME	2-70
2.57	CONTROL_FILES	2-71
2.58	CONTROL_MANAGEMENT_PACK_ACCESS	2-72
2.59	CORE_DUMP_DEST	2-73
2.60	CPU_COUNT	2-73
2.61	CPU_MIN_COUNT	2-74
2.62	CREATE_BITMAP_AREA_SIZE	2-75
2.63	CREATE_STORED_OUTLINES	2-76
2.64	CURSOR_BIND_CAPTURE_DESTINATION	2-77
2.65	CURSOR_INVALIDATION	2-78
2.66	CURSOR_SHARING	2-78
2.67	CURSOR_SPACE_FOR_TIME	2-79
2.68	DATA_GUARD_MAX_IO_TIME	2-80
2.69	DATA_GUARD_MAX_LONGIO_TIME	2-81
2.70	DATA_GUARD_SYNC_LATENCY	2-81
2.71	DATA_TRANSFER_CACHE_SIZE	2-82
2.72	DB_nK_CACHE_SIZE	2-82
2.73	DB_BIG_TABLE_CACHE_PERCENT_TARGET	2-83
2.74	DB_BLOCK_BUFFERS	2-85
2.75	DB_BLOCK_CHECKING	2-86
2.76	DB_BLOCK_CHECKSUM	2-87
2.77	DB_BLOCK_SIZE	2-88
2.78	DB_CACHE_ADVICE	2-89
2.79	DB_CACHE_SIZE	2-90
2.80	DB_CREATE_FILE_DEST	2-91
2.81	DB_CREATE_ONLINE_LOG_DEST_n	2-92
2.82	DB_DOMAIN	2-93
2.83	DB_FILE_MULTIBLOCK_READ_COUNT	2-94
2.84	DB_FILE_NAME_CONVERT	2-95
2.85	DB_FILES	2-96

2.86	DB_FLASH_CACHE_FILE	2-96
2.87	DB_FLASH_CACHE_SIZE	2-97
2.88	DB_FLASHBACK_LOG_DEST	2-98
2.89	DB_FLASHBACK_LOG_DEST_SIZE	2-99
2.90	DB_FLASHBACK_RETENTION_TARGET	2-100
2.91	DB_INDEX_COMPRESSION_INHERITANCE	2-100
2.92	DB_KEEP_CACHE_SIZE	2-102
2.93	DB_LOST_WRITE_PROTECT	2-102
2.94	DB_NAME	2-103
2.95	DB_PERFORMANCE_PROFILE	2-104
2.96	DB_RECOVERY_AUTO_REKEY	2-105
2.97	DB_RECOVERY_FILE_DEST	2-105
2.98	DB_RECOVERY_FILE_DEST_SIZE	2-106
2.99	DB_RECYCLE_CACHE_SIZE	2-107
2.100	DB_SECUREFILE	2-107
2.101	DB_ULTRA_SAFE	2-109
2.102	DB_UNIQUE_NAME	2-110
2.103	DB_UNRECOVERABLE_SCN_TRACKING	2-111
2.104	DB_WRITER_PROCESSES	2-111
2.105	DBFIPS_140	2-112
2.106	DBNEST_ENABLE	2-113
2.107	DBNEST_PDB_FS_CONF	2-113
2.108	DBWR_IO_SLAVES	2-114
2.109	DDL_LOCK_TIMEOUT	2-115
2.110	DEFAULT_SHARING	2-115
2.111	DEFERRED_SEGMENT_CREATION	2-116
2.112	DG_BROKER_CONFIG_FILEn	2-116
2.113	DG_BROKER_START	2-117
2.114	DIAGNOSTIC_DEST	2-118
2.115	DIAGNOSTICS_CONTROL	2-119
2.116	DISK_ASYNC_IO	2-120
2.117	DISPATCHERS	2-120
2.118	DISTRIBUTED_LOCK_TIMEOUT	2-123
2.119	DML_LOCKS	2-123
2.120	DNFS_BATCH_SIZE	2-124
2.121	DRCP_CONNECTION_LIMIT	2-125
2.122	DRCP_DEDICATED_OPT	2-125
2.123	DST_UPGRADE_INSERT_CONV	2-126
2.124	ENABLE_AUTOMATIC_MAINTENANCE_PDB	2-127
2.125	ENABLE_DDL_LOGGING	2-128
2.126	ENABLE_DNFS_DISPATCHER	2-129
2.127	ENABLE_GOLDENGATE_REPLICATION	2-130

2.128	ENABLE_IMC_WITH_MIRA	2-131
2.129	ENABLE_PER_PDB_DRCP	2-131
2.130	ENABLE_PLUGGABLE_DATABASE	2-132
2.131	ENABLED_PDBS_ON_STANDBY	2-133
2.132	ENCRYPT_NEW_TABLESPACES	2-134
2.133	ERROR_MESSAGE_DETAILS	2-135
2.134	EVENT	2-136
2.135	EXTERNAL_KEYSTORE_CREDENTIAL_LOCATION	2-137
2.136	FAL_CLIENT	2-137
2.137	FAL_SERVER	2-138
2.138	FAST_START_MTTR_TARGET	2-138
2.139	FAST_START_PARALLEL_ROLLBACK	2-139
2.140	FILE_MAPPING	2-140
2.141	FILEIO_NETWORK_ADAPTERS	2-140
2.142	FILESYSTEMIO_OPTIONS	2-141
2.143	FIXED_DATE	2-141
2.144	FORWARD_LISTENER	2-142
2.145	GCS_SERVER_PROCESSES	2-143
2.146	GLOBAL_NAMES	2-144
2.147	GLOBAL_TXN_PROCESSES	2-144
2.148	GROUP_BY_POSITION_ENABLED	2-145
2.149	HASH_AREA_SIZE	2-146
2.150	HEARTBEAT_BATCH_SIZE	2-147
2.151	HEAT_MAP	2-147
2.152	HI_SHARED_MEMORY_ADDRESS	2-148
2.153	HS_AUTOREGISTER	2-148
2.154	HYBRID_READ_ONLY	2-149
2.155	IDENTITY_PROVIDER_CONFIG	2-150
2.156	IDENTITY_PROVIDER_TYPE	2-151
2.157	IFILE	2-152
2.158	IGNORE_SESSION_SET_PARAM_ERRORS	2-153
2.159	INMEMORY_ADG_ENABLED	2-154
2.160	INMEMORY_AUTOMATIC_LEVEL	2-155
2.161	INMEMORY_CLAUSE_DEFAULT	2-156
2.162	INMEMORY_DEEP_VECTORIZATION	2-160
2.163	INMEMORY_EXPRESSIONS_USAGE	2-161
2.164	INMEMORY_FORCE	2-162
2.165	INMEMORY_MAX_POPULATE_SERVERS	2-163
2.166	INMEMORY_OPTIMIZED_ARITHMETIC	2-165
2.167	INMEMORY_OPTIMIZED_DATE	2-165
2.168	INMEMORY_QUERY	2-166
2.169	INMEMORY_SIZE	2-167

2.170	INMEMORY_TRICKLE_REPOPULATE_SERVERS_PERCENT	2-168
2.171	INMEMORY_VIRTUAL_COLUMNS	2-169
2.172	INSTANCE_ABORT_DELAY_TIME	2-170
2.173	INSTANCE_GROUPS	2-171
2.174	INSTANCE_MODE	2-171
2.175	INSTANCE_NAME	2-172
2.176	INSTANCE_NUMBER	2-173
2.177	INSTANCE_TYPE	2-173
2.178	IORM_LIMIT_POLICY	2-174
2.179	JAVA_JIT_ENABLED	2-175
2.180	JAVA_MAX_SESSIONSPACE_SIZE	2-176
2.181	JAVA_POOL_SIZE	2-176
2.182	JAVA_SOFT_SESSIONSPACE_LIMIT	2-177
2.183	JOB_QUEUE_PROCESSES	2-177
2.184	JSON_BEHAVIOR	2-179
2.185	JSON_EXPRESSION_CHECK	2-181
2.186	LARGE_POOL_SIZE	2-181
2.187	LDAP_DIRECTORY_ACCESS	2-182
2.188	LDAP_DIRECTORY_SYSAUTH	2-184
2.189	LICENSE_MAX_SESSIONS	2-185
2.190	LICENSE_MAX_USERS	2-186
2.191	LICENSE_SESSIONS_WARNING	2-186
2.192	LISTENER_NETWORKS	2-187
2.193	LOB_SIGNATURE_ENABLE	2-188
2.194	LOCAL_LISTENER	2-188
2.195	LOCK_NAME_SPACE	2-189
2.196	LOCK_SGA	2-190
2.197	LOG_ARCHIVE_CONFIG	2-190
2.198	LOG_ARCHIVE_DEST	2-191
2.199	LOG_ARCHIVE_DEST_n	2-192
2.200	LOG_ARCHIVE_DEST_STATE_n	2-197
2.201	LOG_ARCHIVE_DUPLEX_DEST	2-198
2.202	LOG_ARCHIVE_FORMAT	2-199
2.203	LOG_ARCHIVE_MAX_PROCESSES	2-200
2.204	LOG_ARCHIVE_MIN_SUCCEED_DEST	2-201
2.205	LOG_ARCHIVE_TRACE	2-202
2.206	LOG_BUFFER	2-204
2.207	LOG_CHECKPOINT_INTERVAL	2-205
2.208	LOG_CHECKPOINT_TIMEOUT	2-206
2.209	LOG_CHECKPOINTS_TO_ALERT	2-207
2.210	LOG_FILE_NAME_CONVERT	2-207
2.211	LONG_MODULE_ACTION	2-209

2.212	MANDATORY_USER_PROFILE	2-209
2.213	MAX_AUTH_SERVERS	2-210
2.214	MAX_COLUMNS	2-211
2.215	MAX_DATAPUMP_JOBS_PER_PDB	2-212
2.216	MAX_DATAPUMP_PARALLEL_PER_JOB	2-212
2.217	MAX_DISPATCHERS	2-213
2.218	MAX_DUMP_FILE_SIZE	2-213
2.219	MAX_IDLE_BLOCKER_TIME	2-215
2.220	MAX_IDLE_TIME	2-215
2.221	MAX_IOPS	2-216
2.222	MAX_MBPS	2-217
2.223	MAX_PDBS	2-218
2.224	MAX_SAGA_DURATION	2-219
2.225	MAX_SHARED_SERVERS	2-219
2.226	MAX_STRING_SIZE	2-220
2.227	MEMOPTIMIZE_POOL_SIZE	2-225
2.228	MEMOPTIMIZE_WRITE_AREA_SIZE	2-226
2.229	MEMOPTIMIZE_WRITES	2-226
2.230	MEMORY_MAX_SIZE	2-227
2.231	MEMORY_MAX_TARGET	2-227
2.232	MEMORY_SIZE	2-228
2.233	MEMORY_TARGET	2-229
2.234	MIN_AUTH_SERVERS	2-230
2.235	MLE_PROG_LANGUAGES	2-231
2.236	MULTISHARD_QUERY_DATA_CONSISTENCY	2-232
2.237	NLS_CALENDAR	2-232
2.238	NLS_COMP	2-233
2.239	NLS_CURRENCY	2-235
2.240	NLS_DATE_FORMAT	2-235
2.241	NLS_DATE_LANGUAGE	2-236
2.242	NLS_DUAL_CURRENCY	2-237
2.243	NLS_ISO_CURRENCY	2-238
2.244	NLS_LANGUAGE	2-239
2.245	NLS_LENGTH_SEMANTICS	2-240
2.246	NLS_NCHAR_CONV_EXCP	2-241
2.247	NLS_NUMERIC_CHARACTERS	2-241
2.248	NLS_SORT	2-242
2.249	NLS_TERRITORY	2-244
2.250	NLS_TIMESTAMP_FORMAT	2-244
2.251	NLS_TIMESTAMP_TZ_FORMAT	2-245
2.252	NONCDB_COMPATIBLE	2-246
2.253	OBJECT_CACHE_MAX_SIZE_PERCENT	2-247

2.254	OBJECT_CACHE_OPTIMAL_SIZE	2-248
2.255	OFS_THREADS	2-248
2.256	OLAP_PAGE_POOL_SIZE	2-249
2.257	ONE_STEP_PLUGIN_FOR_PDB_WITH_TDE	2-250
2.258	OPEN_CURSORS	2-250
2.259	OPEN_LINKS	2-251
2.260	OPEN_LINKS_PER_INSTANCE	2-252
2.261	OPTIMIZER_ADAPTIVE_PLANS	2-253
2.262	OPTIMIZER_ADAPTIVE_REPORTING_ONLY	2-253
2.263	OPTIMIZER_ADAPTIVE_STATISTICS	2-254
2.264	OPTIMIZER_CAPTURE_SQL_PLAN_BASELINES	2-255
2.265	OPTIMIZER_CAPTURE_SQL_QUARANTINE	2-255
2.266	OPTIMIZER_CROSS_SHARD_RESILIENCY	2-256
2.267	OPTIMIZER_DYNAMIC_SAMPLING	2-256
2.268	OPTIMIZER_FEATURES_ENABLE	2-257
2.269	OPTIMIZER_IGNORE_HINTS	2-259
2.270	OPTIMIZER_IGNORE_PARALLEL_HINTS	2-259
2.271	OPTIMIZER_INDEX_CACHING	2-260
2.272	OPTIMIZER_INDEX_COST_ADJ	2-260
2.273	OPTIMIZER_INMEMORY_AWARE	2-261
2.274	OPTIMIZER_MODE	2-262
2.275	OPTIMIZER_REAL_TIME_STATISTICS	2-262
2.276	OPTIMIZER_SESSION_TYPE	2-263
2.277	OPTIMIZER_USE_INVISIBLE_INDEXES	2-264
2.278	OPTIMIZER_USE_PENDING_STATISTICS	2-264
2.279	OPTIMIZER_USE_SQL_PLAN_BASELINES	2-265
2.280	OPTIMIZER_USE_SQL_QUARANTINE	2-265
2.281	OS_AUTHENT_PREFIX	2-266
2.282	OS_ROLES	2-267
2.283	OUTBOUND_DBLINK_PROTOCOLS	2-268
2.284	PARALLEL_ADAPTIVE_MULTI_USER	2-268
2.285	PARALLEL_DEGREE_LIMIT	2-269
2.286	PARALLEL_DEGREE_POLICY	2-270
2.287	PARALLEL_EXECUTION_MESSAGE_SIZE	2-271
2.288	PARALLEL_FORCE_LOCAL	2-272
2.289	PARALLEL_INSTANCE_GROUP	2-273
2.290	PARALLEL_MAX_SERVERS	2-273
2.291	PARALLEL_MIN_DEGREE	2-275
2.292	PARALLEL_MIN_PERCENT	2-275
2.293	PARALLEL_MIN_SERVERS	2-276
2.294	PARALLEL_MIN_TIME_THRESHOLD	2-277
2.295	PARALLEL_SERVERS_TARGET	2-278

2.296	PARALLEL_THREADS_PER_CPU	2-280
2.297	PDB_FILE_NAME_CONVERT	2-280
2.298	PDB_LOCKDOWN	2-281
2.299	PDB_OS_CREDENTIAL	2-283
2.300	PERMIT_92_WRAP_FORMAT	2-284
2.301	PGA_AGGREGATE_LIMIT	2-285
2.302	PGA_AGGREGATE_TARGET	2-287
2.303	PKCS11_LIBRARY_LOCATION	2-288
2.304	PLSCOPE_SETTINGS	2-289
2.305	PLSQL_CCFLAGS	2-290
2.306	PLSQL_CODE_TYPE	2-291
2.307	PLSQL_DEBUG	2-292
2.308	PLSQL_IMPLICIT_CONVERSION_BOOL	2-293
2.309	PLSQL_OPTIMIZE_LEVEL	2-294
2.310	PLSQL_V2_COMPATIBILITY	2-295
2.311	PLSQL_WARNINGS	2-295
2.312	PMEM_FILESTORE	2-297
2.313	PRE_PAGE_SGA	2-297
2.314	PRIORITY_TXNS_HIGH_WAIT_TARGET	2-298
2.315	PRIORITY_TXNS_MEDIUM_WAIT_TARGET	2-299
2.316	PRIORITY_TXNS_MODE	2-300
2.317	PRIVATE_TEMP_TABLE_PREFIX	2-301
2.318	PROCESSES	2-302
2.319	PROCESSOR_GROUP_NAME	2-303
2.320	QUERY_REWRITE_ENABLED	2-304
2.321	QUERY_REWRITE_INTEGRITY	2-305
2.322	RDBMS_SERVER_DN	2-306
2.323	READ_ONLY	2-307
2.324	READ_ONLY_OPEN_DELAYED	2-307
2.325	RECOVERY_PARALLELISM	2-308
2.326	RECYCLEBIN	2-309
2.327	REDO_TRANSPORT_USER	2-309
2.328	REMOTE_DEPENDENCIES_MODE	2-310
2.329	REMOTE_LISTENER	2-310
2.330	REMOTE_LOGIN_PASSWORDFILE	2-311
2.331	REMOTE_OS_ROLES	2-312
2.332	REMOTE_RECOVERY_FILE_DEST	2-313
2.333	REPLICATION_DEPENDENCY_TRACKING	2-313
2.334	RESOURCE_LIMIT	2-314
2.335	RESOURCE_MANAGE_GOLDENGATE	2-314
2.336	RESOURCE_MANAGER_CPU_ALLOCATION	2-315
2.337	RESOURCE_MANAGER_CPU_SCOPE	2-316

2.338	RESOURCE_MANAGER_PLAN	2-317
2.339	RESULT_CACHE_AUTO_BLOCKLIST	2-319
2.340	RESULT_CACHE_EXECUTION_THRESHOLD	2-319
2.341	RESULT_CACHE_INTEGRITY	2-320
2.342	RESULT_CACHE_MAX_RESULT	2-321
2.343	RESULT_CACHE_MAX_SIZE	2-321
2.344	RESULT_CACHE_MAX_TEMP_RESULT	2-322
2.345	RESULT_CACHE_MAX_TEMP_SIZE	2-322
2.346	RESULT_CACHE_MODE	2-323
2.347	RESULT_CACHE_REMOTE_EXPIRATION	2-324
2.348	RESUMABLE_TIMEOUT	2-324
2.349	ROLLBACK_SEGMENTS	2-325
2.350	SAGA_HIST_RETENTION	2-326
2.351	SEC_MAX_FAILED_LOGIN_ATTEMPTS	2-326
2.352	SEC_PROTOCOL_ERROR_FURTHER_ACTION	2-327
2.353	SEC_PROTOCOL_ERROR_TRACE_ACTION	2-328
2.354	SEC_RETURN_SERVER_RELEASE_BANNER	2-328
2.355	SERIAL_REUSE	2-329
2.356	SERVICE_NAMES	2-330
2.357	SESSION_CACHED_CURSORS	2-331
2.358	SESSION_EXIT_ON_PACKAGE_STATE_ERROR	2-332
2.359	SESSION_MAX_OPEN_FILES	2-333
2.360	SESSIONS	2-333
2.361	SGA_MAX_SIZE	2-334
2.362	SGA_MIN_SIZE	2-335
2.363	SGA_TARGET	2-336
2.364	SHADOW_CORE_DUMP	2-339
2.365	SHARD_ENABLE_RAFT_FOLLOWER_READ	2-340
2.366	SHARD_RAFT_LOGFILE_SIZE	2-340
2.367	SHARED_MEMORY_ADDRESS	2-341
2.368	SHARED_POOL_RESERVED_SIZE	2-341
2.369	SHARED_POOL_SIZE	2-342
2.370	SHARED_SERVER_SESSIONS	2-344
2.371	SHARED_SERVERS	2-344
2.372	SHRD_DUPL_TABLE_REFRESH_RATE	2-345
2.373	SKIP_UNUSABLE_INDEXES	2-346
2.374	SMTP_OUT_SERVER	2-347
2.375	SORT_AREA_RETAINED_SIZE	2-347
2.376	SORT_AREA_SIZE	2-348
2.377	SPATIAL_VECTOR_ACCELERATION	2-349
2.378	SPFILE	2-350
2.379	SQL_ERROR_MITIGATION	2-351

2.380	SQL_HISTORY_ENABLED	2-351
2.381	SQL_TRACE	2-352
2.382	SQL_TRANSPIER	2-353
2.383	SQL92_SECURITY	2-353
2.384	SQLTUNE_CATEGORY	2-354
2.385	STANDBY_DB_PRESERVE_STATES	2-354
2.386	STANDBY_FILE_MANAGEMENT	2-356
2.387	STANDBY_PDB_SOURCE_FILE_DBLINK	2-356
2.388	STANDBY_PDB_SOURCE_FILE_DIRECTORY	2-357
2.389	STAR_TRANSFORMATION_ENABLED	2-358
2.390	STATISTICS_LEVEL	2-359
2.391	STREAMS_POOL_SIZE	2-360
2.392	SYSDATE_AT_DBTIMEZONE	2-361
2.393	TABLESPACE_ENCRYPTION	2-362
2.394	TABLESPACE_ENCRYPTION_DEFAULT_ALGORITHM	2-363
2.395	TAPE_ASYNC_IO	2-364
2.396	TDE_CONFIGURATION	2-365
2.397	TDE_KEY_CACHE	2-368
2.398	TEMP_UNDO_ENABLED	2-368
2.399	THREAD	2-369
2.400	THREADED_EXECUTION	2-370
2.401	TIME_AT_DBTIMEZONE	2-372
2.402	TIMED_OS_STATISTICS	2-373
2.403	TIMED_STATISTICS	2-373
2.404	TIMEZONE_VERSION_UPGRADE_ONLINE	2-374
2.405	TRACE_ENABLED	2-375
2.406	TRACEFILE_IDENTIFIER	2-375
2.407	TRANSACTION_RECOVERY	2-376
2.408	TRANSACTIONS	2-377
2.409	TRANSACTIONS_PER_ROLLBACK_SEGMENT	2-378
2.410	TRUE_CACHE	2-378
2.411	TXN_PRIORITY	2-379
2.412	UNDO_MANAGEMENT	2-380
2.413	UNDO_RETENTION	2-381
2.414	UNDO_TABLESPACE	2-382
2.415	UNIFIED_AUDIT_COMMON_SYSTEMLOG	2-383
2.416	UNIFIED_AUDIT_SYSTEMLOG	2-384
2.417	UNIFORM_LOG_TIMESTAMP_FORMAT	2-385
2.418	USE_DEDICATED_BROKER	2-386
2.419	USE_LARGE_PAGES	2-387
2.420	USER_DUMP_DEST	2-388
2.421	WALLET_ROOT	2-389

2.422	WORKAREA_SIZE_POLICY	2-392
2.423	XML_DB_EVENTS	2-393
2.424	XML_PARAMS	2-394

Part II Static Data Dictionary Views

3 Static Data Dictionary Views: ALL_ALL_TABLES to ALL_OUTLINES

3.1	About Static Data Dictionary Views	3-1
3.2	AWR_PDB_* Views	3-2
3.3	AWR_ROOT_* Views	3-2
3.4	CDB_* Views	3-3
3.5	DBA_HIST_* Views	3-4
3.6	Oracle Database Real Application Security Views	3-4
3.7	Oracle Database Vault Views	3-4
3.8	Oracle Label Security Views	3-5
3.9	Oracle Workspace Manager Views	3-5
3.10	Recovery Catalog Views	3-6
3.11	Static Data Dictionary View Descriptions	3-7
3.12	ALL_ALL_TABLES	3-7
3.13	ALL_ANALYTIC_VIEW_AGGR_DIMS	3-13
3.14	ALL_ANALYTIC_VIEW_AGGR_FNS	3-14
3.15	ALL_ANALYTIC_VIEW_AGGR_FNS_AE	3-14
3.16	ALL_ANALYTIC_VIEW_AGR_DIMS	3-15
3.17	ALL_ANALYTIC_VIEW_AGR_DIMS_AE	3-16
3.18	ALL_ANALYTIC_VIEW_ATTR_CLASS	3-17
3.19	ALL_ANALYTIC_VIEW_ATTR_CLS	3-18
3.20	ALL_ANALYTIC_VIEW_ATTR_CLS_AE	3-18
3.21	ALL_ANALYTIC_VIEW_BAS_MEAS	3-19
3.22	ALL_ANALYTIC_VIEW_BAS_MEAS_AE	3-19
3.23	ALL_ANALYTIC_VIEW_BASE_MEAS	3-20
3.24	ALL_ANALYTIC_VIEW_CALC_MEAS	3-21
3.25	ALL_ANALYTIC_VIEW_CLASS	3-22
3.26	ALL_ANALYTIC_VIEW_CLASS_AE	3-23
3.27	ALL_ANALYTIC_VIEW_CLC_MEAS	3-23
3.28	ALL_ANALYTIC_VIEW_CLC_MEAS_AE	3-24
3.29	ALL_ANALYTIC_VIEW_COLUMNS	3-24
3.30	ALL_ANALYTIC_VIEW_COLUMNS_AE	3-26
3.31	ALL_ANALYTIC_VIEW_DIM_ATTRS	3-27
3.32	ALL_ANALYTIC_VIEW_DIM_ATTRS_AE	3-28
3.33	ALL_ANALYTIC_VIEW_DIM_ATTRS	3-29

3.34	ALL_ANALYTIC_VIEW_DIM_CLASS	3-29
3.35	ALL_ANALYTIC_VIEW_DIM_CLS	3-30
3.36	ALL_ANALYTIC_VIEW_DIM_CLS_AE	3-30
3.37	ALL_ANALYTIC_VIEW_DIMENSIONS	3-31
3.38	ALL_ANALYTIC_VIEW_DIMS	3-32
3.39	ALL_ANALYTIC_VIEW_DIMS_AE	3-33
3.40	ALL_ANALYTIC_VIEW_FACT_COLS	3-34
3.41	ALL_ANALYTIC_VIEW_FCT_COLS	3-34
3.42	ALL_ANALYTIC_VIEW_FCT_COLS_AE	3-35
3.43	ALL_ANALYTIC_VIEW_HIER_CLASS	3-36
3.44	ALL_ANALYTIC_VIEW_HIER_CLS	3-36
3.45	ALL_ANALYTIC_VIEW_HIER_CLS_AE	3-37
3.46	ALL_ANALYTIC_VIEW_HIERS	3-38
3.47	ALL_ANALYTIC_VIEW_HIERS_AE	3-38
3.48	ALL_ANALYTIC_VIEW_KEYS	3-39
3.49	ALL_ANALYTIC_VIEW_KEYS_AE	3-40
3.50	ALL_ANALYTIC_VIEW_LEVEL_CLASS	3-41
3.51	ALL_ANALYTIC_VIEW_LEVELS	3-42
3.52	ALL_ANALYTIC_VIEW_LEVELS_AE	3-43
3.53	ALL_ANALYTIC_VIEW_LVL_CLS	3-44
3.54	ALL_ANALYTIC_VIEW_LVL_CLS_AE	3-44
3.55	ALL_ANALYTIC_VIEW_LVLGRPS	3-45
3.56	ALL_ANALYTIC_VIEW_LVLGRPS_AE	3-46
3.57	ALL_ANALYTIC_VIEW_MEAS_CLASS	3-47
3.58	ALL_ANALYTIC_VIEW_MEAS_CLS	3-48
3.59	ALL_ANALYTIC_VIEW_MEAS_CLS_AE	3-48
3.60	ALL_ANALYTIC_VIEWS	3-49
3.61	ALL_ANALYTIC_VIEWS_AE	3-50
3.62	ALL_ANNOTATION_VALUES	3-51
3.63	ALL_ANNOTATIONS	3-51
3.64	ALL_ANNOTATIONS_USAGE	3-52
3.65	ALL_APPLY	3-53
3.66	ALL_APPLY_CHANGE_HANDLERS	3-55
3.67	ALL_APPLY_CONFLICT_COLUMNS	3-56
3.68	ALL_APPLY_DML_CONF_HANDLERS	3-56
3.69	ALL_APPLY_DML_HANDLERS	3-57
3.70	ALL_APPLY_ENQUEUE	3-58
3.71	ALL_APPLY_ERROR	3-59
3.72	ALL_APPLY_ERROR_MESSAGES	3-60
3.73	ALL_APPLY_EXECUTE	3-62
3.74	ALL_APPLY_HANDLE_COLLISIONS	3-63
3.75	ALL_APPLY_INSTANTIATED_GLOBAL	3-63

3.76	ALL_APPLY_INSTANTIATED_OBJECTS	3-64
3.77	ALL_APPLY_INSTANTIATED_SCHEMAS	3-65
3.78	ALL_APPLY_KEY_COLUMNS	3-65
3.79	ALL_APPLY_PARAMETERS	3-66
3.80	ALL_APPLY_PROGRESS	3-66
3.81	ALL_APPLY_REPERROR_HANDLERS	3-67
3.82	ALL_APPLY_TABLE_COLUMNS	3-68
3.83	ALL_ARGUMENTS	3-69
3.84	ALL_ASSEMBLIES	3-71
3.85	ALL_ASSOCIATIONS	3-72
3.86	ALL_ATTRIBUTE_DIM_ATTR_CLASS	3-73
3.87	ALL_ATTRIBUTE_DIM_ATTR_CLS	3-73
3.88	ALL_ATTRIBUTE_DIM_ATTR_CLS_AE	3-74
3.89	ALL_ATTRIBUTE_DIM_ATTRS	3-75
3.90	ALL_ATTRIBUTE_DIM_ATTRS_AE	3-75
3.91	ALL_ATTRIBUTE_DIM_CLASS	3-76
3.92	ALL_ATTRIBUTE_DIM_CLASS_AE	3-77
3.93	ALL_ATTRIBUTE_DIM_JN_PTHS	3-78
3.94	ALL_ATTRIBUTE_DIM_JN_PTHS_AE	3-78
3.95	ALL_ATTRIBUTE_DIM_JOIN_PATHS	3-79
3.96	ALL_ATTRIBUTE_DIM_KEYS	3-79
3.97	ALL_ATTRIBUTE_DIM_KEYS_AE	3-80
3.98	ALL_ATTRIBUTE_DIM_LEVEL_ATTRS	3-81
3.99	ALL_ATTRIBUTE_DIM_LEVELS	3-82
3.100	ALL_ATTRIBUTE_DIM_LEVELS_AE	3-83
3.101	ALL_ATTRIBUTE_DIM_LVL_ATTRS	3-84
3.102	ALL_ATTRIBUTE_DIM_LVL_ATTRS_AE	3-84
3.103	ALL_ATTRIBUTE_DIM_LVL_CLASS	3-85
3.104	ALL_ATTRIBUTE_DIM_LVL_CLS	3-86
3.105	ALL_ATTRIBUTE_DIM_LVL_CLS_AE	3-86
3.106	ALL_ATTRIBUTE_DIM_ORD_ATTRS	3-87
3.107	ALL_ATTRIBUTE_DIM_ORD_ATTRS_AE	3-87
3.108	ALL_ATTRIBUTE_DIM_ORDER_ATTRS	3-88
3.109	ALL_ATTRIBUTE_DIM_TABLES	3-89
3.110	ALL_ATTRIBUTE_DIM_TABLES_AE	3-90
3.111	ALL_ATTRIBUTE_DIMENSIONS	3-91
3.112	ALL_ATTRIBUTE_DIMENSIONS_AE	3-92
3.113	ALL_ATTRIBUTE_TRANSFORMATIONS	3-93
3.114	ALL_AUDIT_POLICIES	3-94
3.115	ALL_AUDIT_POLICY_COLUMNS	3-96
3.116	ALL_AW_PS	3-96
3.117	ALL_AWS	3-97

3.118	ALL_BASE_TABLE_MVIEWS	3-98
3.119	ALL_BLOCKCHAIN_ROW_VERSION_COLS	3-98
3.120	ALL_BLOCKCHAIN_ROW_VERSION_HISTORY	3-99
3.121	ALL_BLOCKCHAIN_TABLE_CHAINS	3-100
3.122	ALL_BLOCKCHAIN_TABLE_EPOCHS	3-101
3.123	ALL_BLOCKCHAIN_TABLE_HASH_COL_ORDER	3-102
3.124	ALL_BLOCKCHAIN_TABLES	3-103
3.125	ALL_CAPTURE	3-104
3.126	ALL_CAPTURE_EXTRA_ATTRIBUTES	3-107
3.127	ALL_CAPTURE_PARAMETERS	3-108
3.128	ALL_CAPTURE_PREPARED_DATABASE	3-108
3.129	ALL_CAPTURE_PREPARED_SCHEMAS	3-109
3.130	ALL_CAPTURE_PREPARED_TABLES	3-110
3.131	ALL_CATALOG	3-111
3.132	ALL_CERTIFICATES	3-112
3.133	ALL_CLUSTER_HASH_EXPRESSIONS	3-112
3.134	ALL_CLUSTERING_DIMENSIONS	3-113
3.135	ALL_CLUSTERING_JOINS	3-114
3.136	ALL_CLUSTERING_KEYS	3-115
3.137	ALL_CLUSTERING_TABLES	3-116
3.138	ALL_CLUSTERS	3-117
3.139	ALL_CODE_ROLE_PRIVS	3-119
3.140	ALL_COL_COMMENTS	3-119
3.141	ALL_COL_PENDING_STATS	3-120
3.142	ALL_COL_PRIVS	3-121
3.143	ALL_COL_PRIVS_MADE	3-122
3.144	ALL_COL_PRIVS_RECD	3-122
3.145	ALL_COLL_TYPES	3-123
3.146	ALL_CONS_COLUMNS	3-124
3.147	ALL_CONS_OBJ_COLUMNS	3-125
3.148	ALL_CONSTRAINTS	3-126
3.149	ALL_CONTEXT	3-129
3.150	ALL_CREDENTIALS	3-129
3.151	ALL_CUBE_ATTR_VISIBILITY	3-130
3.152	ALL_CUBE_ATTRIBUTES	3-131
3.153	ALL_CUBE_BUILD_PROCESSES	3-133
3.154	ALL_CUBE_CALCULATED_MEMBERS	3-133
3.155	ALL_CUBE_DIM_LEVELS	3-134
3.156	ALL_CUBE_DIM_MODELS	3-135
3.157	ALL_CUBE_DIM_VIEW_COLUMNS	3-135
3.158	ALL_CUBE_DIM_VIEWS	3-136
3.159	ALL_CUBE_DIMENSIONALITY	3-137

3.160	ALL_CUBE_DIMENSIONS	3-137
3.161	ALL_CUBE_HIER_LEVELS	3-138
3.162	ALL_CUBE_HIER_VIEW_COLUMNS	3-139
3.163	ALL_CUBE_HIER_VIEWS	3-140
3.164	ALL_CUBE_HIERARCHIES	3-141
3.165	ALL_CUBE_MEASURES	3-142
3.166	ALL_CUBE_NAMED_BUILD_SPECS	3-143
3.167	ALL_CUBE_SUB_PARTITION_LEVELS	3-143
3.168	ALL_CUBE_VIEW_COLUMNS	3-144
3.169	ALL_CUBE_VIEWS	3-145
3.170	ALL_CUBES	3-145
3.171	ALL_DB_LINKS	3-146
3.172	ALL_DEF_AUDIT_OPTS	3-147
3.173	ALL_DEPENDENCIES	3-148
3.174	ALL_DEQUEUE_QUEUES	3-149
3.175	ALL_DIM_ATTRIBUTES	3-150
3.176	ALL_DIM_CHILD_OF	3-150
3.177	ALL_DIM_HIERARCHIES	3-151
3.178	ALL_DIM_JOIN_KEY	3-152
3.179	ALL_DIM_LEVEL_KEY	3-152
3.180	ALL_DIM_LEVELS	3-153
3.181	ALL_DIMENSIONS	3-153
3.182	ALL_DIRECTORIES	3-154
3.183	ALL_DOMAIN_COLS	3-155
3.184	ALL_DOMAIN_CONSTRAINTS	3-156
3.185	ALL_DOMAINS	3-158
3.186	ALL_EDITION_COMMENTS	3-159
3.187	ALL_EDITIONING_VIEW_COLS	3-160
3.188	ALL_EDITIONING_VIEW_COLS_AE	3-160
3.189	ALL_EDITIONING_VIEWS	3-161
3.190	ALL_EDITIONING_VIEWS_AE	3-162
3.191	ALL_EDITIONS	3-162
3.192	ALL_ENCRYPTED_COLUMNS	3-163
3.193	ALL_ERROR_TRANSLATIONS	3-163
3.194	ALL_ERRORS	3-164
3.195	ALL_ERRORS_AE	3-165
3.196	ALL_EVALUATION_CONTEXT_TABLES	3-166
3.197	ALL_EVALUATION_CONTEXT_VARS	3-166
3.198	ALL_EVALUATION_CONTEXTS	3-167
3.199	ALL_EXPRESSION_STATISTICS	3-168
3.200	ALL_EXTERNAL_LOCATIONS	3-168
3.201	ALL_EXTERNAL_TABLES	3-169

3.202	ALL_GG_AUTO_CDR_COLUMN_GROUPS	3-170
3.203	ALL_GG_AUTO_CDR_COLUMNS	3-171
3.204	ALL_GG_AUTO_CDR_TABLES	3-171
3.205	ALL_GG_INBOUND_PROGRESS	3-172
3.206	ALL_GOLDENGATE_INBOUND	3-173
3.207	ALL_GOLDENGATE_PRIVILEGES	3-174
3.208	ALL_GOLDENGATE_RULES	3-175
3.209	ALL_HEAT_MAP_SEG_HISTOGRAM	3-176
3.210	ALL_HEAT_MAP_SEGMENT	3-177
3.211	ALL_HIER_CLASS	3-178
3.212	ALL_HIER_CLASS_AE	3-179
3.213	ALL_HIER_COLUMNS	3-179
3.214	ALL_HIER_COLUMNS_AE	3-181
3.215	ALL_HIER_HIER_ATTR_CLASS	3-182
3.216	ALL_HIER_HIER_ATTR_CLASS_AE	3-183
3.217	ALL_HIER_HIER_ATTRIBUTES	3-184
3.218	ALL_HIER_HIER_ATTRIBUTES_AE	3-184
3.219	ALL_HIER_JOIN_PATHS	3-185
3.220	ALL_HIER_JOIN_PATHS_AE	3-186
3.221	ALL_HIER_LEVEL_ID_ATTRS	3-187
3.222	ALL_HIER_LEVEL_ID_ATTRS_AE	3-187
3.223	ALL_HIER_LEVELS	3-188
3.224	ALL_HIER_LEVELS_AE	3-189
3.225	ALL_HIERARCHIES	3-189
3.226	ALL_HIERARCHIES_AE	3-190
3.227	ALL_HIST_SAGAS	3-191
3.228	ALL_HISTOGRAMS	3-192
3.229	ALL_HIVE_COLUMNS	3-193
3.230	ALL_HIVE_DATABASES	3-193
3.231	ALL_HIVE_PART_KEY_COLUMNS	3-194
3.232	ALL_HIVE_TAB_PARTITIONS	3-195
3.233	ALL_HIVE_TABLES	3-195
3.234	ALL_IDENTIFIERS	3-196
3.235	ALL_IMMUTABLE_ROW_VERSION_COLS	3-198
3.236	ALL_IMMUTABLE_ROW_VERSION_HISTORY	3-199
3.237	ALL_IMMUTABLE_TABLE_COLUMNS	3-200
3.238	ALL_IMMUTABLE_TABLE_EPOCHS	3-201
3.239	ALL_IMMUTABLE_TABLES	3-202
3.240	ALL_INCOMPLETE_SAGAS	3-203
3.241	ALL_IND_COLUMNS	3-204
3.242	ALL_IND_EXPRESSIONS	3-205
3.243	ALL_IND_PARTITIONS	3-206

3.244	ALL_IND_PENDING_STATS	3-209
3.245	ALL_IND_STATISTICS	3-209
3.246	ALL_IND_SUBPARTITIONS	3-211
3.247	ALL_INDEXES	3-214
3.248	ALL_INDEXTYPE_ARRAYTYPES	3-219
3.249	ALL_INDEXTYPE_COMMENTS	3-219
3.250	ALL_INDEXTYPE_OPERATORS	3-220
3.251	ALL_INDEXTYPES	3-220
3.252	ALL_INTERNAL_TRIGGERS	3-221
3.253	ALL_JAVA_ARGUMENTS	3-222
3.254	ALL_JAVA_CLASSES	3-222
3.255	ALL_JAVA_COMPILER_OPTIONS	3-223
3.256	ALL_JAVA_DERIVATIONS	3-224
3.257	ALL_JAVA_FIELDS	3-225
3.258	ALL_JAVA_IMPLEMENTATIONS	3-226
3.259	ALL_JAVA_INNERS	3-226
3.260	ALL_JAVA_LAYOUTS	3-227
3.261	ALL_JAVA_METHODS	3-228
3.262	ALL_JAVA_NCOMPS	3-230
3.263	ALL_JAVA_RESOLVERS	3-230
3.264	ALL_JAVA_THROWS	3-231
3.265	ALL_JOBS	3-232
3.266	ALL_JOIN_IND_COLUMNS	3-232
3.267	ALL_JSON_COLLECTION_TABLES	3-232
3.268	ALL_JSON_COLLECTION_VIEWS	3-233
3.269	ALL_JSON_COLLECTIONS	3-234
3.270	ALL_JSON_COLUMNS	3-234
3.271	ALL_JSON_DATAGUIDE_FIELDS	3-236
3.272	ALL_JSON_DATAGUIDES	3-237
3.273	ALL_JSON_DOMAIN_SCHEMA_COLUMNS	3-237
3.274	ALL_JSON_DUALITY_VIEW_LINKS	3-238
3.275	ALL_JSON_DUALITY_VIEW_TAB_COLS	3-239
3.276	ALL_JSON_DUALITY_VIEW_TABS	3-240
3.277	ALL_JSON_DUALITY_VIEWS	3-242
3.278	ALL_JSON_INDEXES	3-243
3.279	ALL_JSON_SCHEMA_COLUMNS	3-244
3.280	ALL_LIBRARIES	3-245
3.281	ALL_LOB_PARTITIONS	3-245
3.282	ALL_LOB_SUBPARTITIONS	3-248
3.283	ALL_LOB_TEMPLATES	3-251
3.284	ALL_LOBS	3-252
3.285	ALL_LOG_GROUP_COLUMNS	3-254

3.286	ALL_LOG_GROUPS	3-255
3.287	ALL_MEASURE_FOLDER_CONTENTS	3-256
3.288	ALL_MEASURE_FOLDER_SUBFOLDERS	3-256
3.289	ALL_MEASURE_FOLDERS	3-257
3.290	ALL_METADATA_PROPERTIES	3-258
3.291	ALL_METHOD_PARAMS	3-258
3.292	ALL_METHOD_RESULTS	3-259
3.293	ALL_MINING_ALGORITHMS	3-260
3.294	ALL_MINING_MODEL_ATTRIBUTES	3-260
3.295	ALL_MINING_MODEL_PARTITIONS	3-262
3.296	ALL_MINING_MODEL_SETTINGS	3-263
3.297	ALL_MINING_MODEL_VIEWS	3-263
3.298	ALL_MINING_MODEL_XFORMS	3-264
3.299	ALL_MINING_MODELS	3-264
3.300	ALL_MLE_ENV_IMPORTS	3-266
3.301	ALL_MLE_ENVS	3-267
3.302	ALL_MLE_MODULES	3-267
3.303	ALL_MLE_PROCEDURES	3-268
3.304	ALL_MVIEW_AGGREGATES	3-270
3.305	ALL_MVIEW_ANALYSIS	3-270
3.306	ALL_MVIEW_COMMENTS	3-272
3.307	ALL_MVIEW_DETAIL_LOGICAL_PARTITION	3-273
3.308	ALL_MVIEW_DETAIL_PARTITION	3-274
3.309	ALL_MVIEW_DETAIL_RELATIONS	3-274
3.310	ALL_MVIEW_DETAIL_SUBPARTITION	3-275
3.311	ALL_MVIEW_JOINS	3-276
3.312	ALL_MVIEW_KEYS	3-277
3.313	ALL_MVIEW_LOGS	3-278
3.314	ALL_MVIEW_REFRESH_TIMES	3-279
3.315	ALL_MVIEWS	3-280
3.316	ALL_NESTED_TABLE_COLS	3-284
3.317	ALL_NESTED_TABLES	3-286
3.318	ALL_OBJ_COLATTRS	3-287
3.319	ALL_OBJECT_TABLES	3-288
3.320	ALL_OBJECTS	3-293
3.321	ALL_OBJECTS_AE	3-295
3.322	ALL_OPANCILLARY	3-297
3.323	ALL_OPARGUMENTS	3-297
3.324	ALL_OPBINDINGS	3-298
3.325	ALL_OPERATOR_COMMENTS	3-299
3.326	ALL_OPERATORS	3-300
3.327	ALL_OUTLINE_HINTS	3-300

4 Static Data Dictionary Views: ALL_PART_COL_STATISTICS to DATABASE_PROPERTIES

4.1	ALL_PART_COL_STATISTICS	4-1
4.2	ALL_PART_HISTOGRAMS	4-2
4.3	ALL_PART_INDEXES	4-3
4.4	ALL_PART_KEY_COLUMNS	4-6
4.5	ALL_PART_LOBS	4-6
4.6	ALL_PART_TABLES	4-9
4.7	ALL_PARTIAL_DROP_TABS	4-14
4.8	ALL_PENDING_CONV_TABLES	4-14
4.9	ALL_PG_EDGE_RELATIONSHIPS	4-15
4.10	ALL_PG_ELEMENT_LABELS	4-16
4.11	ALL_PG_ELEMENTS	4-16
4.12	ALL_PG_KEYS	4-17
4.13	ALL_PG_LABEL_PROPERTIES	4-18
4.14	ALL_PG_LABELS	4-19
4.15	ALL_PG_PROP_DEFINITIONS	4-19
4.16	ALL_PLSQL_COLL_TYPES	4-20
4.17	ALL_PLSQL_OBJECT_SETTINGS	4-21
4.18	ALL_PLSQL_TYPE_ATTRS	4-22
4.19	ALL_PLSQL_TYPES	4-23
4.20	ALL_POLICIES	4-24
4.21	ALL_POLICY_ATTRIBUTES	4-25
4.22	ALL_POLICY_CONTEXTS	4-26
4.23	ALL_POLICY_GROUPS	4-26
4.24	ALL_PROCEDURES	4-27
4.25	ALL_PROPAGATION	4-29
4.26	ALL_PROPERTY_GRAPHS	4-30
4.27	ALL_QUEUE_EVENT_STREAMS	4-30
4.28	ALL_QUEUE_SCHEDULES	4-31
4.29	ALL_QUEUE_SUBSCRIBERS	4-33
4.30	ALL_QUEUE_TABLES	4-34
4.31	ALL_QUEUES	4-35
4.32	ALL_REFRESH	4-36
4.33	ALL_REFRESH_CHILDREN	4-37
4.34	ALL_REFRESH_DEPENDENCIES	4-38
4.35	ALL_REFS	4-38
4.36	ALL_REGISTERED_MVIEWS	4-39
4.37	ALL_REGISTRY_BANNERS	4-40

4.38	ALL_REPL_DBNAME_MAPPING	4-40
4.39	ALL_REPLICATION_PROCESS_EVENTS	4-41
4.40	ALL_REWRITE_EQUIVALENCES	4-42
4.41	ALL_RULE_SET_RULES	4-42
4.42	ALL_RULE_SETS	4-43
4.43	ALL_RULES	4-44
4.44	ALL_SAGA_BROKERS	4-44
4.45	ALL_SAGA_DETAILS	4-45
4.46	ALL_SAGA_ERRORS	4-46
4.47	ALL_SAGA_FINALIZATION	4-47
4.48	ALL_SAGA_PARTICIPANT_SET	4-48
4.49	ALL_SAGA_PARTICIPANTS	4-48
4.50	ALL_SAGA_PENDING	4-50
4.51	ALL_SAGAS	4-50
4.52	ALL_SCHEDULER_CHAIN_RULES	4-52
4.53	ALL_SCHEDULER_CHAIN_STEPS	4-52
4.54	ALL_SCHEDULER_CHAINS	4-54
4.55	ALL_SCHEDULER_CREDENTIALS	4-54
4.56	ALL_SCHEDULER_DB_DESTS	4-55
4.57	ALL_SCHEDULER_DESTS	4-56
4.58	ALL_SCHEDULER_EXTERNAL_DESTS	4-57
4.59	ALL_SCHEDULER_FILE_WATCHERS	4-57
4.60	ALL_SCHEDULER_GLOBAL_ATTRIBUTE	4-58
4.61	ALL_SCHEDULER_GROUP_MEMBERS	4-59
4.62	ALL_SCHEDULER_GROUPS	4-59
4.63	ALL_SCHEDULER_INCOMPAT_MEMBER	4-60
4.64	ALL_SCHEDULER_INCOMPATS	4-60
4.65	ALL_SCHEDULER_JOB_ARGS	4-61
4.66	ALL_SCHEDULER_JOB_CLASSES	4-62
4.67	ALL_SCHEDULER_JOB_DESTS	4-63
4.68	ALL_SCHEDULER_JOB_LOG	4-64
4.69	ALL_SCHEDULER_JOB_RUN_DETAILS	4-66
4.70	ALL_SCHEDULER_JOBS	4-67
4.71	ALL_SCHEDULER_NOTIFICATIONS	4-71
4.72	ALL_SCHEDULER_PROGRAM_ARGS	4-72
4.73	ALL_SCHEDULER_PROGRAMS	4-73
4.74	ALL_SCHEDULER_REMOTE_DATABASES	4-74
4.75	ALL_SCHEDULER_REMOTE_JOBSTATE	4-74
4.76	ALL_SCHEDULER_RESOURCES	4-75
4.77	ALL_SCHEDULER_RSC_CONSTRAINTS	4-76
4.78	ALL_SCHEDULER_RUNNING_CHAINS	4-77
4.79	ALL_SCHEDULER_RUNNING_JOBS	4-78

4.80	ALL_SCHEDULER_SCHEDULES	4-79
4.81	ALL_SCHEDULER_WINDOW_DETAILS	4-80
4.82	ALL_SCHEDULER_WINDOW_GROUPS	4-81
4.83	ALL_SCHEDULER_WINDOW_LOG	4-82
4.84	ALL_SCHEDULER_WINDOWS	4-82
4.85	ALL_SCHEDULER_WINDOWGROUP_MEMBERS	4-83
4.86	ALL_SEC_RELEVANT_COLS	4-84
4.87	ALL_SECONDARY_OBJECTS	4-85
4.88	ALL_SEQUENCES	4-85
4.89	ALL_SERVICES	4-86
4.90	ALL_SOURCE	4-90
4.91	ALL_SOURCE_AE	4-91
4.92	ALL_SQL_TRANSLATION_PROFILES	4-92
4.93	ALL_SQL_TRANSLATIONS	4-93
4.94	ALL_SQLJ_TYPE_ATTRS	4-94
4.95	ALL_SQLJ_TYPE_METHODS	4-95
4.96	ALL_SQLJ_TYPES	4-96
4.97	ALL_SQLSET	4-97
4.98	ALL_SQLSET_BINDS	4-98
4.99	ALL_SQLSET_PLANS	4-98
4.100	ALL_SQLSET_REFERENCES	4-103
4.101	ALL_SQLSET_STATEMENTS	4-103
4.102	ALL_STAT_EXTENSIONS	4-105
4.103	ALL_STATEMENTS	4-106
4.104	ALL_STORED_SETTINGS	4-108
4.105	ALL_STREAMS_GLOBAL_RULES	4-109
4.106	ALL_STREAMS_MESSAGE_CONSUMERS	4-110
4.107	ALL_STREAMS_NEWLY_SUPPORTED	4-111
4.108	ALL_STREAMS_SCHEMA_RULES	4-112
4.109	ALL_STREAMS_TABLE_RULES	4-113
4.110	ALL_STREAMS_TRANSFORM_FUNCTION	4-114
4.111	ALL_SUBPART_COL_STATISTICS	4-115
4.112	ALL_SUBPART_HISTOGRAMS	4-116
4.113	ALL_SUBPART_KEY_COLUMNS	4-117
4.114	ALL_SUBPARTITION_TEMPLATES	4-118
4.115	ALL_SUMDELTA	4-119
4.116	ALL_SYNC_CAPTURE	4-119
4.117	ALL_SYNC_CAPTURE_PREPARED_TABS	4-120
4.118	ALL_SYNC_CAPTURE_TABLES	4-120
4.119	ALL_SYNONYMS	4-121
4.120	ALL_TAB_COL_STAT_MODELS	4-122
4.121	ALL_TAB_COL_STATISTICS	4-123

4.122	ALL_TAB_COLS	4-124
4.123	ALL_TAB_COLUMNS	4-128
4.124	ALL_TAB_COMMENTS	4-132
4.125	ALL_TAB_HISTGRM_PENDING_STATS	4-133
4.126	ALL_TAB_HISTOGRAMS	4-133
4.127	ALL_TAB_IDENTITY_COLS	4-134
4.128	ALL_TAB_MODIFICATIONS	4-135
4.129	ALL_TAB_PARTITIONS	4-136
4.130	ALL_TAB_PENDING_STATS	4-142
4.131	ALL_TAB_PRIVS	4-143
4.132	ALL_TAB_PRIVS_MADE	4-144
4.133	ALL_TAB_PRIVS_RECD	4-144
4.134	ALL_TAB_STAT_PREFS	4-145
4.135	ALL_TAB_STATISTICS	4-146
4.136	ALL_TAB_STATS_HISTORY	4-147
4.137	ALL_TAB_SUBPARTITIONS	4-148
4.138	ALL_TABLE_ACCESS_STATS	4-152
4.139	ALL_TABLE_VIRTUAL_COLUMNS	4-153
4.140	ALL_TABLES	4-154
4.141	ALL_TRANSFORMATIONS	4-161
4.142	ALL_TRIGGER_COLS	4-161
4.143	ALL_TRIGGER_ORDERING	4-162
4.144	ALL_TRIGGERS	4-163
4.145	ALL_TRIGGERS_AE	4-165
4.146	ALL_TSTZ_TAB_COLS	4-167
4.147	ALL_TSTZ_TABLES	4-168
4.148	ALL_TXEVENTQ_MIGRATION_STATUS	4-168
4.149	ALL_TYPE_ATTRS	4-169
4.150	ALL_TYPE_METHODS	4-170
4.151	ALL_TYPE_VERSIONS	4-171
4.152	ALL_TYPES	4-172
4.153	ALL_UNIFIED_AUDIT_ACTIONS	4-173
4.154	ALL_UNUSED_COL_TABS	4-173
4.155	ALL_UPDATABLE_COLUMNS	4-174
4.156	ALL_USERS	4-175
4.157	ALL_USTATS	4-176
4.158	ALL_VARRAYS	4-177
4.159	ALL_VIEWS	4-178
4.160	ALL_VIEWS_AE	4-180
4.161	ALL_WARNING_SETTINGS	4-181
4.162	ALL_XML_INDEXES	4-182
4.163	ALL_XML_NESTED_TABLES	4-183

4.164	ALL_XML_OUT_OF_LINE_TABLES	4-184
4.165	ALL_XML_SCHEMA_ATTRIBUTES	4-185
4.166	ALL_XML_SCHEMA_COMPLEX_TYPES	4-186
4.167	ALL_XML_SCHEMA_ELEMENTS	4-187
4.168	ALL_XML_SCHEMA_NAMESPACES	4-188
4.169	ALL_XML_SCHEMA_SIMPLE_TYPES	4-188
4.170	ALL_XML_SCHEMA_SUBSTGRP_HEAD	4-189
4.171	ALL_XML_SCHEMA_SUBSTGRP_MBRS	4-190
4.172	ALL_XML_SCHEMAS	4-191
4.173	ALL_XML_TAB_COLS	4-192
4.174	ALL_XML_TABLES	4-193
4.175	ALL_XML_VIEW_COLS	4-194
4.176	ALL_XML_VIEWS	4-195
4.177	ALL_XSTREAM_ADMINISTRATOR	4-195
4.178	ALL_XSTREAM_INBOUND	4-196
4.179	ALL_XSTREAM_INBOUND_PROGRESS	4-197
4.180	ALL_XSTREAM_OUT_SUPPORT_MODE	4-198
4.181	ALL_XSTREAM_OUTBOUND	4-199
4.182	ALL_XSTREAM_OUTBOUND_PROGRESS	4-200
4.183	ALL_XSTREAM_RULES	4-201
4.184	ALL_XSTREAM_TRANSFORMATIONS	4-202
4.185	ALL_XTERNAL_LOC_PARTITIONS	4-203
4.186	ALL_XTERNAL_LOC_SUBPARTITIONS	4-204
4.187	ALL_XTERNAL_PART_TABLES	4-205
4.188	ALL_XTERNAL_TAB_PARTITIONS	4-206
4.189	ALL_XTERNAL_TAB_SUBPARTITIONS	4-207
4.190	ALL_ZONEMAP_MEASURES	4-207
4.191	ALL_ZONEMAPS	4-208
4.192	AUDIT_ACTIONS	4-210
4.193	AUDIT_UNIFIED_CONTEXTS	4-211
4.194	AUDIT_UNIFIED_ENABLED_POLICIES	4-211
4.195	AUDIT_UNIFIED_POLICIES	4-212
4.196	AUDIT_UNIFIED_POLICY_COMMENTS	4-214
4.197	AUDITABLE_SYSTEM_ACTIONS	4-214
4.198	CAT	4-216
4.199	CATALOG	4-216
4.200	CHAINED_ROWS	4-216
4.201	CLIENT_RESULT_CACHE_STATS\$	4-216
4.202	CLU	4-217
4.203	COL	4-217
4.204	COLS	4-217
4.205	DATABASE_EXPORT_OBJECTS	4-218

5 Static Data Dictionary Views: DBA_2PC_NEIGHBORS to DBA_HIST_JAVA_POOL_ADVICE

5.1	DBA_2PC_NEIGHBORS	5-1
5.2	DBA_2PC_PENDING	5-1
5.3	DBA_ACCHK_EVENTS	5-2
5.4	DBA_ACCHK_EVENTS_SUMMARY	5-3
5.5	DBA_ACCHK_STATISTICS	5-5
5.6	DBA_ACCHK_STATISTICS_SUMMARY	5-6
5.7	DBA_ACL_NAME_MAP	5-7
5.8	DBA_ACTIVITY_CONFIG	5-8
5.9	DBA_ACTIVITY_MVIEW	5-8
5.10	DBA_ACTIVITY_SNAPSHOT_META	5-10
5.11	DBA_ACTIVITY_TABLE	5-10
5.12	DBA_ADDM_FDG_BREAKDOWN	5-12
5.13	DBA_ADDM_FINDINGS	5-12
5.14	DBA_ADDM_INSTANCES	5-14
5.15	DBA_ADDM_PENDING_AUTOTASKS	5-15
5.16	DBA_ADDM_SCHEDULED_AUTOTASKS	5-16
5.17	DBA_ADDM_SYSTEM_DIRECTIVES	5-16
5.18	DBA_ADDM_TASK_DIRECTIVES	5-17
5.19	DBA_ADDM_TASKS	5-17
5.20	DBA_ADVISOR_ACTIONS	5-20
5.21	DBA_ADVISOR_COMMANDS	5-22
5.22	DBA_ADVISOR_DEF_PARAMETERS	5-22
5.23	DBA_ADVISOR_DEFINITIONS	5-23
5.24	DBA_ADVISOR_DIR_DEFINITIONS	5-24
5.25	DBA_ADVISOR_DIR_INSTANCES	5-25
5.26	DBA_ADVISOR_DIR_TASK_INST	5-25
5.27	DBA_ADVISOR_EXEC_PARAMETERS	5-26
5.28	DBA_ADVISOR_EXECUTION_TYPES	5-26
5.29	DBA_ADVISOR_EXECUTIONS	5-27
5.30	DBA_ADVISOR_FDG_BREAKDOWN	5-28
5.31	DBA_ADVISOR_FINDING_NAMES	5-29
5.32	DBA_ADVISOR_FINDINGS	5-29
5.33	DBA_ADVISOR_JOURNAL	5-30
5.34	DBA_ADVISOR_LOG	5-31
5.35	DBA_ADVISOR_OBJECT_TYPES	5-32
5.36	DBA_ADVISOR_OBJECTS	5-32
5.37	DBA_ADVISOR_PARAMETERS	5-34

5.38	DBA_ADVISOR_RATIONALE	5-35
5.39	DBA_ADVISOR_RECOMMENDATIONS	5-36
5.40	DBA_ADVISOR_SQLA_REC_SUM	5-38
5.41	DBA_ADVISOR_SQLA_TABLES	5-38
5.42	DBA_ADVISOR_SQLA_WK_MAP	5-39
5.43	DBA_ADVISOR_SQLA_WK_STMTS	5-40
5.44	DBA_ADVISOR_SQLPLANS	5-41
5.45	DBA_ADVISOR_SQLSTATS	5-44
5.46	DBA_ADVISOR_SQLW_JOURNAL	5-46
5.47	DBA_ADVISOR_SQLW_PARAMETERS	5-47
5.48	DBA_ADVISOR_SQLW_STMTS	5-48
5.49	DBA_ADVISOR_SQLW_SUM	5-49
5.50	DBA_ADVISOR_SQLW_TABLES	5-50
5.51	DBA_ADVISOR_SQLW_TEMPLATES	5-50
5.52	DBA_ADVISOR_TASKS	5-51
5.53	DBA_ADVISOR_TEMPLATES	5-52
5.54	DBA_ADVISOR_USAGE	5-53
5.55	DBA_AIM_PERF_FEATURES	5-53
5.56	DBA_ALERT_HISTORY	5-54
5.57	DBA_ALERT_HISTORY_DETAIL	5-55
5.58	DBA_ALL_TABLES	5-56
5.59	DBA_ANALYTIC_VIEW_AGGR_DIMS	5-56
5.60	DBA_ANALYTIC_VIEW_AGGR_FNS	5-57
5.61	DBA_ANALYTIC_VIEW_AGGR_FNS_AE	5-57
5.62	DBA_ANALYTIC_VIEW_AGR_DIMS	5-57
5.63	DBA_ANALYTIC_VIEW_AGR_DIMS_AE	5-57
5.64	DBA_ANALYTIC_VIEW_ATTR_CLASS	5-58
5.65	DBA_ANALYTIC_VIEW_ATTR_CLS	5-58
5.66	DBA_ANALYTIC_VIEW_ATTR_CLS_AE	5-58
5.67	DBA_ANALYTIC_VIEW_BAS_MEAS	5-58
5.68	DBA_ANALYTIC_VIEW_BAS_MEAS_AE	5-59
5.69	DBA_ANALYTIC_VIEW_BASE_MEAS	5-59
5.70	DBA_ANALYTIC_VIEW_CALC_MEAS	5-59
5.71	DBA_ANALYTIC_VIEW_CLASS	5-59
5.72	DBA_ANALYTIC_VIEW_CLASS_AE	5-60
5.73	DBA_ANALYTIC_VIEW_CLC_MEAS	5-60
5.74	DBA_ANALYTIC_VIEW_CLC_MEAS_AE	5-60
5.75	DBA_ANALYTIC_VIEW_COLUMNS	5-60
5.76	DBA_ANALYTIC_VIEW_COLUMNS_AE	5-61
5.77	DBA_ANALYTIC_VIEW_DIM_ATTRS	5-61
5.78	DBA_ANALYTIC_VIEW_DIM_ATTRS_AE	5-61
5.79	DBA_ANALYTIC_VIEW_DIM_ATTRS	5-61

5.80	DBA_ANALYTIC_VIEW_DIM_CLASS	5-62
5.81	DBA_ANALYTIC_VIEW_DIM_CLS	5-62
5.82	DBA_ANALYTIC_VIEW_DIM_CLS_AE	5-62
5.83	DBA_ANALYTIC_VIEW_DIMENSIONS	5-62
5.84	DBA_ANALYTIC_VIEW_DIMS	5-63
5.85	DBA_ANALYTIC_VIEW_DIMS_AE	5-63
5.86	DBA_ANALYTIC_VIEW_FACT_COLS	5-63
5.87	DBA_ANALYTIC_VIEW_FCT_COLS	5-63
5.88	DBA_ANALYTIC_VIEW_FCT_COLS_AE	5-64
5.89	DBA_ANALYTIC_VIEW_HIER_CLASS	5-64
5.90	DBA_ANALYTIC_VIEW_HIER_CLS	5-64
5.91	DBA_ANALYTIC_VIEW_HIER_CLS_AE	5-64
5.92	DBA_ANALYTIC_VIEW_HIERS	5-65
5.93	DBA_ANALYTIC_VIEW_HIERS_AE	5-65
5.94	DBA_ANALYTIC_VIEW_KEYS	5-65
5.95	DBA_ANALYTIC_VIEW_KEYS_AE	5-65
5.96	DBA_ANALYTIC_VIEW_LEVEL_CLASS	5-66
5.97	DBA_ANALYTIC_VIEW_LEVELS	5-66
5.98	DBA_ANALYTIC_VIEW_LEVELS_AE	5-66
5.99	DBA_ANALYTIC_VIEW_LVL_CLS	5-66
5.100	DBA_ANALYTIC_VIEW_LVL_CLS_AE	5-67
5.101	DBA_ANALYTIC_VIEW_LVLGRPS	5-67
5.102	DBA_ANALYTIC_VIEW_LVLGRPS_AE	5-67
5.103	DBA_ANALYTIC_VIEW_MEAS_CLASS	5-67
5.104	DBA_ANALYTIC_VIEW_MEAS_CLS	5-68
5.105	DBA_ANALYTIC_VIEW_MEAS_CLS_AE	5-68
5.106	DBA_ANALYTIC_VIEWS	5-68
5.107	DBA_ANALYTIC_VIEWS_AE	5-68
5.108	DBA_ANNOTATION_VALUES	5-69
5.109	DBA_ANNOTATIONS	5-69
5.110	DBA_ANNOTATIONS_USAGE	5-69
5.111	DBA_APP_ERRORS	5-70
5.112	DBA_APP_ERRORS_HISTORY	5-70
5.113	DBA_APP_PATCHES	5-70
5.114	DBA_APP_PDB_STATUS	5-71
5.115	DBA_APP_STATEMENTS	5-71
5.116	DBA_APP_VERSIONS	5-72
5.117	DBA_APPLICATION_ROLES	5-72
5.118	DBA_APPLICATIONS	5-73
5.119	DBA_APPLY	5-73
5.120	DBA_APPLY_CHANGE_HANDLERS	5-73
5.121	DBA_APPLY_CONFLICT_COLUMNS	5-74

5.122	DBA_APPLY_DML_CONF_HANDLERS	5-74
5.123	DBA_APPLY_DML_HANDLERS	5-74
5.124	DBA_APPLY_ENQUEUE	5-74
5.125	DBA_APPLY_ERROR	5-75
5.126	DBA_APPLY_ERROR_MESSAGES	5-75
5.127	DBA_APPLY_EXECUTE	5-75
5.128	DBA_APPLY_HANDLE_COLLISIONS	5-76
5.129	DBA_APPLY_INSTANTIATED_GLOBAL	5-76
5.130	DBA_APPLY_INSTANTIATED_OBJECTS	5-76
5.131	DBA_APPLY_INSTANTIATED_SCHEMAS	5-76
5.132	DBA_APPLY_KEY_COLUMNS	5-77
5.133	DBA_APPLY_OBJECT_DEPENDENCIES	5-77
5.134	DBA_APPLY_PARAMETERS	5-77
5.135	DBA_APPLY_PROGRESS	5-77
5.136	DBA_APPLY_REPERROR_HANDLERS	5-78
5.137	DBA_APPLY_SPILL_TXN	5-78
5.138	DBA_APPLY_TABLE_COLUMNS	5-78
5.139	DBA_APPLY_VALUE_DEPENDENCIES	5-79
5.140	DBA_AQ_AGENT_PRIVS	5-79
5.141	DBA_AQ_AGENTS	5-79
5.142	DBA_ARGUMENTS	5-80
5.143	DBA_ASSEMBLIES	5-80
5.144	DBA_ASSOCIATIONS	5-80
5.145	DBA_ATTRIBUTE_DIM_ATTR_CLASS	5-80
5.146	DBA_ATTRIBUTE_DIM_ATTR_CLS	5-81
5.147	DBA_ATTRIBUTE_DIM_ATTR_CLS_AE	5-81
5.148	DBA_ATTRIBUTE_DIM_ATTRS	5-81
5.149	DBA_ATTRIBUTE_DIM_ATTRS_AE	5-81
5.150	DBA_ATTRIBUTE_DIM_CLASS	5-82
5.151	DBA_ATTRIBUTE_DIM_CLASS_AE	5-82
5.152	DBA_ATTRIBUTE_DIM_JN_PTHS	5-82
5.153	DBA_ATTRIBUTE_DIM_JN_PTHS_AE	5-82
5.154	DBA_ATTRIBUTE_DIM_JOIN_PATHS	5-83
5.155	DBA_ATTRIBUTE_DIM_KEYS	5-83
5.156	DBA_ATTRIBUTE_DIM_KEYS_AE	5-83
5.157	DBA_ATTRIBUTE_DIM_LEVEL_ATTRS	5-83
5.158	DBA_ATTRIBUTE_DIM_LEVELS	5-84
5.159	DBA_ATTRIBUTE_DIM_LEVELS_AE	5-84
5.160	DBA_ATTRIBUTE_DIM_LVL_ATTRS	5-84
5.161	DBA_ATTRIBUTE_DIM_LVL_ATTRS_AE	5-84
5.162	DBA_ATTRIBUTE_DIM_LVL_CLASS	5-85
5.163	DBA_ATTRIBUTE_DIM_LVL_CLS	5-85

5.164	DBA_ATTRIBUTE_DIM_LVL_CLS_AE	5-85
5.165	DBA_ATTRIBUTE_DIM_ORD_ATTRS	5-85
5.166	DBA_ATTRIBUTE_DIM_ORD_ATTRS_AE	5-86
5.167	DBA_ATTRIBUTE_DIM_ORDER_ATTRS	5-86
5.168	DBA_ATTRIBUTE_DIM_TABLES	5-86
5.169	DBA_ATTRIBUTE_DIM_TABLES_AE	5-86
5.170	DBA_ATTRIBUTE_DIMENSIONS	5-87
5.171	DBA_ATTRIBUTE_DIMENSIONS_AE	5-87
5.172	DBA_ATTRIBUTE_TRANSFORMATIONS	5-87
5.173	DBA_AUDIT_EXISTS	5-87
5.174	DBA_AUDIT_MGMT_CLEAN_EVENTS	5-91
5.175	DBA_AUDIT_MGMT_CLEANUP_JOBS	5-92
5.176	DBA_AUDIT_MGMT_CONFIG_PARAMS	5-93
5.177	DBA_AUDIT_MGMT_LAST_ARCH_TS	5-94
5.178	DBA_AUDIT_OBJECT	5-95
5.179	DBA_AUDIT_POLICIES	5-97
5.180	DBA_AUDIT_POLICY_COLUMNS	5-98
5.181	DBA_AUDIT_SESSION	5-98
5.182	DBA_AUDIT_STATEMENT	5-100
5.183	DBA_AUDIT_TRAIL	5-103
5.184	DBA_AUTO_CLUSTERING_CONFIG	5-107
5.185	DBA_AUTO_CLUSTERING_RECOMMENDATIONS	5-107
5.186	DBA_AUTO_INDEX_CONFIG	5-108
5.187	DBA_AUTO_MV_ANALYSIS_ACTIONS	5-109
5.188	DBA_AUTO_MV_ANALYSIS_EXECUTIONS	5-110
5.189	DBA_AUTO_MV_ANALYSIS_RECOMMENDATIONS	5-111
5.190	DBA_AUTO_MV_ANALYSIS_REPORT	5-111
5.191	DBA_AUTO_MV_ANALYSIS_TASK	5-112
5.192	DBA_AUTO_MV_CONFIG	5-113
5.193	DBA_AUTO_MV_MAINT_REPORT	5-114
5.194	DBA_AUTO_MV_REFRESH_HISTORY	5-114
5.195	DBA_AUTO_MV_VERIFICATION_REPORT	5-114
5.196	DBA_AUTO_MV_VERIFICATION_STATUS	5-115
5.197	DBA_AUTO_SEGADV_CTL	5-115
5.198	DBA_AUTO_SEGADV_SUMMARY	5-116
5.199	DBA_AUTO_STAT_EXECUTIONS	5-116
5.200	DBA_AUTO_ZONEMAP_CONFIG	5-117
5.201	DBA_AUTOTASK_CLIENT	5-117
5.202	DBA_AUTOTASK_CLIENT_HISTORY	5-119
5.203	DBA_AUTOTASK_CLIENT_JOB	5-119
5.204	DBA_AUTOTASK_JOB_HISTORY	5-120
5.205	DBA_AUTOTASK_OPERATION	5-120

5.206	DBA_AUTOTASK_SCHEDULE	5-121
5.207	DBA_AUTOTASK_SCHEDULE_CONTROL	5-121
5.208	DBA_AUTOTASK_SETTINGS	5-122
5.209	DBA_AUTOTASK_STATUS	5-122
5.210	DBA_AUTOTASK_TASK	5-123
5.211	DBA_AUTOTASK_WINDOW_CLIENTS	5-125
5.212	DBA_AUTOTASK_WINDOW_HISTORY	5-126
5.213	DBA_AW_PS	5-126
5.214	DBA_AWS	5-127
5.215	DBA_BASE_TABLE_MVIEWS	5-127
5.216	DBA_BLOCKCHAIN_ROW_VERSION_COLS	5-127
5.217	DBA_BLOCKCHAIN_ROW_VERSION_HISTORY	5-128
5.218	DBA_BLOCKCHAIN_TABLE_CHAINS	5-128
5.219	DBA_BLOCKCHAIN_TABLE_EPOCHS	5-128
5.220	DBA_BLOCKCHAIN_TABLE_HASH_COL_ORDER	5-129
5.221	DBA_BLOCKCHAIN_TABLES	5-129
5.222	DBA_BLOCKER_RESOLVER_PARAMETERS	5-129
5.223	DBA_BLOCKERS	5-130
5.224	DBA_CAPTURE	5-130
5.225	DBA_CAPTURE_EXTRA_ATTRIBUTES	5-130
5.226	DBA_CAPTURE_PARAMETERS	5-131
5.227	DBA_CAPTURE_PREPARED_DATABASE	5-131
5.228	DBA_CAPTURE_PREPARED_SCHEMAS	5-131
5.229	DBA_CAPTURE_PREPARED_TABLES	5-131
5.230	DBA_CATALOG	5-132
5.231	DBA_CDB_RSRC_PLAN_DIRECTIVES	5-132
5.232	DBA_CDB_RSRC_PLANS	5-133
5.233	DBA_CERTIFICATES	5-133
5.234	DBA_CHANGE_NOTIFICATION_REGS	5-134
5.235	DBA_CHECKED_ROLES	5-134
5.236	DBA_CHECKED_ROLES_PATH	5-135
5.237	DBA_CLU_COLUMNS	5-135
5.238	DBA_CLUSTER_HASH_EXPRESSIONS	5-136
5.239	DBA_CLUSTERING_DIMENSIONS	5-136
5.240	DBA_CLUSTERING_JOINS	5-136
5.241	DBA_CLUSTERING_KEYS	5-137
5.242	DBA_CLUSTERING_TABLES	5-137
5.243	DBA_CLUSTERS	5-137
5.244	DBA_CODE_ROLE_PRIVS	5-137
5.245	DBA_COL_COMMENTS	5-138
5.246	DBA_COL_PENDING_STATS	5-138
5.247	DBA_COL_PRIVS	5-138

5.248	DBA_COLL_TYPES	5-139
5.249	DBA_COMMON_AUDIT_TRAIL	5-139
5.250	DBA_COMPARISON	5-143
5.251	DBA_COMPARISON_COLUMNS	5-144
5.252	DBA_COMPARISON_ROW_DIF	5-144
5.253	DBA_COMPARISON_SCAN	5-145
5.254	DBA_COMPARISON_SCAN_VALUES	5-146
5.255	DBA_CONNECT_ROLE_GRANTEES	5-146
5.256	DBA_CONNECTION_TESTS	5-146
5.257	DBA_CONS_COLUMNS	5-148
5.258	DBA_CONS_OBJ_COLUMNS	5-148
5.259	DBA_CONSTRAINTS	5-148
5.260	DBA_CONTAINER_DATA	5-148
5.261	DBA_CONTEXT	5-149
5.262	DBA_CPOOL_INFO	5-150
5.263	DBA_CPU_USAGE_STATISTICS	5-151
5.264	DBA_CQ_NOTIFICATION_QUERIES	5-152
5.265	DBA_CREDENTIALS	5-152
5.266	DBA_CUBE_ATTR_VISIBILITY	5-152
5.267	DBA_CUBE_ATTRIBUTES	5-153
5.268	DBA_CUBE_BUILD_PROCESSES	5-153
5.269	DBA_CUBE_CALCULATED_MEMBERS	5-153
5.270	DBA_CUBE_DIM_LEVELS	5-153
5.271	DBA_CUBE_DIM_MODELS	5-154
5.272	DBA_CUBE_DIM_VIEW_COLUMNS	5-154
5.273	DBA_CUBE_DIM_VIEWS	5-154
5.274	DBA_CUBE_DIMENSIONALITY	5-154
5.275	DBA_CUBE_DIMENSIONS	5-155
5.276	DBA_CUBE_HIER_LEVELS	5-155
5.277	DBA_CUBE_HIER_VIEW_COLUMNS	5-155
5.278	DBA_CUBE_HIER_VIEWS	5-155
5.279	DBA_CUBE_HIERARCHIES	5-156
5.280	DBA_CUBE_MEASURES	5-156
5.281	DBA_CUBE_NAMED_BUILD_SPECS	5-156
5.282	DBA_CUBE_SUB_PARTITION_LEVELS	5-156
5.283	DBA_CUBE_VIEW_COLUMNS	5-157
5.284	DBA_CUBE_VIEWS	5-157
5.285	DBA_CUBES	5-157
5.286	DBA_DATA_FILES	5-157
5.287	DBA_DATAPUMP_JOBS	5-159
5.288	DBA_DATAPUMP_SESSIONS	5-159
5.289	DBA_DB_LINK_SOURCES	5-160

5.290	DBA_DB_LINKS	5-161
5.291	DBA_DBFS_HS	5-162
5.292	DBA_DBFS_HS_COMMANDS	5-162
5.293	DBA_DBFS_HS_FIXED_PROPERTIES	5-163
5.294	DBA_DBFS_HS_PROPERTIES	5-163
5.295	DBA_DDL_LOCKS	5-164
5.296	DBA_DDL_REGS	5-164
5.297	DBA_DEPENDENCIES	5-165
5.298	DBA_DIGEST_VERIFIERS	5-165
5.299	DBA_DIM_ATTRIBUTES	5-166
5.300	DBA_DIM_CHILD_OF	5-166
5.301	DBA_DIM_HIERARCHIES	5-166
5.302	DBA_DIM_JOIN_KEY	5-167
5.303	DBA_DIM_LEVEL_KEY	5-167
5.304	DBA_DIM_LEVELS	5-167
5.305	DBA_DIMENSIONS	5-167
5.306	DBA_DIRECTORIES	5-168
5.307	DBA_DISCOVERY_SOURCE	5-168
5.308	DBA_DML_LOCKS	5-168
5.309	DBA_DMT_FREE_SPACE	5-169
5.310	DBA_DMT_USED_EXTENTS	5-169
5.311	DBA_DOMAIN_COLS	5-170
5.312	DBA_DOMAIN_CONSTRAINTS	5-170
5.313	DBA_DOMAINS	5-171
5.314	DBA_EDITION_COMMENTS	5-171
5.315	DBA_EDITIONED_TYPES	5-171
5.316	DBA_EDITIONING_VIEW_COLS	5-172
5.317	DBA_EDITIONING_VIEW_COLS_AE	5-172
5.318	DBA_EDITIONING_VIEWS	5-172
5.319	DBA_EDITIONING_VIEWS_AE	5-172
5.320	DBA_EDITIONS	5-173
5.321	DBA_ENABLED_AGGREGATIONS	5-173
5.322	DBA_ENABLED_TRACES	5-173
5.323	DBA_ENCRYPTED_COLUMNS	5-174
5.324	DBA_EPG_DAD_AUTHORIZATION	5-174
5.325	DBA_ERROR_TRANSLATIONS	5-175
5.326	DBA_ERRORS	5-175
5.327	DBA_ERRORS_AE	5-175
5.328	DBA_EVALUATION_CONTEXT_TABLES	5-175
5.329	DBA_EVALUATION_CONTEXT_VARS	5-176
5.330	DBA_EVALUATION_CONTEXTS	5-176
5.331	DBA_EXP_FILES	5-176

5.332	DBA_EXP_OBJECTS	5-176
5.333	DBA_EXP_VERSION	5-177
5.334	DBA_EXPRESSION_STATISTICS	5-177
5.335	DBA_EXTENTS	5-177
5.336	DBA_EXTERNAL_LOCATIONS	5-178
5.337	DBA_EXTERNAL_SCN_ACTIVITY	5-178
5.338	DBA_EXTERNAL_TABLES	5-180
5.339	DBA_FEATURE_USAGE_STATISTICS	5-180
5.340	DBA_FGA_AUDIT_TRAIL	5-181
5.341	DBA_FLASHBACK_ARCHIVE	5-183
5.342	DBA_FLASHBACK_ARCHIVE_TABLES	5-183
5.343	DBA_FLASHBACK_ARCHIVE_TS	5-184
5.344	DBA_FLASHBACK_TXN_REPORT	5-184
5.345	DBA_FLASHBACK_TXN_STATE	5-185
5.346	DBA_FREE_SPACE	5-185
5.347	DBA_FREE_SPACE_COALESCED	5-186
5.348	DBA_GG_AUTO_CDR_COLUMN_GROUPS	5-186
5.349	DBA_GG_AUTO_CDR_COLUMNS	5-187
5.350	DBA_GG_AUTO_CDR_TABLES	5-187
5.351	DBA_GG_INBOUND_PROGRESS	5-187
5.352	DBA_GG_PROC_OBJECT_EXCLUSION	5-187
5.353	DBA_GG_PROCEDURE_ANNOTATION	5-188
5.354	DBA_GG_SUPPORTED_PACKAGES	5-188
5.355	DBA_GG_SUPPORTED_PROCEDURES	5-189
5.356	DBA_GLOBAL_CONTEXT	5-189
5.357	DBA_GOLDENGATE_INBOUND	5-190
5.358	DBA_GOLDENGATE_NOT_UNIQUE	5-190
5.359	DBA_GOLDENGATE_PRIVILEGES	5-190
5.360	DBA_GOLDENGATE_RULES	5-191
5.361	DBA_GOLDENGATE_SUPPORT_MODE	5-191
5.362	DBA_HANG_MANAGER_PARAMETERS	5-192
5.363	DBA_HEAT_MAP_SEG_HISTOGRAM	5-192
5.364	DBA_HEAT_MAP_SEGMENT	5-192
5.365	DBA_HEATMAP_TOP_OBJECTS	5-193
5.366	DBA_HEATMAP_TOP_TABLESPACES	5-193
5.367	DBA_HIER_CLASS	5-194
5.368	DBA_HIER_CLASS_AE	5-194
5.369	DBA_HIER_COLUMNS	5-194
5.370	DBA_HIER_COLUMNS_AE	5-195
5.371	DBA_HIER_HIER_ATTR_CLASS	5-195
5.372	DBA_HIER_HIER_ATTR_CLASS_AE	5-195
5.373	DBA_HIER_HIER_ATTRIBUTES	5-195

5.374	DBA_HIER_HIER_ATTRIBUTES_AE	5-196
5.375	DBA_HIER_JOIN_PATHS	5-196
5.376	DBA_HIER_JOIN_PATHS_AE	5-196
5.377	DBA_HIER_LEVEL_ID_ATTRS	5-196
5.378	DBA_HIER_LEVEL_ID_ATTRS_AE	5-197
5.379	DBA_HIER_LEVELS	5-197
5.380	DBA_HIER_LEVELS_AE	5-197
5.381	DBA_HIERARCHIES	5-197
5.382	DBA_HIERARCHIES_AE	5-198
5.383	DBA_HIGH_WATER_MARK_STATISTICS	5-198
5.384	DBA_HIST_ACTIVE_SESS_HISTORY	5-199
5.385	DBA_HIST_APPLY_SUMMARY	5-204
5.386	DBA_HIST_ASH_SNAPSHOT	5-206
5.387	DBA_HIST_BASELINE	5-207
5.388	DBA_HIST_BASELINE_DETAILS	5-208
5.389	DBA_HIST_BASELINE_METADATA	5-209
5.390	DBA_HIST_BASELINE_TEMPLATE	5-210
5.391	DBA_HIST_BG_EVENT_SUMMARY	5-211
5.392	DBA_HIST_BUFFER_POOL_STAT	5-212
5.393	DBA_HIST_BUFFERED_QUEUES	5-213
5.394	DBA_HIST_BUFFERED_SUBSCRIBERS	5-214
5.395	DBA_HIST_CAPTURE	5-216
5.396	DBA_HIST_CHANNEL_WAITS	5-217
5.397	DBA_HIST_CLUSTER_INTERCON	5-217
5.398	DBA_HIST_COLORED_SQL	5-218
5.399	DBA_HIST_COMP_IOSTAT	5-219
5.400	DBA_HIST_CON_SYS_TIME_MODEL	5-219
5.401	DBA_HIST_CON_SYSMETRIC_HIST	5-220
5.402	DBA_HIST_CON_SYSMETRIC_SUMM	5-221
5.403	DBA_HIST_CON_SYSSTAT	5-222
5.404	DBA_HIST_CON_SYSTEM_EVENT	5-223
5.405	DBA_HIST_CR_BLOCK_SERVER	5-224
5.406	DBA_HIST_CURRENT_BLOCK_SERVER	5-225
5.407	DBA_HIST_DATABASE_INSTANCE	5-226
5.408	DBA_HIST_DATAFILE	5-227
5.409	DBA_HIST_DB_CACHE_ADVICE	5-228
5.410	DBA_HIST_DISPATCHER	5-229
5.411	DBA_HIST_DLM_MISC	5-230
5.412	DBA_HIST_DYN_REMASTER_STATS	5-231
5.413	DBA_HIST_ENQUEUE_STAT	5-232
5.414	DBA_HIST_EVENT_HISTOGRAM	5-233
5.415	DBA_HIST_EVENT_NAME	5-234

5.416	DBA_HIST_FILEMETRIC_HISTORY	5-234
5.417	DBA_HIST_FILESTATXS	5-235
5.418	DBA_HIST_IC_CLIENT_STATS	5-236
5.419	DBA_HIST_IC_DEVICE_STATS	5-237
5.420	DBA_HIST_IM_SEG_STAT	5-238
5.421	DBA_HIST_IM_SEG_STAT_OBJ	5-239
5.422	DBA_HIST_INST_CACHE_TRANSFER	5-240
5.423	DBA_HIST_INSTANCE_RECOVERY	5-241
5.424	DBA_HIST_INTERCONNECT_PINGS	5-243
5.425	DBA_HIST_IOSTAT_DETAIL	5-244
5.426	DBA_HIST_IOSTAT_FILETYPE	5-245
5.427	DBA_HIST_IOSTAT_FILETYPE_NAME	5-247
5.428	DBA_HIST_IOSTAT_FUNCTION	5-247
5.429	DBA_HIST_IOSTAT_FUNCTION_NAME	5-248
5.430	DBA_HIST_JAVA_POOL_ADVICE	5-249

6 Static Data Dictionary Views: DBA_HIST_LATCH to DBA_STORED_SETTINGS

6.1	DBA_HIST_LATCH	6-1
6.2	DBA_HIST_LATCH_CHILDREN	6-2
6.3	DBA_HIST_LATCH_MISSES_SUMMARY	6-3
6.4	DBA_HIST_LATCH_NAME	6-4
6.5	DBA_HIST_LATCH_PARENT	6-5
6.6	DBA_HIST_LIBRARYCACHE	6-6
6.7	DBA_HIST_LOG	6-7
6.8	DBA_HIST_MEM_DYNAMIC_COMP	6-8
6.9	DBA_HIST_MEMORY_RESIZE_OPS	6-9
6.10	DBA_HIST_MEMORY_TARGET_ADVICE	6-10
6.11	DBA_HIST_METRIC_NAME	6-11
6.12	DBA_HIST_MTTR_TARGET_ADVICE	6-12
6.13	DBA_HIST_MUTEX_SLEEP	6-13
6.14	DBA_HIST_OPTIMIZER_ENV	6-13
6.15	DBA_HIST_OPTIMIZER_ENV_DETAILS	6-14
6.16	DBA_HIST_OSSTAT	6-15
6.17	DBA_HIST_OSSTAT_NAME	6-15
6.18	DBA_HIST_PARAMETER	6-16
6.19	DBA_HIST_PARAMETER_NAME	6-17
6.20	DBA_HIST_PDB_IN_SNAP	6-18
6.21	DBA_HIST_PDB_INSTANCE	6-18
6.22	DBA_HIST_PERSISTENT_QMN_CACHE	6-19
6.23	DBA_HIST_PERSISTENT_QUEUES	6-20

6.24	DBA_HIST_PERSISTENT_SUBS	6-22
6.25	DBA_HIST_PGA_TARGET_ADVICE	6-23
6.26	DBA_HIST_PGASTAT	6-24
6.27	DBA_HIST_PLAN_OPERATION_NAME	6-25
6.28	DBA_HIST_PLAN_OPTION_NAME	6-26
6.29	DBA_HIST_PROCESS_MEM_SUMMARY	6-26
6.30	DBA_HIST_PROCESS_WAITTIME	6-27
6.31	DBA_HIST_RECOVERY_PROGRESS	6-28
6.32	DBA_HIST_REPLICATION_TBL_STATS	6-29
6.33	DBA_HIST_REPLICATION_TXN_STATS	6-30
6.34	DBA_HIST_REPORTS	6-30
6.35	DBA_HIST_REPORTS_CONTROL	6-32
6.36	DBA_HIST_REPORTS_DETAILS	6-32
6.37	DBA_HIST_REPORTS_TIMEBANDS	6-33
6.38	DBA_HIST_RESOURCE_LIMIT	6-34
6.39	DBA_HIST_ROWCACHE_SUMMARY	6-35
6.40	DBA_HIST_RSRC_CONSUMER_GROUP	6-36
6.41	DBA_HIST_RSRC_METRIC	6-38
6.42	DBA_HIST_RSRC_PDB_METRIC	6-40
6.43	DBA_HIST_RSRC_PLAN	6-42
6.44	DBA_HIST_RULE_SET	6-43
6.45	DBA_HIST_SAGAS	6-44
6.46	DBA_HIST_SEG_STAT	6-45
6.47	DBA_HIST_SEG_STAT_OBJ	6-47
6.48	DBA_HIST_SERVICE_NAME	6-48
6.49	DBA_HIST_SERVICE_STAT	6-49
6.50	DBA_HIST_SERVICE_WAIT_CLASS	6-49
6.51	DBA_HIST_SESS_SGA_STATS	6-50
6.52	DBA_HIST_SESS_TIME_STATS	6-51
6.53	DBA_HIST_SESSMETRIC_HISTORY	6-52
6.54	DBA_HIST_SGA	6-53
6.55	DBA_HIST_SGA_TARGET_ADVICE	6-53
6.56	DBA_HIST_SGASTAT	6-54
6.57	DBA_HIST_SHARED_POOL_ADVICE	6-55
6.58	DBA_HIST_SHARED_SERVER_SUMMARY	6-56
6.59	DBA_HIST_SNAP_ERROR	6-58
6.60	DBA_HIST_SNAPSHOT	6-58
6.61	DBA_HIST_SQL_BIND_METADATA	6-59
6.62	DBA_HIST_SQL_PLAN	6-60
6.63	DBA_HIST_SQL_SUMMARY	6-63
6.64	DBA_HIST_SQL_WORKAREA_HSTGRM	6-63
6.65	DBA_HIST_SQLBIND	6-64

6.66	DBA_HIST_SQLCOMMAND_NAME	6-65
6.67	DBA_HIST_SQLSTAT	6-66
6.68	DBA_HIST_SQLTEXT	6-70
6.69	DBA_HIST_STAT_NAME	6-71
6.70	DBA_HIST_STREAMS_APPLY_SUM	6-72
6.71	DBA_HIST_STREAMS_CAPTURE	6-73
6.72	DBA_HIST_STREAMS_POOL_ADVICE	6-74
6.73	DBA_HIST_SYS_TIME_MODEL	6-74
6.74	DBA_HIST_SYSMETRIC_HISTORY	6-75
6.75	DBA_HIST_SYSMETRIC_SUMMARY	6-76
6.76	DBA_HIST_SYSSTAT	6-77
6.77	DBA_HIST_SYSTEM_EVENT	6-78
6.78	DBA_HIST_TABLESPACE	6-79
6.79	DBA_HIST_TABLESPACE_STAT	6-79
6.80	DBA_HIST_TBSPC_SPACE_USAGE	6-80
6.81	DBA_HIST_TEMPFILE	6-81
6.82	DBA_HIST_TEMPSTATXS	6-81
6.83	DBA_HIST_THREAD	6-83
6.84	DBA_HIST_TOPLEVELCALL_NAME	6-83
6.85	DBA_HIST_UNDOSTAT	6-84
6.86	DBA_HIST_WAITCLASSMET_HISTORY	6-85
6.87	DBA_HIST_WAITSTAT	6-86
6.88	DBA_HIST_WR_CONTROL	6-87
6.89	DBA_HIST_WR_SETTINGS	6-88
6.90	DBA_HISTOGRAMS	6-88
6.91	DBA_HIVE_COLUMNS	6-88
6.92	DBA_HIVE_DATABASES	6-89
6.93	DBA_HIVE_PART_KEY_COLUMNS	6-89
6.94	DBA_HIVE_TAB_PARTITIONS	6-89
6.95	DBA_HIVE_TABLES	6-89
6.96	DBA_HOST_ACES	6-90
6.97	DBA_HOST_ACLS	6-90
6.98	DBA_IDENTIFIERS	6-91
6.99	DBA_ILMDATAMOVEMENTPOLICIES	6-91
6.100	DBA_ILMEVALUATIONDETAILS	6-92
6.101	DBA_ILMOBJECTS	6-93
6.102	DBA_ILMPARAMETERS	6-95
6.103	DBA_ILMPOLICIES	6-95
6.104	DBA_ILMRESULTS	6-96
6.105	DBA_ILMTASKS	6-97
6.106	DBA_IM_EXPRESSIONS	6-98
6.107	DBA_IMMUTABLE_ROW_VERSION_COLS	6-99

6.108	DBA_IMMUTABLE_ROW_VERSION_HISTORY	6-99
6.109	DBA_IMMUTABLE_TABLE_COLUMNS	6-99
6.110	DBA_IMMUTABLE_TABLE_EPOCHS	6-100
6.111	DBA_IMMUTABLE_TABLES	6-100
6.112	DBA_INCOMPLETE_SAGAS	6-100
6.113	DBA_IND_COLUMNS	6-101
6.114	DBA_IND_EXPRESSIONS	6-101
6.115	DBA_IND_PARTITIONS	6-101
6.116	DBA_IND_PENDING_STATS	6-102
6.117	DBA_IND_STATISTICS	6-102
6.118	DBA_IND_SUBPARTITIONS	6-102
6.119	DBA_INDEX_USAGE	6-102
6.120	DBA_INDEXES	6-103
6.121	DBA_INDEXTYPE_ARRAYTYPES	6-104
6.122	DBA_INDEXTYPE_COMMENTS	6-104
6.123	DBA_INDEXTYPE_OPERATORS	6-104
6.124	DBA_INDEXTYPES	6-104
6.125	DBA_INMEMORY_ADVISOR_RECOMMENDATION	6-105
6.126	DBA_INMEMORY_AIMTASKDETAILS	6-105
6.127	DBA_INMEMORY_AIMTASKS	6-106
6.128	DBA_INTERNAL_TRIGGERS	6-106
6.129	DBA_INVALID_OBJECTS	6-106
6.130	DBA_JAVA_ARGUMENTS	6-108
6.131	DBA_JAVA_CLASSES	6-108
6.132	DBA_JAVA_COMPILER_OPTIONS	6-109
6.133	DBA_JAVA_DERIVATIONS	6-109
6.134	DBA_JAVA_FIELDS	6-109
6.135	DBA_JAVA_IMPLEMENTATIONS	6-109
6.136	DBA_JAVA_INNERS	6-110
6.137	DBA_JAVA_LAYOUTS	6-110
6.138	DBA_JAVA_METHODS	6-110
6.139	DBA_JAVA_NCOMPS	6-110
6.140	DBA_JAVA_POLICY	6-111
6.141	DBA_JAVA_RESOLVERS	6-111
6.142	DBA_JAVA_THROWS	6-112
6.143	DBA_JOBS	6-112
6.144	DBA_JOBS_RUNNING	6-113
6.145	DBA_JOIN_IND_COLUMNS	6-113
6.146	DBA_JOININGROUPS	6-114
6.147	DBA_JSON_COLLECTION_TABLES	6-115
6.148	DBA_JSON_COLLECTION_VIEWS	6-115
6.149	DBA_JSON_COLLECTIONS	6-116

6.150	DBA_JSON_COLUMNS	6-116
6.151	DBA_JSON_DATAGUIDE_FIELDS	6-116
6.152	DBA_JSON_DATAGUIDES	6-117
6.153	DBA_JSON_DOMAIN_SCHEMA_COLUMNS	6-117
6.154	DBA_JSON_DUALITY_VIEW_LINKS	6-117
6.155	DBA_JSON_DUALITY_VIEW_TAB_COLS	6-118
6.156	DBA_JSON_DUALITY_VIEW_TABS	6-118
6.157	DBA_JSON_DUALITY_VIEWS	6-118
6.158	DBA_JSON_INDEXES	6-119
6.159	DBA_JSON_SCHEMA_COLUMNS	6-119
6.160	DBA_KAFKA_APPLICATIONS	6-119
6.161	DBA_KAFKA_CLUSTERS	6-121
6.162	DBA_KAFKA_LOAD_METRICS	6-122
6.163	DBA_KAFKA_OPS	6-123
6.164	DBA_KAFKA_OPS_RESULTS	6-124
6.165	DBA_KAFKA_PARTITIONS	6-124
6.166	DBA_KGLLOCK	6-125
6.167	DBA_LIBRARIES	6-126
6.168	DBA_LMT_FREE_SPACE	6-126
6.169	DBA_LMT_USED_EXTENTS	6-126
6.170	DBA_LOB_PARTITIONS	6-127
6.171	DBA_LOB_SUBPARTITIONS	6-127
6.172	DBA_LOB_TEMPLATES	6-127
6.173	DBA_LOBS	6-127
6.174	DBA_LOCK	6-128
6.175	DBA_LOCK_INTERNAL	6-128
6.176	DBA_LOCKDOWN_PROFILES	6-129
6.177	DBA_LOCKS	6-130
6.178	DBA_LOG_GROUP_COLUMNS	6-130
6.179	DBA_LOG_GROUPS	6-130
6.180	DBA_LOGMNR_DICTIONARY_BUILDLOG	6-131
6.181	DBA_LOGMNR_LOG	6-131
6.182	DBA_LOGMNR_PURGED_LOG	6-132
6.183	DBA_LOGMNR_SESSION	6-132
6.184	DBA_LOGSTDBY_EVENTS	6-133
6.185	DBA_LOGSTDBY_HISTORY	6-134
6.186	DBA_LOGSTDBY_LOG	6-136
6.187	DBA_LOGSTDBY_NOT_UNIQUE	6-137
6.188	DBA_LOGSTDBY_PARAMETERS	6-138
6.189	DBA_LOGSTDBY_PLSQL_MAP	6-140
6.190	DBA_LOGSTDBY_PLSQL_SUPPORT	6-140
6.191	DBA_LOGSTDBY_PROGRESS	6-141

6.192	DBA_LOGSTDBY_SKIP	6-141
6.193	DBA_LOGSTDBY_SKIP_TRANSACTION	6-142
6.194	DBA_LOGSTDBY_SUPPORT_MODE	6-142
6.195	DBA_LOGSTDBY_UNSUPPORTED	6-143
6.196	DBA_LOGSTDBY_UNSUPPORTED_TABLE	6-144
6.197	DBA_MEASURE_FOLDER_CONTENTS	6-145
6.198	DBA_MEASURE_FOLDER_SUBFOLDERS	6-145
6.199	DBA_MEASURE_FOLDERS	6-145
6.200	DBA_METADATA_PROPERTIES	6-145
6.201	DBA_METHOD_PARAMS	6-146
6.202	DBA_METHOD_RESULTS	6-146
6.203	DBA_MINING_MODEL_ATTRIBUTES	6-146
6.204	DBA_MINING_MODEL_PARTITIONS	6-146
6.205	DBA_MINING_MODEL_SETTINGS	6-147
6.206	DBA_MINING_MODEL_TABLES	6-147
6.207	DBA_MINING_MODEL_VIEWS	6-147
6.208	DBA_MINING_MODEL_XFORMS	6-148
6.209	DBA_MINING_MODELS	6-148
6.210	DBA_MLE_ENV_IMPORTS	6-148
6.211	DBA_MLE_ENVS	6-149
6.212	DBA_MLE_MODULES	6-149
6.213	DBA_MLE_PROCEDURES	6-149
6.214	DBA_MVIEW_AGGREGATES	6-150
6.215	DBA_MVIEW_ANALYSIS	6-150
6.216	DBA_MVIEW_COMMENTS	6-150
6.217	DBA_MVIEW_DETAIL_LOGICAL_PARTITION	6-151
6.218	DBA_MVIEW_DETAIL_PARTITION	6-151
6.219	DBA_MVIEW_DETAIL_RELATIONS	6-151
6.220	DBA_MVIEW_DETAIL_SUBPARTITION	6-151
6.221	DBA_MVIEW_JOINS	6-152
6.222	DBA_MVIEW_KEYS	6-152
6.223	DBA_MVIEW_LOG_FILTER_COLS	6-152
6.224	DBA_MVIEW_LOGS	6-152
6.225	DBA_MVIEW_REFRESH_TIMES	6-153
6.226	DBA_MVIEWS	6-153
6.227	DBA_MVREF_CHANGE_STATS	6-153
6.228	DBA_MVREF_RUN_STATS	6-154
6.229	DBA_MVREF_STATS	6-155
6.230	DBA_MVREF_STATS_PARAMS	6-156
6.231	DBA_MVREF_STATS_SYS_DEFAULTS	6-157
6.232	DBA_MVREF_STMT_STATS	6-157
6.233	DBA_NESTED_TABLE_COLS	6-158

6.234	DBA_NESTED_TABLES	6-158
6.235	DBA_NETWORK_ACL_PRIVILEGES	6-159
6.236	DBA_NETWORK_ACLS	6-159
6.237	DBA_OBJ_AUDIT_OPTS	6-160
6.238	DBA_OBJ_COLATTRS	6-161
6.239	DBA_OBJECT_SIZE	6-161
6.240	DBA_OBJECT_TABLES	6-162
6.241	DBA_OBJECT_USAGE	6-162
6.242	DBA_OBJECTS	6-163
6.243	DBA_OBJECTS_AE	6-163
6.244	DBA_OGG_AUTO_CAPTURED_TABLES	6-164
6.245	DBA_OPANCILLARY	6-164
6.246	DBA_OPARGUMENTS	6-164
6.247	DBA_OPBINDINGS	6-165
6.248	DBA_OPERATOR_COMMENTS	6-165
6.249	DBA_OPERATORS	6-165
6.250	DBA_OPTSTAT_OPERATION_TASKS	6-165
6.251	DBA_OPTSTAT_OPERATIONS	6-167
6.252	DBA_ORPHAN_KEY_TABLE	6-167
6.253	DBA_OUTLINE_HINTS	6-168
6.254	DBA_OUTLINES	6-169
6.255	DBA_OUTSTANDING_ALERTS	6-169
6.256	DBA_PARALLEL_EXECUTE_CHUNKS	6-171
6.257	DBA_PARALLEL_EXECUTE_TASKS	6-171
6.258	DBA_PART_COL_STATISTICS	6-173
6.259	DBA_PART_HISTOGRAMS	6-173
6.260	DBA_PART_INDEXES	6-173
6.261	DBA_PART_KEY_COLUMNS	6-173
6.262	DBA_PART_LOBS	6-174
6.263	DBA_PART_TABLES	6-174
6.264	DBA_PARTIAL_DROP_TABS	6-174
6.265	DBA_PDB_HISTORY	6-174
6.266	DBA_PDB_SAVED_STATES	6-175
6.267	DBA_PDB_SNAPSHOTFILE	6-176
6.268	DBA_PDB_SNAPSHOTS	6-176
6.269	DBA_PDBS	6-177
6.270	DBA_PENDING_CONV_TABLES	6-180
6.271	DBA_PENDING_TRANSACTIONS	6-180
6.272	DBA_PG_EDGE_RELATIONSHIPS	6-180
6.273	DBA_PG_ELEMENT_LABELS	6-180
6.274	DBA_PG_ELEMENTS	6-181
6.275	DBA_PG_KEYS	6-181

6.276	DBA_PG_LABEL_PROPERTIES	6-181
6.277	DBA_PG_LABELS	6-182
6.278	DBA_PG_PROP_DEFINITIONS	6-182
6.279	DBA_PLSQL_COLL_TYPES	6-183
6.280	DBA_PLSQL_OBJECT_SETTINGS	6-183
6.281	DBA_PLSQL_TYPE_ATTRS	6-183
6.282	DBA_PLSQL_TYPES	6-183
6.283	DBA_POLICIES	6-184
6.284	DBA_POLICY_ATTRIBUTES	6-184
6.285	DBA_POLICY_CONTEXTS	6-184
6.286	DBA_POLICY_GROUPS	6-184
6.287	DBA_PRIV_AUDIT_OPTS	6-185
6.288	DBA_PRIV_CAPTURES	6-185
6.289	DBA_PRIVATE_TEMP_TABLES	6-186
6.290	DBA_PROCEDURES	6-187
6.291	DBA_PROFILES	6-187
6.292	DBA_PROPERTY_GRAPHS	6-188
6.293	DBA_PROPAGATION	6-188
6.294	DBA_PROXIES	6-188
6.295	DBA_QUARANTINED_TRANSACTIONS	6-189
6.296	DBA_QUEUE_EVENT_STREAMS	6-190
6.297	DBA_QUEUE_SCHEDULES	6-190
6.298	DBA_QUEUE_SUBSCRIBERS	6-190
6.299	DBA_QUEUE_TABLES	6-191
6.300	DBA_QUEUES	6-191
6.301	DBA_RAT_CAPTURE_SCHEMA_INFO	6-191
6.302	DBA_RCHILD	6-192
6.303	DBA_RECOVERABLE_SCRIPT	6-192
6.304	DBA_RECOVERABLE_SCRIPT_BLOCKS	6-193
6.305	DBA_RECOVERABLE_SCRIPT_ERRORS	6-193
6.306	DBA_RECOVERABLE_SCRIPT_HIST	6-193
6.307	DBA_RECOVERABLE_SCRIPT_PARAMS	6-194
6.308	DBA_RECYCLEBIN	6-194
6.309	DBA_REDEFINITION_ERRORS	6-195
6.310	DBA_REDEFINITION_OBJECTS	6-196
6.311	DBA_REDEFINITION_STATUS	6-197
6.312	DBA_REFRESH	6-198
6.313	DBA_REFRESH_CHILDREN	6-198
6.314	DBA_REFS	6-198
6.315	DBA_REGISTERED_ARCHIVED_LOG	6-198
6.316	DBA_REGISTERED_MVIEWS	6-199
6.317	DBA_REGISTRY	6-199

6.318	DBA_REGISTRY_BACKPORTS	6-200
6.319	DBA_REGISTRY_HIERARCHY	6-201
6.320	DBA_REGISTRY_HISTORY	6-201
6.321	DBA_REGISTRY_LOG	6-202
6.322	DBA_REGISTRY_SCHEMAS	6-202
6.323	DBA_REGISTRY_SQLPATCH	6-202
6.324	DBA_REPAIR_TABLE	6-204
6.325	DBA_REPL_DBNAME_MAPPING	6-205
6.326	DBA_REPLICATION_PROCESS_EVENTS	6-205
6.327	DBA_RESOURCE_INCARNATIONS	6-205
6.328	DBA_RESUMABLE	6-206
6.329	DBA_REWRITE_EQUIVALENCES	6-207
6.330	DBA_RGROUP	6-207
6.331	DBA_ROLE_PRIVS	6-208
6.332	DBA_ROLES	6-208
6.333	DBA_ROLLBACK_SEGS	6-209
6.334	DBA_ROLLING_DATABASES	6-210
6.335	DBA_ROLLING_EVENTS	6-211
6.336	DBA_ROLLING_PARAMETERS	6-211
6.337	DBA_ROLLING_PLAN	6-212
6.338	DBA_ROLLING_STATISTICS	6-213
6.339	DBA_ROLLING_STATUS	6-213
6.340	DBA_ROLLING_SUPPORT_MODE	6-214
6.341	DBA_ROLLING_UNSUPPORTED	6-215
6.342	DBA_RSRC_CATEGORIES	6-216
6.343	DBA_RSRC_CONSUMER_GROUP_PRIVS	6-216
6.344	DBA_RSRC_CONSUMER_GROUPS	6-217
6.345	DBA_RSRC_GROUP_MAPPINGS	6-217
6.346	DBA_RSRC_IO_CALIBRATE	6-217
6.347	DBA_RSRC_MANAGER_SYSTEM_PRIVS	6-218
6.348	DBA_RSRC_MAPPING_PRIORITY	6-218
6.349	DBA_RSRC_PLAN_DIRECTIVES	6-219
6.350	DBA_RSRC_PLANS	6-222
6.351	DBA_RULE_SET_RULES	6-223
6.352	DBA_RULE_SETS	6-223
6.353	DBA_RULES	6-223
6.354	DBA_SAGA_BROKERS	6-224
6.355	DBA_SAGA_DETAILS	6-224
6.356	DBA_SAGA_ERRORS	6-224
6.357	DBA_SAGA_FINALIZATION	6-225
6.358	DBA_SAGA_PARTICIPANT_SET	6-225
6.359	DBA_SAGA_PARTICIPANTS	6-225

6.360	DBA_SAGA_PENDING	6-226
6.361	DBA_SAGAS	6-226
6.362	DBA_SCHEDULER_CHAIN_RULES	6-227
6.363	DBA_SCHEDULER_CHAIN_STEPS	6-227
6.364	DBA_SCHEDULER_CHAINS	6-227
6.365	DBA_SCHEDULER_CREDENTIALS	6-228
6.366	DBA_SCHEDULER_DB_DESTS	6-228
6.367	DBA_SCHEDULER_DESTS	6-228
6.368	DBA_SCHEDULER_EXTERNAL_DESTS	6-229
6.369	DBA_SCHEDULER_FILE_WATCHERS	6-229
6.370	DBA_SCHEDULER_GLOBAL_ATTRIBUTE	6-229
6.371	DBA_SCHEDULER_GROUP_MEMBERS	6-229
6.372	DBA_SCHEDULER_GROUPS	6-230
6.373	DBA_SCHEDULER_IN_MEMORY_TRACE	6-230
6.374	DBA_SCHEDULER_INCOMPAT_MEMBER	6-230
6.375	DBA_SCHEDULER_INCOMPATS	6-231
6.376	DBA_SCHEDULER_JOB_ARGS	6-231
6.377	DBA_SCHEDULER_JOB_CLASSES	6-231
6.378	DBA_SCHEDULER_JOB_DESTS	6-231
6.379	DBA_SCHEDULER_JOB_LOG	6-232
6.380	DBA_SCHEDULER_JOB_ROLES	6-232
6.381	DBA_SCHEDULER_JOB_RUN_DETAILS	6-233
6.382	DBA_SCHEDULER_JOBS	6-233
6.383	DBA_SCHEDULER_NOTIFICATIONS	6-234
6.384	DBA_SCHEDULER_PROGRAM_ARGS	6-234
6.385	DBA_SCHEDULER_PROGRAMS	6-234
6.386	DBA_SCHEDULER_REMOTE_DATABASES	6-234
6.387	DBA_SCHEDULER_REMOTE_JOBSTATE	6-235
6.388	DBA_SCHEDULER_RESOURCES	6-235
6.389	DBA_SCHEDULER_RSC_CONSTRAINTS	6-235
6.390	DBA_SCHEDULER_RUNNING_CHAINS	6-235
6.391	DBA_SCHEDULER_RUNNING_JOBS	6-236
6.392	DBA_SCHEDULER_SCHEDULES	6-236
6.393	DBA_SCHEDULER_WINDOW_DETAILS	6-236
6.394	DBA_SCHEDULER_WINDOW_GROUPS	6-236
6.395	DBA_SCHEDULER_WINDOW_LOG	6-237
6.396	DBA_SCHEDULER_WINDOWS	6-237
6.397	DBA_SCHEDULER_WINDOWGROUP_MEMBERS	6-237
6.398	DBA_SCHEMA_PRIVS	6-237
6.399	DBA_SEC_RELEVANT_COLS	6-238
6.400	DBA_SECONDARY_OBJECTS	6-238
6.401	DBA_SEGMENTS	6-238

6.402	DBA_SEGMENTS_OLD	6-241
6.403	DBA_SENSITIVE_COLUMN_TYPES	6-242
6.404	DBA_SENSITIVE_DATA	6-242
6.405	DBA_SEQUENCES	6-243
6.406	DBA_SERVER_REGISTRY	6-243
6.407	DBA_SERVICES	6-244
6.408	DBA_SODA_COLLECTIONS	6-244
6.409	DBA_SOURCE	6-245
6.410	DBA_SOURCE_AE	6-245
6.411	DBA_SQL_ERROR_MITIGATIONS	6-245
6.412	DBA_SQL_FIREWALL_ALLOW_LISTS	6-246
6.413	DBA_SQL_FIREWALL_ALLOWED_IP_ADDR	6-247
6.414	DBA_SQL_FIREWALL_ALLOWED_OS_PROG	6-247
6.415	DBA_SQL_FIREWALL_ALLOWED_OS_USER	6-247
6.416	DBA_SQL_FIREWALL_ALLOWED_SQL	6-248
6.417	DBA_SQL_FIREWALL_CAPTURE_LOGS	6-248
6.418	DBA_SQL_FIREWALL_CAPTURES	6-249
6.419	DBA_SQL_FIREWALL_SESSION_LOGS	6-250
6.420	DBA_SQL_FIREWALL_SQL_LOGS	6-250
6.421	DBA_SQL_FIREWALL_STATUS	6-251
6.422	DBA_SQL_FIREWALL_VIOLATIONS	6-251
6.423	DBA_SQL_MANAGEMENT_CONFIG	6-252
6.424	DBA_SQL_QUARANTINE	6-252
6.425	DBA_SQL_PATCHES	6-253
6.426	DBA_SQL_PLAN_BASELINES	6-254
6.427	DBA_SQL_PLAN_DIR_OBJECTS	6-256
6.428	DBA_SQL_PLAN_DIRECTIVES	6-257
6.429	DBA_SQL_PROFILES	6-258
6.430	DBA_SQL_TRANSLATION_PROFILES	6-259
6.431	DBA_SQL_TRANSLATIONS	6-259
6.432	DBA_SQLJ_TYPE_ATTRS	6-259
6.433	DBA_SQLJ_TYPE_METHODS	6-259
6.434	DBA_SQLJ_TYPES	6-260
6.435	DBA_SQLSET	6-260
6.436	DBA_SQLSET_BINDS	6-260
6.437	DBA_SQLSET_PLANS	6-260
6.438	DBA_SQLSET_REFERENCES	6-261
6.439	DBA_SQLSET_STATEMENTS	6-261
6.440	DBA_SQLTUNE_BINDS	6-263
6.441	DBA_SQLTUNE_PLANS	6-263
6.442	DBA_SQLTUNE_RATIONALE_PLAN	6-266
6.443	DBA_SQLTUNE_STATISTICS	6-267

6.444	DBA_SR_GRP_STATUS	6-268
6.445	DBA_SR_GRP_STATUS_ALL	6-269
6.446	DBA_SR_OBJ	6-271
6.447	DBA_SR_OBJ_ALL	6-271
6.448	DBA_SR_OBJ_STATUS	6-272
6.449	DBA_SR_OBJ_STATUS_ALL	6-273
6.450	DBA_SR_PARTN_OPS	6-274
6.451	DBA_SR_STLOG_EXCEPTIONS	6-275
6.452	DBA_SR_STLOG_STATS	6-275
6.453	DBA_SSCR_CAPTURE	6-276
6.454	DBA_SSCR_RESTORE	6-277
6.455	DBA_STAT_EXTENSIONS	6-277
6.456	DBA_STATEMENTS	6-278
6.457	DBA_STMT_AUDIT_OPTS	6-278
6.458	DBA_STORED_SETTINGS	6-278

7 Static Data Dictionary Views: DBA_STREAMS_ADD_COLUMN to USER_ZONEMAPS

7.1	DBA_STREAMS_ADD_COLUMN	7-1
7.2	DBA_STREAMS_DELETE_COLUMN	7-1
7.3	DBA_STREAMS_GLOBAL_RULES	7-2
7.4	DBA_STREAMS_KEEP_COLUMNS	7-2
7.5	DBA_STREAMS_MESSAGE_CONSUMERS	7-3
7.6	DBA_STREAMS_NEWLY_SUPPORTED	7-3
7.7	DBA_STREAMS_RENAME_COLUMN	7-3
7.8	DBA_STREAMS_RENAME_SCHEMA	7-3
7.9	DBA_STREAMS_RENAME_TABLE	7-4
7.10	DBA_STREAMS_SCHEMA_RULES	7-4
7.11	DBA_STREAMS_TABLE_RULES	7-5
7.12	DBA_STREAMS_TP_COMPONENT	7-5
7.13	DBA_STREAMS_TP_COMPONENT_LINK	7-5
7.14	DBA_STREAMS_TP_COMPONENT_STAT	7-6
7.15	DBA_STREAMS_TP_DATABASE	7-7
7.16	DBA_STREAMS_TP_PATH_BOTTLENECK	7-7
7.17	DBA_STREAMS_TP_PATH_STAT	7-8
7.18	DBA_STREAMS_TRANSFORM_FUNCTION	7-8
7.19	DBA_SUBPART_COL_STATISTICS	7-9
7.20	DBA_SUBPART_HISTOGRAMS	7-9
7.21	DBA_SUBPART_KEY_COLUMNS	7-9
7.22	DBA_SUBPARTITION_TEMPLATES	7-9
7.23	DBA_SUBSCR_REGISTRATIONS	7-10

7.24	DBA_SUPPLEMENTAL_LOGGING	7-11
7.25	DBA_SYNC_CAPTURE	7-12
7.26	DBA_SYNC_CAPTURE_PREPARED_TABS	7-12
7.27	DBA_SYNC_CAPTURE_TABLES	7-12
7.28	DBA_SYNONYMS	7-13
7.29	DBA_SYS_PRIVS	7-13
7.30	DBA_SYS_PRIVS_ALL	7-13
7.31	DBA_TAB_COL_STAT_MODELS	7-14
7.32	DBA_TAB_COL_STATISTICS	7-14
7.33	DBA_TAB_COLS	7-15
7.34	DBA_TAB_COLUMNS	7-18
7.35	DBA_TAB_COMMENTS	7-21
7.36	DBA_TAB_HISTGRM_PENDING_STATS	7-22
7.37	DBA_TAB_HISTOGRAMS	7-22
7.38	DBA_TAB_IDENTITY_COLS	7-22
7.39	DBA_TAB_MODIFICATIONS	7-22
7.40	DBA_TAB_PARTITIONS	7-23
7.41	DBA_TAB_PENDING_STATS	7-23
7.42	DBA_TAB_PRIVS	7-23
7.43	DBA_TAB_STATISTICS	7-24
7.44	DBA_TAB_STAT_PREFS	7-24
7.45	DBA_TAB_STATS_HISTORY	7-24
7.46	DBA_TAB_SUBPARTITIONS	7-24
7.47	DBA_TABLE_ACCESS_STATS	7-25
7.48	DBA_TABLE_VIRTUAL_COLUMNS	7-25
7.49	DBA_TABLES	7-25
7.50	DBA_TABLESPACE_GROUPS	7-25
7.51	DBA_TABLESPACE_THRESHOLDS	7-26
7.52	DBA_TABLESPACE_USAGE_METRICS	7-26
7.53	DBA_TABLESPACES	7-27
7.54	DBA_TEMP_FILES	7-31
7.55	DBA_TEMP_FREE_SPACE	7-32
7.56	DBA_THRESHOLDS	7-32
7.57	DBA_TRANSFORMATIONS	7-33
7.58	DBA_TRIGGER_COLS	7-34
7.59	DBA_TRIGGER_ORDERING	7-34
7.60	DBA_TRIGGERS	7-34
7.61	DBA_TRIGGERS_AE	7-35
7.62	DBA_TS_QUOTAS	7-35
7.63	DBA_TSDP_IMPORT_ERRORS	7-35
7.64	DBA_TSDP_POLICY_CONDITION	7-36
7.65	DBA_TSDP_POLICY_FEATURE	7-36

7.66	DBA_TSDP_POLICY_PARAMETER	7-37
7.67	DBA_TSDP_POLICY_PROTECTION	7-37
7.68	DBA_TSDP_POLICY_TYPE	7-38
7.69	DBA_TSM_DESTINATION	7-38
7.70	DBA_TSM_SOURCE	7-39
7.71	DBA_TSTZ_TAB_COLS	7-39
7.72	DBA_TSTZ_TABLES	7-40
7.73	DBA_TUNE_MVIEW	7-40
7.74	DBA_TXEVENTQ_MIGRATION_STATUS	7-41
7.75	DBA_TYPE_ATTRS	7-41
7.76	DBA_TYPE_METHODS	7-42
7.77	DBA_TYPE_VERSIONS	7-42
7.78	DBA_TYPES	7-42
7.79	DBA_UMF_LINK	7-42
7.80	DBA_UMF_REGISTRATION	7-43
7.81	DBA_UMF_SERVICE	7-43
7.82	DBA_UMF_TOPOLOGY	7-44
7.83	DBA_UNDO_EXTENTS	7-45
7.84	DBA_UNUSED_COL_TABS	7-46
7.85	DBA_UNUSED_GRANTS	7-46
7.86	DBA_UNUSED_OBJPRIVS	7-47
7.87	DBA_UNUSED_OBJPRIVS_PATH	7-47
7.88	DBA_UNUSED_PRIVS	7-48
7.89	DBA_UNUSED_SCHEMA_PRIVS	7-49
7.90	DBA_UNUSED_SCHEMA_PRIVS_PATH	7-50
7.91	DBA_UNUSED_SYSPRIVS	7-51
7.92	DBA_UNUSED_SYSPRIVS_PATH	7-52
7.93	DBA_UNUSED_USERPRIVS	7-53
7.94	DBA_UNUSED_USERPRIVS_PATH	7-54
7.95	DBA_UPDATABLE_COLUMNS	7-54
7.96	DBA_USED_OBJPRIVS	7-55
7.97	DBA_USED_OBJPRIVS_PATH	7-55
7.98	DBA_USED_PRIVS	7-56
7.99	DBA_USED_PUBPRIVS	7-57
7.100	DBA_USED_SCHEMA_PRIVS	7-58
7.101	DBA_USED_SCHEMA_PRIVS_PATH	7-59
7.102	DBA_USED_SYSPRIVS	7-60
7.103	DBA_USED_SYSPRIVS_PATH	7-61
7.104	DBA_USED_USERPRIVS	7-62
7.105	DBA_USED_USERPRIVS_PATH	7-63
7.106	DBA_USERS	7-63
7.107	DBA_USERS_WITH_DEFPWD	7-69

7.108	DBA_USTATS	7-70
7.109	DBA_VARRAYS	7-70
7.110	DBA_VIEWS	7-70
7.111	DBA_VIEWS_AE	7-71
7.112	DBA_WAITERS	7-71
7.113	DBA_WALLET_ACES	7-71
7.114	DBA_WALLET_ACLS	7-72
7.115	DBA_WARNING_SETTINGS	7-72
7.116	DBA_WI_CAPTURE_FILES	7-72
7.117	DBA_WI_JOBS	7-73
7.118	DBA_WI_OBJECTS	7-73
7.119	DBA_WI_PATTERN_ITEMS	7-73
7.120	DBA_WI_PATTERNS	7-74
7.121	DBA_WI_STATEMENTS	7-74
7.122	DBA_WI_TEMPLATE_EXECUTIONS	7-75
7.123	DBA_WI_TEMPLATES	7-75
7.124	DBA_WORKLOAD_ACTIVE_USER_MAP	7-76
7.125	DBA_WORKLOAD_CAPTURE_SQLTEXT	7-76
7.126	DBA_WORKLOAD_CAPTURES	7-77
7.127	DBA_WORKLOAD_CONNECTION_MAP	7-80
7.128	DBA_WORKLOAD_DIV_SUMMARY	7-80
7.129	DBA_WORKLOAD_FILTERS	7-82
7.130	DBA_WORKLOAD_GROUP_ASSIGNMENTS	7-82
7.131	DBA_WORKLOAD_LONG_SQLTEXT	7-83
7.132	DBA_WORKLOAD_REPLAY_CLIENTS	7-83
7.133	DBA_WORKLOAD_REPLAY_DIVERGENCE	7-83
7.134	DBA_WORKLOAD_REPLAY_SCHEDULES	7-85
7.135	DBA_WORKLOAD_REPLAYS	7-86
7.136	DBA_WORKLOAD_SCHEDULE_CAPTURES	7-90
7.137	DBA_WORKLOAD_SCHEDULE_ORDERING	7-91
7.138	DBA_WORKLOAD_SQL_MAP	7-92
7.139	DBA_WORKLOAD_TRACKED_COMMITS	7-92
7.140	DBA_WORKLOAD_USER_MAP	7-93
7.141	DBA_XML_INDEXES	7-94
7.142	DBA_XML_NESTED_TABLES	7-94
7.143	DBA_XML_OUT_OF_LINE_TABLES	7-94
7.144	DBA_XML_SCHEMA_ATTRIBUTES	7-94
7.145	DBA_XML_SCHEMA_COMPLEX_TYPES	7-95
7.146	DBA_XML_SCHEMA_ELEMENTS	7-95
7.147	DBA_XML_SCHEMA_NAMESPACES	7-95
7.148	DBA_XML_SCHEMA_SIMPLE_TYPES	7-95
7.149	DBA_XML_SCHEMA_SUBSTGRP_HEAD	7-96

7.150	DBA_XML_SCHEMA_SUBSTGRP_MBR	7-96
7.151	DBA_XML_SCHEMAS	7-96
7.152	DBA_XML_TAB_COLS	7-96
7.153	DBA_XML_TABLES	7-97
7.154	DBA_XML_VIEW_COLS	7-97
7.155	DBA_XML_VIEWS	7-97
7.156	DBA_XS_AUDIT_POLICY_OPTIONS	7-97
7.157	DBA_XS_AUDIT_TRAIL	7-98
7.158	DBA_XS_ENABLED_AUDIT_POLICIES	7-99
7.159	DBA_XS_ENB_AUDIT_POLICIES	7-100
7.160	DBA_XSTREAM_ADMINISTRATOR	7-100
7.161	DBA_XSTREAM_INBOUND	7-101
7.162	DBA_XSTREAM_INBOUND_PROGRESS	7-101
7.163	DBA_XSTREAM_OUT_SUPPORT_MODE	7-101
7.164	DBA_XSTREAM_OUTBOUND	7-101
7.165	DBA_XSTREAM_OUTBOUND_PROGRESS	7-102
7.166	DBA_XSTREAM_RULES	7-102
7.167	DBA_XSTREAM_SPLIT_MERGE	7-102
7.168	DBA_XSTREAM_SPLIT_MERGE_HIST	7-104
7.169	DBA_XSTREAM_STMT_HANDLERS	7-106
7.170	DBA_XSTREAM_STMTS	7-106
7.171	DBA_XSTREAM_TRANSFORMATIONS	7-106
7.172	DBA_XTERNAL_LOC_PARTITIONS	7-106
7.173	DBA_XTERNAL_LOC_SUBPARTITIONS	7-107
7.174	DBA_XTERNAL_PART_TABLES	7-107
7.175	DBA_XTERNAL_TAB_PARTITIONS	7-107
7.176	DBA_XTERNAL_TAB_SUBPARTITIONS	7-107
7.177	DBA_ZONEMAP_AUTO_ACTIONS	7-108
7.178	DBA_ZONEMAP_AUTO_FINDINGS	7-108
7.179	DBA_ZONEMAP_MEASURES	7-109
7.180	DBA_ZONEMAPS	7-109
7.181	DBFS_CONTENT	7-110
7.182	DBFS_CONTENT_PROPERTIES	7-112
7.183	DBMS_ALERT_INFO	7-112
7.184	DBMS_KAFKA_APPLICATIONS	7-112
7.185	DBMS_KAFKA_CLUSTERS	7-113
7.186	DBMS_KAFKA_LOAD_METRICS	7-115
7.187	DBMS_KAFKA_MESSAGES	7-115
7.188	DBMS_KAFKA_OPS	7-116
7.189	DBMS_KAFKA_OPS_RESULTS	7-117
7.190	DBMS_KAFKA_PARTITIONS	7-118
7.191	DBMS_KAFKA_SEC_ALLOWED_PROPERTIES	7-119

7.192	DBMS_LOCK_ALLOCATED	7-120
7.193	DBMS_METADATA_PARSE_ITEMS	7-121
7.194	DBMS_METADATA_TRANSFORM_PARAMS	7-121
7.195	DBMS_METADATA_TRANSFORMS	7-122
7.196	DEPTREE	7-122
7.197	DICT	7-123
7.198	DICT_COLUMNS	7-123
7.199	DICTIONARY	7-123
7.200	DICTIONARY_CREDENTIALS_ENCRYPT	7-123
7.201	DM_USER_MODELS	7-124
7.202	DOCUMENT_LINKS	7-125
7.203	ERROR_SIZE	7-126
7.204	EXCEPTIONS	7-126
7.205	FLASHBACK_TRANSACTION_QUERY	7-126
7.206	GLOBAL_CONTEXT	7-127
7.207	GLOBAL_NAME	7-128
7.208	HS_ALL_CAPS	7-128
7.209	HS_ALL_DD	7-128
7.210	HS_ALL_INITS	7-128
7.211	HS_BASE_CAPS	7-129
7.212	HS_BASE_DD	7-129
7.213	HS_CLASS_CAPS	7-129
7.214	HS_CLASS_DD	7-130
7.215	HS_CLASS_INIT	7-130
7.216	HS_FDS_CLASS	7-130
7.217	HS_FDS_INST	7-131
7.218	HS_INST_CAPS	7-131
7.219	HS_INST_DD	7-131
7.220	HS_INST_INIT	7-132
7.221	IDEPTREE	7-132
7.222	IND	7-132
7.223	INDEX_HISTOGRAM	7-133
7.224	INDEX_STATS	7-133
7.225	LOGSTDBY_UNSUPPORTED_TABLES	7-135
7.226	MAP_OBJECT	7-135
7.227	NLS_DATABASE_PARAMETERS	7-135
7.228	NLS_INSTANCE_PARAMETERS	7-136
7.229	NLS_SESSION_PARAMETERS	7-136
7.230	OBJ	7-136
7.231	PATH_VIEW	7-136
7.232	PDB_ALERTS	7-137
7.233	PDB_PLUG_IN_VIOLATIONS	7-137

7.234	PLAN_TABLE	7-138
7.235	PLUGGABLE_SET_CHECK	7-141
7.236	PRODUCT_COMPONENT_VERSION	7-142
7.237	PROXY_USERS	7-142
7.238	PSTUBTBL	7-143
7.239	PUBLIC_DEPENDENCY	7-143
7.240	PUBLICSYN	7-143
7.241	QUEUE_PRIVILEGES	7-143
7.242	RECYCLEBIN	7-144
7.243	REDACTION_COLUMNS	7-144
7.244	REDACTION_EXPRESSIONS	7-145
7.245	REDACTION_POLICIES	7-145
7.246	REDACTION_VALUES_FOR_TYPE_FULL	7-146
7.247	REPORT_COMPONENTS	7-147
7.248	REPORT_FILES	7-147
7.249	REPORT_FORMATS	7-148
7.250	RESOURCE_COST	7-148
7.251	RESOURCE_MAP	7-148
7.252	RESOURCE_VIEW	7-149
7.253	ROLE_ROLE_PRIVS	7-149
7.254	ROLE_SCHEMA_PRIVS	7-150
7.255	ROLE_SYS_PRIVS	7-150
7.256	ROLE_SYS_PRIVS_ALL	7-151
7.257	ROLE_TAB_PRIVS	7-151
7.258	SCHEDULER_BATCH_ERRORS	7-152
7.259	SCHEMA_EXPORT_OBJECTS	7-152
7.260	SEQ	7-153
7.261	SESSION_CONTEXT	7-153
7.262	SESSION_PRIVS	7-153
7.263	SESSION_PRIVS_ALL	7-153
7.264	SESSION_SCHEMA_PRIVS	7-154
7.265	SESSION_ROLES	7-154
7.266	SHARD_RAFT_PARAMETERS	7-154
7.267	SOURCE_SIZE	7-155
7.268	STMT_AUDIT_OPTION_MAP	7-155
7.269	SYN	7-156
7.270	SYNONYMS	7-156
7.271	SYS_OBJECTS	7-156
7.272	SYSCATALOG	7-156
7.273	SYSFILES	7-156
7.274	SYSSEGOBJ	7-157
7.275	SYSTEM_PRIVILEGE_MAP	7-157

7.276	TAB	7-157
7.277	TABLE_EXPORT_OBJECTS	7-157
7.278	TABLE_PRIVILEGE_MAP	7-158
7.279	TABQUOTAS	7-158
7.280	TABS	7-158
7.281	TRUSTED_SERVERS	7-159
7.282	TS_PITR_CHECK	7-159
7.283	TS_PITR_OBJECTS_TO_BE_DROPPED	7-160
7.284	UNI_PLUGGABLE_SET_CHECK	7-161
7.285	UNIFIED_AUDIT_TRAIL	7-161
7.286	USABLE_EDITIONS	7-171
7.287	USER_ADDM_FDG_BREAKDOWN	7-171
7.288	USER_ADDM_FINDINGS	7-171
7.289	USER_ADDM_INSTANCES	7-172
7.290	USER_ADDM_TASK_DIRECTIVES	7-172
7.291	USER_ADDM_TASKS	7-172
7.292	USER_ADVISOR_ACTIONS	7-172
7.293	USER_ADVISOR_DIR_TASK_INST	7-173
7.294	USER_ADVISOR_EXEC_PARAMETERS	7-173
7.295	USER_ADVISOR_EXECUTIONS	7-173
7.296	USER_ADVISOR_FDG_BREAKDOWN	7-173
7.297	USER_ADVISOR_FINDINGS	7-174
7.298	USER_ADVISOR_JOURNAL	7-174
7.299	USER_ADVISOR_LOG	7-174
7.300	USER_ADVISOR_OBJECTS	7-174
7.301	USER_ADVISOR_PARAMETERS	7-175
7.302	USER_ADVISOR_RATIONALE	7-175
7.303	USER_ADVISOR_RECOMMENDATIONS	7-175
7.304	USER_ADVISOR_SQLA_REC_SUM	7-175
7.305	USER_ADVISOR_SQLA_TABLES	7-176
7.306	USER_ADVISOR_SQLA_WK_MAP	7-176
7.307	USER_ADVISOR_SQLA_WK_STMTS	7-176
7.308	USER_ADVISOR_SQLPLANS	7-176
7.309	USER_ADVISOR_SQLSTATS	7-177
7.310	USER_ADVISOR_SQLW_JOURNAL	7-177
7.311	USER_ADVISOR_SQLW_PARAMETERS	7-177
7.312	USER_ADVISOR_SQLW_STMTS	7-177
7.313	USER_ADVISOR_SQLW_SUM	7-178
7.314	USER_ADVISOR_SQLW_TABLES	7-178
7.315	USER_ADVISOR_SQLW_TEMPLATES	7-178
7.316	USER_ADVISOR_TASKS	7-178
7.317	USER_ADVISOR_TEMPLATES	7-179

7.318	USER_ALL_TABLES	7-179
7.319	USER_ANALYTIC_VIEW_AGGR_DIMS	7-179
7.320	USER_ANALYTIC_VIEW_AGGR_FNS	7-179
7.321	USER_ANALYTIC_VIEW_AGGR_FNS_AE	7-180
7.322	USER_ANALYTIC_VIEW_AGR_DIMS	7-180
7.323	USER_ANALYTIC_VIEW_AGR_DIMS_AE	7-180
7.324	USER_ANALYTIC_VIEW_ATTR_CLASS	7-180
7.325	USER_ANALYTIC_VIEW_ATTR_CLS	7-181
7.326	USER_ANALYTIC_VIEW_ATTR_CLS_AE	7-181
7.327	USER_ANALYTIC_VIEW_BAS_MEAS	7-181
7.328	USER_ANALYTIC_VIEW_BAS_MEAS_AE	7-181
7.329	USER_ANALYTIC_VIEW_BASE_MEAS	7-182
7.330	USER_ANALYTIC_VIEW_CALC_MEAS	7-182
7.331	USER_ANALYTIC_VIEW_CLASS	7-182
7.332	USER_ANALYTIC_VIEW_CLASS_AE	7-182
7.333	USER_ANALYTIC_VIEW_CLC_MEAS	7-183
7.334	USER_ANALYTIC_VIEW_CLC_MEAS_AE	7-183
7.335	USER_ANALYTIC_VIEW_COLUMNS	7-183
7.336	USER_ANALYTIC_VIEW_COLUMNS_AE	7-183
7.337	USER_ANALYTIC_VIEW_DIM_ATTRS	7-184
7.338	USER_ANALYTIC_VIEW_DIM_ATTRS_AE	7-184
7.339	USER_ANALYTIC_VIEW_DIM_ATTRS	7-184
7.340	USER_ANALYTIC_VIEW_DIM_CLASS	7-184
7.341	USER_ANALYTIC_VIEW_DIM_CLS	7-185
7.342	USER_ANALYTIC_VIEW_DIM_CLS_AE	7-185
7.343	USER_ANALYTIC_VIEW_DIMENSIONS	7-185
7.344	USER_ANALYTIC_VIEW_DIMS	7-185
7.345	USER_ANALYTIC_VIEW_DIMS_AE	7-186
7.346	USER_ANALYTIC_VIEW_FACT_COLS	7-186
7.347	USER_ANALYTIC_VIEW_FCT_COLS	7-186
7.348	USER_ANALYTIC_VIEW_FCT_COLS_AE	7-186
7.349	USER_ANALYTIC_VIEW_HIER_CLASS	7-187
7.350	USER_ANALYTIC_VIEW_HIER_CLS	7-187
7.351	USER_ANALYTIC_VIEW_HIER_CLS_AE	7-187
7.352	USER_ANALYTIC_VIEW_HIERS	7-187
7.353	USER_ANALYTIC_VIEW_HIERS_AE	7-188
7.354	USER_ANALYTIC_VIEW_KEYS	7-188
7.355	USER_ANALYTIC_VIEW_KEYS_AE	7-188
7.356	USER_ANALYTIC_VIEW_LEVEL_CLASS	7-188
7.357	USER_ANALYTIC_VIEW_LEVELS	7-189
7.358	USER_ANALYTIC_VIEW_LEVELS_AE	7-189
7.359	USER_ANALYTIC_VIEW_LVL_CLS	7-189

7.360	USER_ANALYTIC_VIEW_LVL_CLS_AE	7-189
7.361	USER_ANALYTIC_VIEW_LVLGRPS	7-190
7.362	USER_ANALYTIC_VIEW_LVLGRPS_AE	7-190
7.363	USER_ANALYTIC_VIEW_MEAS_CLASS	7-190
7.364	USER_ANALYTIC_VIEW_MEAS_CLS	7-190
7.365	USER_ANALYTIC_VIEW_MEAS_CLS_AE	7-191
7.366	USER_ANALYTIC_VIEWS	7-191
7.367	USER_ANALYTIC_VIEWS_AE	7-191
7.368	USER_ANNOTATION_VALUES	7-191
7.369	USER_ANNOTATIONS	7-192
7.370	USER_ANNOTATIONS_USAGE	7-192
7.371	USER_APPLICATION_ROLES	7-192
7.372	USER_APPLY_ERROR	7-193
7.373	USER_AQ_AGENT_PRIVS	7-193
7.374	USER_ARGUMENTS	7-193
7.375	USER_ASSEMBLIES	7-194
7.376	USER_ASSOCIATIONS	7-194
7.377	USER_ATTRIBUTE_DIM_ATTR_CLASS	7-194
7.378	USER_ATTRIBUTE_DIM_ATTR_CLS	7-194
7.379	USER_ATTRIBUTE_DIM_ATTR_CLS_AE	7-195
7.380	USER_ATTRIBUTE_DIM_ATTRS	7-195
7.381	USER_ATTRIBUTE_DIM_ATTRS_AE	7-195
7.382	USER_ATTRIBUTE_DIM_CLASS	7-195
7.383	USER_ATTRIBUTE_DIM_CLASS_AE	7-196
7.384	USER_ATTRIBUTE_DIM_JN_PTHS	7-196
7.385	USER_ATTRIBUTE_DIM_JN_PTHS_AE	7-196
7.386	USER_ATTRIBUTE_DIM_JOIN_PATHS	7-196
7.387	USER_ATTRIBUTE_DIM_KEYS	7-197
7.388	USER_ATTRIBUTE_DIM_KEYS_AE	7-197
7.389	USER_ATTRIBUTE_DIM_LEVEL_ATTRS	7-197
7.390	USER_ATTRIBUTE_DIM_LEVELS	7-197
7.391	USER_ATTRIBUTE_DIM_LEVELS_AE	7-198
7.392	USER_ATTRIBUTE_DIM_LVL_ATTRS	7-198
7.393	USER_ATTRIBUTE_DIM_LVL_ATTRS_AE	7-198
7.394	USER_ATTRIBUTE_DIM_LVL_CLASS	7-198
7.395	USER_ATTRIBUTE_DIM_LVL_CLS	7-199
7.396	USER_ATTRIBUTE_DIM_LVL_CLS_AE	7-199
7.397	USER_ATTRIBUTE_DIM_ORD_ATTRS	7-199
7.398	USER_ATTRIBUTE_DIM_ORD_ATTRS_AE	7-199
7.399	USER_ATTRIBUTE_DIM_ORDER_ATTRS	7-200
7.400	USER_ATTRIBUTE_DIM_TABLES	7-200
7.401	USER_ATTRIBUTE_DIM_TABLES_AE	7-200

7.402	USER_ATTRIBUTE_DIMENSIONS	7-200
7.403	USER_ATTRIBUTE_DIMENSIONS_AE	7-201
7.404	USER_ATTRIBUTE_TRANSFORMATIONS	7-201
7.405	USER_AUDIT_OBJECT	7-201
7.406	USER_AUDIT_POLICIES	7-202
7.407	USER_AUDIT_POLICY_COLUMNS	7-202
7.408	USER_AUDIT_SESSION	7-203
7.409	USER_AUDIT_STATEMENT	7-203
7.410	USER_AUDIT_TRAIL	7-203
7.411	USER_AW_PS	7-204
7.412	USER_AWS	7-204
7.413	USER_BASE_TABLE_MVIEWS	7-204
7.414	USER_BLOCKCHAIN_ROW_VERSION_COLS	7-204
7.415	USER_BLOCKCHAIN_ROW_VERSION_HISTORY	7-205
7.416	USER_BLOCKCHAIN_TABLE_CHAINS	7-205
7.417	USER_BLOCKCHAIN_TABLE_EPOCHS	7-206
7.418	USER_BLOCKCHAIN_TABLE_HASH_COL_ORDER	7-206
7.419	USER_BLOCKCHAIN_TABLES	7-206
7.420	USER_CATALOG	7-207
7.421	USER_CERTIFICATES	7-207
7.422	USER_CHANGE_NOTIFICATION_REGS	7-207
7.423	USER_CLU_COLUMNS	7-207
7.424	USER_CLUSTER_HASH_EXPRESSIONS	7-208
7.425	USER_CLUSTERING_DIMENSIONS	7-208
7.426	USER_CLUSTERING_JOINS	7-208
7.427	USER_CLUSTERING_KEYS	7-209
7.428	USER_CLUSTERING_TABLES	7-209
7.429	USER_CLUSTERS	7-209
7.430	USER_CODE_ROLE_PRIVS	7-209
7.431	USER_COL_COMMENTS	7-210
7.432	USER_COL_PENDING_STATS	7-210
7.433	USER_COL_PRIVS	7-210
7.434	USER_COL_PRIVS_MADE	7-210
7.435	USER_COL_PRIVS_RECD	7-211
7.436	USER_COLL_TYPES	7-211
7.437	USER_COMPARISON	7-211
7.438	USER_COMPARISON_COLUMNS	7-211
7.439	USER_COMPARISON_ROW_DIF	7-212
7.440	USER_COMPARISON_SCAN	7-212
7.441	USER_COMPARISON_SCAN_VALUES	7-212
7.442	USER_CONS_COLUMNS	7-212
7.443	USER_CONS_OBJ_COLUMNS	7-213

7.444	USER_CONSTRAINTS	7-213
7.445	USER_CQ_NOTIFICATION_QUERIES	7-213
7.446	USER_CREDENTIALS	7-213
7.447	USER_CUBE_ATTR_VISIBILITY	7-214
7.448	USER_CUBE_ATTRIBUTES	7-214
7.449	USER_CUBE_BUILD_PROCESSES	7-214
7.450	USER_CUBE_CALCULATED_MEMBERS	7-214
7.451	USER_CUBE_DIM_LEVELS	7-215
7.452	USER_CUBE_DIM_MODELS	7-215
7.453	USER_CUBE_DIM_VIEW_COLUMNS	7-215
7.454	USER_CUBE_DIM_VIEWS	7-215
7.455	USER_CUBE_DIMENSIONALITY	7-216
7.456	USER_CUBE_DIMENSIONS	7-216
7.457	USER_CUBE_HIER_LEVELS	7-216
7.458	USER_CUBE_HIER_VIEW_COLUMNS	7-216
7.459	USER_CUBE_HIER_VIEWS	7-217
7.460	USER_CUBE_HIERARCHIES	7-217
7.461	USER_CUBE_MEASURES	7-217
7.462	USER_CUBE_NAMED_BUILD_SPECS	7-217
7.463	USER_CUBE_SUB_PARTITION_LEVELS	7-218
7.464	USER_CUBE_VIEW_COLUMNS	7-218
7.465	USER_CUBE_VIEWS	7-218
7.466	USER_CUBES	7-218
7.467	USER_DATAPUMP_JOBS	7-219
7.468	USER_DB_LINKS	7-219
7.469	USER_DBFS_HS	7-219
7.470	USER_DBFS_HS_COMMANDS	7-219
7.471	USER_DBFS_HS_FILES	7-220
7.472	USER_DBFS_HS_FIXED_PROPERTIES	7-220
7.473	USER_DBFS_HS_PROPERTIES	7-220
7.474	USER_DDL_REGS	7-221
7.475	USER_DEPENDENCIES	7-221
7.476	USER_DIM_ATTRIBUTES	7-221
7.477	USER_DIM_CHILD_OF	7-222
7.478	USER_DIM_HIERARCHIES	7-222
7.479	USER_DIM_JOIN_KEY	7-222
7.480	USER_DIM_LEVEL_KEY	7-222
7.481	USER_DIM_LEVELS	7-223
7.482	USER_DIMENSIONS	7-223
7.483	USER_DOMAIN_COLS	7-223
7.484	USER_DOMAIN_CONSTRAINTS	7-224
7.485	USER_DOMAINS	7-224

7.486	USER_EDITIONED_TYPES	7-224
7.487	USER_EDITIONING_VIEW_COLS	7-225
7.488	USER_EDITIONING_VIEW_COLS_AE	7-225
7.489	USER_EDITIONING_VIEWS	7-225
7.490	USER_EDITIONING_VIEWS_AE	7-225
7.491	USER_ENCRYPTED_COLUMNS	7-226
7.492	USER_EPG_DAD_AUTHORIZATION	7-226
7.493	USER_ERROR_TRANSLATIONS	7-226
7.494	USER_ERRORS	7-226
7.495	USER_ERRORS_AE	7-227
7.496	USER_EVALUATION_CONTEXT_TABLES	7-227
7.497	USER_EVALUATION_CONTEXT_VARS	7-227
7.498	USER_EVALUATION_CONTEXTS	7-227
7.499	USER_EXPRESSION_STATISTICS	7-228
7.500	USER_EXTENTS	7-228
7.501	USER_EXTERNAL_LOCATIONS	7-228
7.502	USER_EXTERNAL_TABLES	7-228
7.503	USER_FLASHBACK_ARCHIVE	7-229
7.504	USER_FLASHBACK_ARCHIVE_TABLES	7-229
7.505	USER_FLASHBACK_TXN_REPORT	7-229
7.506	USER_FLASHBACK_TXN_STATE	7-230
7.507	USER_FREE_SPACE	7-230
7.508	USER_GOLDENGATE_PRIVILEGES	7-230
7.509	USER_HEAT_MAP_SEG_HISTOGRAM	7-230
7.510	USER_HEAT_MAP_SEGMENT	7-231
7.511	USER_HIER_CLASS	7-231
7.512	USER_HIER_CLASS_AE	7-231
7.513	USER_HIER_COLUMNS	7-231
7.514	USER_HIER_COLUMNS_AE	7-232
7.515	USER_HIER_HIER_ATTR_CLASS	7-232
7.516	USER_HIER_HIER_ATTR_CLASS_AE	7-232
7.517	USER_HIER_HIER_ATTRIBUTES	7-232
7.518	USER_HIER_HIER_ATTRIBUTES_AE	7-233
7.519	USER_HIER_JOIN_PATHS	7-233
7.520	USER_HIER_JOIN_PATHS_AE	7-233
7.521	USER_HIER_LEVEL_ID_ATTRS	7-233
7.522	USER_HIER_LEVEL_ID_ATTRS_AE	7-234
7.523	USER_HIER_LEVELS	7-234
7.524	USER_HIER_LEVELS_AE	7-234
7.525	USER_HIERARCHIES	7-234
7.526	USER_HIERARCHIES_AE	7-235
7.527	USER_HIST_SAGAS	7-235

7.528	USER_HISTOGRAMS	7-235
7.529	USER_HIVE_COLUMNS	7-236
7.530	USER_HIVE_DATABASES	7-236
7.531	USER_HIVE_PART_KEY_COLUMNS	7-236
7.532	USER_HIVE_TAB_PARTITIONS	7-236
7.533	USER_HIVE_TABLES	7-237
7.534	USER_HOST_ACES	7-237
7.535	USER_IDENTIFIERS	7-237
7.536	USER_ILMDATAMOVEMENTPOLICIES	7-237
7.537	USER_ILMEVALUATIONDETAILS	7-238
7.538	USER_ILMOBJECTS	7-238
7.539	USER_ILMPOLICIES	7-239
7.540	USER_ILMRESULTS	7-239
7.541	USER_ILMTASKS	7-240
7.542	USER_IM_EXPRESSIONS	7-240
7.543	USER_IMMUTABLE_ROW_VERSION_COLS	7-240
7.544	USER_IMMUTABLE_ROW_VERSION_HISTORY	7-241
7.545	USER_IMMUTABLE_TABLE_COLUMNS	7-241
7.546	USER_IMMUTABLE_TABLE_EPOCHS	7-242
7.547	USER_IMMUTABLE_TABLES	7-242
7.548	USER_INCOMPLETE_SAGAS	7-242
7.549	USER_IND_COLUMNS	7-243
7.550	USER_IND_EXPRESSIONS	7-243
7.551	USER_IND_PARTITIONS	7-243
7.552	USER_IND_PENDING_STATS	7-243
7.553	USER_IND_STATISTICS	7-244
7.554	USER_IND_SUBPARTITIONS	7-244
7.555	USER_INDEXES	7-244
7.556	USER_INDEXTYPE_ARRAYTYPES	7-244
7.557	USER_INDEXTYPE_COMMENTS	7-245
7.558	USER_INDEXTYPE_OPERATORS	7-245
7.559	USER_INDEXTYPES	7-245
7.560	USER_INTERNAL_TRIGGERS	7-245
7.561	USER_JAVA_ARGUMENTS	7-246
7.562	USER_JAVA_CLASSES	7-246
7.563	USER_JAVA_COMPILER_OPTIONS	7-246
7.564	USER_JAVA_DERIVATIONS	7-246
7.565	USER_JAVA_FIELDS	7-247
7.566	USER_JAVA_IMPLEMENTATIONS	7-247
7.567	USER_JAVA_INNERS	7-247
7.568	USER_JAVA_LAYOUTS	7-247
7.569	USER_JAVA_METHODS	7-248

7.570	USER_JAVA_NCOMPS	7-248
7.571	USER_JAVA_POLICY	7-248
7.572	USER_JAVA_RESOLVERS	7-248
7.573	USER_JAVA_THROWS	7-249
7.574	USER_JOBS	7-249
7.575	USER_JOIN_IND_COLUMNS	7-249
7.576	USER_JOINGROUPS	7-249
7.577	USER_JSON_COLLECTION_TABLES	7-250
7.578	USER_JSON_COLLECTION_VIEWS	7-250
7.579	USER_JSON_COLLECTIONS	7-251
7.580	USER_JSON_COLUMNS	7-251
7.581	USER_JSON_DATAGUIDE_FIELDS	7-251
7.582	USER_JSON_DATAGUIDES	7-252
7.583	USER_JSON_DOMAIN_SCHEMA_COLUMNS	7-252
7.584	USER_JSON_DUALITY_VIEW_LINKS	7-252
7.585	USER_JSON_DUALITY_VIEW_TAB_COLS	7-253
7.586	USER_JSON_DUALITY_VIEW_TABS	7-253
7.587	USER_JSON_DUALITY_VIEWS	7-253
7.588	USER_JSON_INDEXES	7-254
7.589	USER_JSON_SCHEMA_COLUMNS	7-254
7.590	USER_KAFKA_APPLICATIONS	7-255
7.591	USER_KAFKA_CLUSTERS	7-255
7.592	USER_KAFKA_LOAD_METRICS	7-256
7.593	USER_KAFKA_MESSAGES	7-256
7.594	USER_KAFKA_OPS	7-257
7.595	USER_KAFKA_OPS_RESULTS	7-257
7.596	USER_KAFKA_PARTITIONS	7-258
7.597	USER_LIBRARIES	7-258
7.598	USER_LOB_PARTITIONS	7-258
7.599	USER_LOB_SUBPARTITIONS	7-258
7.600	USER_LOB_TEMPLATES	7-259
7.601	USER_LOBS	7-259
7.602	USER_LOG_GROUP_COLUMNS	7-259
7.603	USER_LOG_GROUPS	7-259
7.604	USER_MEASURE_FOLDER_CONTENTS	7-260
7.605	USER_MEASURE_FOLDER_SUBFOLDERS	7-260
7.606	USER_MEASURE_FOLDERS	7-260
7.607	USER_METADATA_PROPERTIES	7-260
7.608	USER_METHOD_PARAMS	7-261
7.609	USER_METHOD_RESULTS	7-261
7.610	USER_MINING_MODEL_ATTRIBUTES	7-261
7.611	USER_MINING_MODEL_PARTITIONS	7-261

7.612	USER_MINING_MODEL_SETTINGS	7-262
7.613	USER_MINING_MODEL_VIEWS	7-262
7.614	USER_MINING_MODEL_XFORMS	7-262
7.615	USER_MINING_MODELS	7-263
7.616	USER_MLE_ENV_IMPORTS	7-263
7.617	USER_MLE_ENVS	7-263
7.618	USER_MLE_MODULES	7-264
7.619	USER_MLE_PROCEDURES	7-264
7.620	USER_MVIEW_AGGREGATES	7-264
7.621	USER_MVIEW_ANALYSIS	7-265
7.622	USER_MVIEW_COMMENTS	7-265
7.623	USER_MVIEW_DETAIL_LOGICAL_PARTITION	7-265
7.624	USER_MVIEW_DETAIL_PARTITION	7-266
7.625	USER_MVIEW_DETAIL_RELATIONS	7-266
7.626	USER_MVIEW_DETAIL_SUBPARTITION	7-266
7.627	USER_MVIEW_JOINS	7-266
7.628	USER_MVIEW_KEYS	7-267
7.629	USER_MVIEW_LOGS	7-267
7.630	USER_MVIEW_REFRESH_TIMES	7-267
7.631	USER_MVIEWS	7-267
7.632	USER_MVREF_CHANGE_STATS	7-268
7.633	USER_MVREF_RUN_STATS	7-268
7.634	USER_MVREF_STATS	7-268
7.635	USER_MVREF_STATS_PARAMS	7-268
7.636	USER_MVREF_STATS_SYS_DEFAULTS	7-269
7.637	USER_MVREF_STMT_STATS	7-269
7.638	USER_NESTED_TABLE_COLS	7-269
7.639	USER_NESTED_TABLES	7-270
7.640	USER_NETWORK_ACL_PRIVILEGES	7-270
7.641	USER_OBJ_AUDIT_OPTS	7-271
7.642	USER_OBJ_COLATTRS	7-271
7.643	USER_OBJECT_SIZE	7-271
7.644	USER_OBJECT_TABLES	7-272
7.645	USER_OBJECT_USAGE	7-272
7.646	USER_OBJECTS	7-272
7.647	USER_OBJECTS_AE	7-272
7.648	USER_OGG_AUTO_CAPTURED_TABLES	7-273
7.649	USER_OPANCILLARY	7-273
7.650	USER_OPARGUMENTS	7-273
7.651	USER_OPBINDINGS	7-273
7.652	USER_OPERATOR_COMMENTS	7-274
7.653	USER_OPERATORS	7-274

7.654	USER_OUTLINE_HINTS	7-274
7.655	USER_OUTLINES	7-274
7.656	USER_PARALLEL_EXECUTE_CHUNKS	7-275
7.657	USER_PARALLEL_EXECUTE_TASKS	7-275
7.658	USER_PART_COL_STATISTICS	7-275
7.659	USER_PART_HISTOGRAMS	7-275
7.660	USER_PART_INDEXES	7-276
7.661	USER_PART_KEY_COLUMNS	7-276
7.662	USER_PART_LOBS	7-276
7.663	USER_PART_TABLES	7-276
7.664	USER_PARTIAL_DROP_TABS	7-277
7.665	USER_PASSWORD_LIMITS	7-277
7.666	USER_PENDING_CONV_TABLES	7-277
7.667	USER_PG_EDGE_RELATIONSHIPS	7-277
7.668	USER_PG_ELEMENT_LABELS	7-278
7.669	USER_PG_ELEMENTS	7-278
7.670	USER_PG_KEYS	7-279
7.671	USER_PG_LABEL_PROPERTIES	7-279
7.672	USER_PG_LABELS	7-279
7.673	USER_PG_PROP_DEFINITIONS	7-280
7.674	USER_PLSQL_COLL_TYPES	7-280
7.675	USER_PLSQL_OBJECT_SETTINGS	7-280
7.676	USER_PLSQL_TYPE_ATTRS	7-281
7.677	USER_PLSQL_TYPES	7-281
7.678	USER_POLICIES	7-281
7.679	USER_POLICY_ATTRIBUTES	7-281
7.680	USER_POLICY_CONTEXTS	7-282
7.681	USER_POLICY_GROUPS	7-282
7.682	USER_PRIVATE_TEMP_TABLES	7-282
7.683	USER_PRIVILEGE_MAP	7-282
7.684	USER_PROCEDURES	7-283
7.685	USER_PROPERTY_GRAPHS	7-283
7.686	USER_PROXIES	7-283
7.687	USER_QUEUE_EVENT_STREAMS	7-284
7.688	USER_QUEUE_SCHEDULES	7-284
7.689	USER_QUEUE_SUBSCRIBERS	7-284
7.690	USER_QUEUE_TABLES	7-284
7.691	USER_QUEUES	7-285
7.692	USER_RECYCLEBIN	7-285
7.693	USER_REFRESH	7-285
7.694	USER_REFRESH_CHILDREN	7-285
7.695	USER_REFS	7-286

7.696	USER_REGISTERED_MVIEWS	7-286
7.697	USER_REGISTRY	7-286
7.698	USER_RESOURCE_LIMITS	7-286
7.699	USER_RESUMABLE	7-287
7.700	USER_REWRITE_EQUIVALENCES	7-287
7.701	USER_ROLE_PRIVS	7-287
7.702	USER_RSRC_CONSUMER_GROUP_PRIVS	7-288
7.703	USER_RSRC_MANAGER_SYSTEM_PRIVS	7-288
7.704	USER_RULE_SET_RULES	7-288
7.705	USER_RULE_SETS	7-289
7.706	USER_RULES	7-289
7.707	USER_SAGA_BROKERS	7-289
7.708	USER_SAGA_DETAILS	7-289
7.709	USER_SAGA_ERRORS	7-290
7.710	USER_SAGA_FINALIZATION	7-290
7.711	USER_SAGA_PARTICIPANT_SET	7-291
7.712	USER_SAGA_PARTICIPANTS	7-291
7.713	USER_SAGA_PENDING	7-291
7.714	USER_SAGAS	7-292
7.715	USER_SCHEDULER_CHAIN_RULES	7-292
7.716	USER_SCHEDULER_CHAIN_STEPS	7-293
7.717	USER_SCHEDULER_CHAINS	7-293
7.718	USER_SCHEDULER_CREDENTIALS	7-293
7.719	USER_SCHEDULER_DB_DESTS	7-294
7.720	USER_SCHEDULER_DESTS	7-294
7.721	USER_SCHEDULER_FILE_WATCHERS	7-294
7.722	USER_SCHEDULER_GROUP_MEMBERS	7-294
7.723	USER_SCHEDULER_GROUPS	7-295
7.724	USER_SCHEDULER_INCOMPAT_MEMBER	7-295
7.725	USER_SCHEDULER_INCOMPATS	7-295
7.726	USER_SCHEDULER_JOB_ARGS	7-295
7.727	USER_SCHEDULER_JOB_DESTS	7-296
7.728	USER_SCHEDULER_JOB_LOG	7-296
7.729	USER_SCHEDULER_JOB_RUN_DETAILS	7-296
7.730	USER_SCHEDULER_JOBS	7-296
7.731	USER_SCHEDULER_NOTIFICATIONS	7-297
7.732	USER_SCHEDULER_PROGRAM_ARGS	7-297
7.733	USER_SCHEDULER_PROGRAMS	7-297
7.734	USER_SCHEDULER_REMOTE_JOBSTATE	7-297
7.735	USER_SCHEDULER_RESOURCES	7-298
7.736	USER_SCHEDULER_RSC_CONSTRAINTS	7-298
7.737	USER_SCHEDULER_RUNNING_CHAINS	7-298

7.738	USER_SCHEDULER_RUNNING_JOBS	7-298
7.739	USER_SCHEDULER_SCHEDULES	7-299
7.740	USER_SCHEMA_PRIVS	7-299
7.741	USER_SEC_RELEVANT_COLS	7-300
7.742	USER_SECONDARY_OBJECTS	7-300
7.743	USER_SEGMENTS	7-300
7.744	USER_SEQUENCES	7-300
7.745	USER_SODA_COLLECTIONS	7-301
7.746	USER_SOURCE	7-301
7.747	USER_SOURCE_AE	7-301
7.748	USER_SQL_TRANSLATION_PROFILES	7-301
7.749	USER_SQL_TRANSLATIONS	7-302
7.750	USER_SQLJ_TYPE_ATTRS	7-302
7.751	USER_SQLJ_TYPE_METHODS	7-302
7.752	USER_SQLJ_TYPES	7-302
7.753	USER_SQLSET	7-303
7.754	USER_SQLSET_BINDS	7-303
7.755	USER_SQLSET_PLANS	7-303
7.756	USER_SQLSET_REFERENCES	7-303
7.757	USER_SQLSET_STATEMENTS	7-304
7.758	USER_SQLTUNE_BINDS	7-304
7.759	USER_SQLTUNE_PLANS	7-304
7.760	USER_SQLTUNE_RATIONALE_PLAN	7-304
7.761	USER_SQLTUNE_STATISTICS	7-305
7.762	USER_SR_GRP_STATUS	7-305
7.763	USER_SR_GRP_STATUS_ALL	7-305
7.764	USER_SR_OBJ	7-305
7.765	USER_SR_OBJ_ALL	7-306
7.766	USER_SR_OBJ_STATUS	7-306
7.767	USER_SR_OBJ_STATUS_ALL	7-306
7.768	USER_SR_PARTN_OPS	7-306
7.769	USER_SR_STLOG_EXCEPTIONS	7-307
7.770	USER_SR_STLOG_STATS	7-307
7.771	USER_STAT_EXTENSIONS	7-307
7.772	USER_STATEMENTS	7-307
7.773	USER_STORED_SETTINGS	7-308
7.774	USER_SUBPART_COL_STATISTICS	7-308
7.775	USER_SUBPART_HISTOGRAMS	7-308
7.776	USER_SUBPART_KEY_COLUMNS	7-308
7.777	USER_SUBPARTITION_TEMPLATES	7-309
7.778	USER_SUBSCR_REGISTRATIONS	7-309
7.779	USER_SYNONYMS	7-309

7.780	USER_SYS_PRIVS	7-309
7.781	USER_SYS_PRIVS_ALL	7-310
7.782	USER_TAB_COL_STAT_MODELS	7-311
7.783	USER_TAB_COL_STATISTICS	7-311
7.784	USER_TAB_COLS	7-311
7.785	USER_TAB_COLUMNS	7-312
7.786	USER_TAB_COMMENTS	7-312
7.787	USER_TAB_HISTGRM_PENDING_STATS	7-312
7.788	USER_TAB_HISTOGRAMS	7-313
7.789	USER_TAB_IDENTITY_COLS	7-313
7.790	USER_TAB_MODIFICATIONS	7-313
7.791	USER_TAB_PARTITIONS	7-313
7.792	USER_TAB_PENDING_STATS	7-314
7.793	USER_TAB_PRIVS	7-314
7.794	USER_TAB_PRIVS_MADE	7-314
7.795	USER_TAB_PRIVS_RECD	7-314
7.796	USER_TAB_STAT_PREFS	7-315
7.797	USER_TAB_STATISTICS	7-315
7.798	USER_TAB_STATS_HISTORY	7-315
7.799	USER_TAB_SUBPARTITIONS	7-315
7.800	USER_TABLE_ACCESS_STATS	7-316
7.801	USER_TABLE_VIRTUAL_COLUMNS	7-316
7.802	USER_TABLES	7-316
7.803	USER_TABLESPACES	7-317
7.804	USER_TRANSFORMATIONS	7-317
7.805	USER_TRIGGER_COLS	7-317
7.806	USER_TRIGGER_ORDERING	7-317
7.807	USER_TRIGGERS	7-318
7.808	USER_TRIGGERS_AE	7-318
7.809	USER_TS_QUOTAS	7-318
7.810	USER_TSTZ_TAB_COLS	7-318
7.811	USER_TSTZ_TABLES	7-319
7.812	USER_TUNE_MVIEW	7-319
7.813	USER_TXEVENTQ_MIGRATION_STATUS	7-319
7.814	USER_TYPE_ATTRS	7-320
7.815	USER_TYPE_METHODS	7-320
7.816	USER_TYPE_VERSIONS	7-320
7.817	USER_TYPES	7-320
7.818	USER_UNUSED_COL_TABS	7-321
7.819	USER_UPDATABLE_COLUMNS	7-321
7.820	USER_USERS	7-321
7.821	USER_USTATS	7-326

7.822	USER_VARRAYS	7-326
7.823	USER_VIEWS	7-326
7.824	USER_VIEWS_AE	7-327
7.825	USER_WALLET_ACES	7-327
7.826	USER_WARNING_SETTINGS	7-327
7.827	USER_XML_INDEXES	7-327
7.828	USER_XML_NESTED_TABLES	7-328
7.829	USER_XML_OUT_OF_LINE_TABLES	7-328
7.830	USER_XML_SCHEMA_ATTRIBUTES	7-328
7.831	USER_XML_SCHEMA_COMPLEX_TYPES	7-328
7.832	USER_XML_SCHEMA_ELEMENTS	7-329
7.833	USER_XML_SCHEMA_NAMESPACES	7-329
7.834	USER_XML_SCHEMA_SIMPLE_TYPES	7-329
7.835	USER_XML_SCHEMA_SUBSTGRP_HEAD	7-329
7.836	USER_XML_SCHEMA_SUBSTGRP_MBRS	7-330
7.837	USER_XML_SCHEMAS	7-330
7.838	USER_XML_TAB_COLS	7-330
7.839	USER_XML_TABLES	7-330
7.840	USER_XML_VIEW_COLS	7-331
7.841	USER_XML_VIEWS	7-331
7.842	USER_XTERNAL_LOC_PARTITIONS	7-331
7.843	USER_XTERNAL_LOC_SUBPARTITIONS	7-331
7.844	USER_XTERNAL_PART_TABLES	7-332
7.845	USER_XTERNAL_TAB_PARTITIONS	7-332
7.846	USER_XTERNAL_TAB_SUBPARTITIONS	7-332
7.847	USER_ZONEMAP_MEASURES	7-332
7.848	USER_ZONEMAPS	7-333

Part III Dynamic Performance Views

8 Dynamic Performance (V\$) Views: V\$ACCESS to V\$HVMMASTER_INFO

8.1	About Dynamic Performance Views	8-1
8.1.1	V\$ Views	8-2
8.1.2	GV\$ Views	8-2
8.2	Oracle Exadata Database Machine Views	8-3
8.3	Dynamic Performance View Descriptions	8-3
8.4	V\$ACCESS	8-3
8.5	V\$ACTIVE_INSTANCES	8-4
8.6	V\$ACTIVE_SERVICES	8-4
8.7	V\$ACTIVE_SESS_POOL_MTH	8-6

8.8	V\$ACTIVE_SESSION_HISTORY	8-7
8.9	V\$ACTIVITY_MVIEW	8-12
8.10	V\$ACTIVITY_TABLE	8-14
8.11	V\$ADVISOR_PROGRESS	8-16
8.12	V\$ALERT_TYPES	8-16
8.13	V\$ALL_ACTIVE_SESSION_HISTORY	8-17
8.14	V\$ALL_SQL_BIND_CAPTURE	8-23
8.15	V\$ALL_SQL_MONITOR	8-24
8.16	V\$ALL_SQL_PLAN_MONITOR	8-29
8.17	V\$AQ	8-35
8.18	V\$AQ_BACKGROUND_COORDINATOR	8-36
8.19	V\$AQ_BMAP_NONDUR_SUBSCRIBERS	8-36
8.20	V\$AQ_CROSS_INSTANCE_JOBS	8-37
8.21	V\$AQ_IPC_ACTIVE_MSGS	8-38
8.22	V\$AQ_IPC_MSG_STATS	8-39
8.23	V\$AQ_IPC_PENDING_MSGS	8-40
8.24	V\$AQ_JOB_COORDINATOR	8-40
8.25	V\$AQ_MESSAGE_CACHE	8-41
8.26	V\$AQ_MESSAGE_CACHE_ADVICE	8-42
8.27	V\$AQ_MESSAGE_CACHE_STAT	8-43
8.28	V\$AQ_NONDUR_REGISTRATIONS	8-45
8.29	V\$AQ_NONDUR_SUBSCRIBER	8-46
8.30	V\$AQ_NONDUR_SUBSCRIBER_LWM	8-47
8.31	V\$AQ_NOTIFICATION_CLIENTS	8-48
8.32	V\$AQ_PARTITION_STATS	8-49
8.33	V\$AQ_REMOTE_DEQUEUE_AFFINITY	8-51
8.34	V\$AQ_SERVER_POOL	8-51
8.35	V\$AQ_SHARDED_SUBSCRIBER_STAT	8-52
8.36	V\$AQ_SUBSCRIBER_LOAD	8-53
8.37	V\$ARCHIVE	8-54
8.38	V\$ARCHIVE_DEST	8-55
8.39	V\$ARCHIVE_DEST_STATUS	8-58
8.40	V\$ARCHIVE_GAP	8-61
8.41	V\$ARCHIVE_PROCESSES	8-61
8.42	V\$ARCHIVED_LOG	8-62
8.43	V\$ASM_ACFS_ENCRYPTION_INFO	8-64
8.44	V\$ASM_ACFSAUTORESIZE	8-65
8.45	V\$ASM_ACFSREPL	8-66
8.46	V\$ASM_ACFSREPLTAG	8-68
8.47	V\$ASM_ACFSSNAPSHOTS	8-69
8.48	V\$ASM_ACFSTAG	8-70
8.49	V\$ASM_ACFSVOLUMES	8-71

8.50	V\$ASM_ALIAS	8-72
8.51	V\$ASM_ATTRIBUTE	8-73
8.52	V\$ASM_AUDIT_CLEANUP_JOBS	8-74
8.53	V\$ASM_AUDIT_CONFIG_PARAMS	8-75
8.54	V\$ASM_AUDIT_LAST_ARCH_TS	8-76
8.55	V\$ASM_CLIENT	8-76
8.56	V\$ASM_DBCLONE_INFO	8-78
8.57	V\$ASM_DISK	8-78
8.58	V\$ASM_DISK_IOSTAT	8-83
8.59	V\$ASM_DISK_STAT	8-84
8.60	V\$ASM_DISKGROUP	8-85
8.61	V\$ASM_DISKGROUP_STAT	8-87
8.62	V\$ASM_ESTIMATE	8-87
8.63	V\$ASM_FILE	8-88
8.64	V\$ASM_FILEGROUP	8-90
8.65	V\$ASM_FILEGROUP_FILE	8-92
8.66	V\$ASM_FILEGROUP_PROPERTY	8-92
8.67	V\$ASM_FILESYSTEM	8-94
8.68	V\$ASM_OPERATION	8-95
8.69	V\$ASM_QUOTAGROUP	8-97
8.70	V\$ASM_TEMPLATE	8-98
8.71	V\$ASM_USER	8-99
8.72	V\$ASM_USERGROUP	8-99
8.73	V\$ASM_USERGROUP_MEMBER	8-100
8.74	V\$ASM_VOLUME	8-101
8.75	V\$ASM_VOLUME_STAT	8-102
8.76	V\$AUTHPOOL_STATS	8-103
8.77	V\$AUTO_IM_FEATURES	8-104
8.78	V\$AW_AGGREGATE_OP	8-104
8.79	V\$AW_ALLOCATE_OP	8-105
8.80	V\$AW_CALC	8-105
8.81	V\$AW_LONGOPS	8-106
8.82	V\$AW_OLAP	8-107
8.83	V\$AW_SESSION_INFO	8-108
8.84	V\$BACKUP	8-109
8.85	V\$BACKUP_ARCHIVELOG_DETAILS	8-109
8.86	V\$BACKUP_ARCHIVELOG_SUMMARY	8-110
8.87	V\$BACKUP_ASYNC_IO	8-111
8.88	V\$BACKUP_CONTROLFILE_DETAILS	8-112
8.89	V\$BACKUP_CONTROLFILE_SUMMARY	8-113
8.90	V\$BACKUP_COPY_DETAILS	8-113
8.91	V\$BACKUP_COPY_SUMMARY	8-114

8.92	V\$BACKUP_CORRUPTION	8-115
8.93	V\$BACKUP_DATAFILE	8-116
8.94	V\$BACKUP_DATAFILE_DETAILS	8-118
8.95	V\$BACKUP_DATAFILE_SUMMARY	8-119
8.96	V\$BACKUP_DEVICE	8-120
8.97	V\$BACKUP_FILES	8-120
8.98	V\$BACKUP_NONLOGGED	8-123
8.99	V\$BACKUP_PIECE	8-124
8.100	V\$BACKUP_PIECE_DETAILS	8-125
8.101	V\$BACKUP_REDOLOG	8-127
8.102	V\$BACKUP_SET	8-128
8.103	V\$BACKUP_SET_DETAILS	8-129
8.104	V\$BACKUP_SET_SUMMARY	8-131
8.105	V\$BACKUP_SPFILE	8-132
8.106	V\$BACKUP_SPFILE_DETAILS	8-132
8.107	V\$BACKUP_SPFILE_SUMMARY	8-133
8.108	V\$BACKUP_SYNC_IO	8-133
8.109	V\$BGPROCESS	8-134
8.110	V\$BH	8-135
8.111	V\$BLOCK_CHANGE_TRACKING	8-137
8.112	V\$BLOCKING QUIESCE	8-137
8.113	V\$BT_SCAN_CACHE	8-138
8.114	V\$BT_SCAN_OBJ_TEMPS	8-138
8.115	V\$BUFFER_POOL	8-139
8.116	V\$BUFFER_POOL_STATISTICS	8-140
8.117	V\$BUFFERED_PUBLISHERS	8-141
8.118	V\$BUFFERED_QUEUES	8-142
8.119	V\$BUFFERED_SUBSCRIBERS	8-143
8.120	V\$CACHE	8-144
8.121	V\$CACHE_LOCK	8-146
8.122	V\$CACHE_TRANSFER	8-147
8.123	V\$CHUNK_METRIC	8-149
8.124	V\$CIRCUIT	8-149
8.125	V\$CLASS_CACHE_TRANSFER	8-150
8.126	V\$CLEANUP_PROCESS	8-151
8.127	V\$CLIENT_SECRETS	8-152
8.128	V\$CLIENT_STATS	8-153
8.129	V\$CLONEDFILE	8-154
8.130	V\$CLUSTER_INTERCONNECTS	8-154
8.131	V\$CODE_CLAUSE	8-155
8.132	V\$CON_EVENT_HISTOGRAM_MICRO	8-156
8.133	V\$CON_SYS_TIME_MODEL	8-157

8.134	V\$CON_SYSMETRIC	8-157
8.135	V\$CON_SYSMETRIC_HISTORY	8-158
8.136	V\$CON_SYSMETRIC_SUMMARY	8-159
8.137	V\$CON_SYSSTAT	8-160
8.138	V\$CON_SYSTEM_EVENT	8-160
8.139	V\$CON_SYSTEM_WAIT_CLASS	8-161
8.140	V\$CONFIGURED_INTERCONNECTS	8-162
8.141	V\$CONTAINER_TOPOLOGY	8-163
8.142	V\$CONTAINERS	8-164
8.143	V\$CONTEXT	8-165
8.144	V\$CONTROLFILE	8-166
8.145	V\$CONTROLFILE_RECORD_SECTION	8-166
8.146	V\$COPY_CORRUPTION	8-168
8.147	V\$COPY_NONLOGGED	8-168
8.148	V\$CORRUPT_XID_LIST	8-169
8.149	V\$CPOOL_CC_INFO	8-170
8.150	V\$CPOOL_CC_STATS	8-170
8.151	V\$CPOOL_CONN_INFO	8-171
8.152	V\$CPOOL_STATS	8-172
8.153	V\$CR_BLOCK_SERVER	8-173
8.154	V\$CURRENT_BLOCK_SERVER	8-174
8.155	V\$DATABASE	8-175
8.156	V\$DATABASE_BLOCK_CORRUPTION	8-184
8.157	V\$DATABASE_INCARNATION	8-184
8.158	V\$DATABASE_KEY_INFO	8-185
8.159	V\$DATAFILE	8-186
8.160	V\$DATAFILE_COPY	8-188
8.161	V\$DATAFILE_HEADER	8-190
8.162	V\$DATAGUARD_CONFIG	8-191
8.163	V\$DATAGUARD_PROCESS	8-192
8.164	V\$DATAGUARD_STATS	8-197
8.165	V\$DATAGUARD_STATUS	8-198
8.166	V\$DATAPUMP_SESSIONWAIT_INFO	8-199
8.167	V\$DB_CACHE_ADVICE	8-200
8.168	V\$DB_OBJECT_CACHE	8-201
8.169	V\$DB_PIPES	8-202
8.170	V\$DB_TRANSPORTABLE_PLATFORM	8-203
8.171	V\$DBFILE	8-204
8.172	V\$DBLINK	8-204
8.173	V\$DEAD_CLEANUP	8-205
8.174	V\$DELETED_OBJECT	8-206
8.175	V\$DG_BROKER_CONFIG	8-207

8.176	V\$DG_BROKER_ROLE_CHANGE	8-207
8.177	V\$DIAG_ALERT_EXT	8-208
8.178	V\$DIAG_APP_TRACE_FILE	8-210
8.179	V\$DIAG_INCIDENT	8-211
8.180	V\$DIAG_INFO	8-212
8.181	V\$DIAG_OPT_TRACE_RECORDS	8-213
8.182	V\$DIAG_PROBLEM	8-214
8.183	V\$DIAG_SESS_OPT_TRACE_RECORDS	8-215
8.184	V\$DIAG_SESS_SQL_TRACE_RECORDS	8-216
8.185	V\$DIAG_SQL_TRACE_RECORDS	8-217
8.186	V\$DIAG_TRACE_FILE	8-219
8.187	V\$DIAG_TRACE_FILE_CONTENTS	8-219
8.188	V\$DISPATCHER	8-220
8.189	V\$DISPATCHER_CONFIG	8-221
8.190	V\$DISPATCHER_RATE	8-222
8.191	V\$DNFS_CHANNELS	8-226
8.192	V\$DNFS_FILES	8-227
8.193	V\$DNFS_SERVERS	8-228
8.194	V\$DNFS_STATS	8-229
8.195	V\$DYNAMIC_REMASTER_STATS	8-230
8.196	V\$EDITIONABLE_TYPES	8-231
8.197	V\$EMON	8-231
8.198	V\$ENABLEDPRIVS	8-233
8.199	V\$ENABLEDSCHEMAPRIVS	8-233
8.200	V\$ENCRYPTED_TABLESPACES	8-234
8.201	V\$ENCRYPTION_KEYS	8-235
8.202	V\$ENCRYPTION_WALLET	8-237
8.203	V\$ENQUEUE_LOCK	8-239
8.204	V\$ENQUEUE_STAT	8-240
8.205	V\$ENQUEUE_STATISTICS	8-240
8.206	V\$EQ_CACHED_PARTITIONS	8-241
8.207	V\$EQ_CROSS_INSTANCE_JOBS	8-242
8.208	V\$EQ_INACTIVE_PARTITIONS	8-244
8.209	V\$EQ_MESSAGE_CACHE	8-244
8.210	V\$EQ_MESSAGE_CACHE_ADVICE	8-245
8.211	V\$EQ_MESSAGE_CACHE_STAT	8-247
8.212	V\$EQ_NONDUR_SUBSCRIBER	8-249
8.213	V\$EQ_NONDUR_SUBSCRIBER_LWM	8-250
8.214	V\$EQ_PARTITION_STATS	8-250
8.215	V\$EQ_REMOTE_DEQUEUE_AFFINITY	8-252
8.216	V\$EQ_SUBSCRIBER_LOAD	8-253
8.217	V\$EQ_SUBSCRIBER_STAT	8-254

8.218	V\$EQ_UNCACHED_PARTITIONS	8-255
8.219	V\$EVENT_HISTOGRAM	8-256
8.220	V\$EVENT_HISTOGRAM_MICRO	8-256
8.221	V\$EVENT_NAME	8-257
8.222	V\$EVENTMETRIC	8-258
8.223	V\$EXADIRECT_ACL	8-258
8.224	V\$EXECUTION	8-259
8.225	V\$EXP_STATS	8-259
8.226	V\$FALSE_PING	8-260
8.227	V\$FAST_START_FAILOVER_CONFIG	8-261
8.228	V\$FAST_START_SERVERS	8-264
8.229	V\$FAST_START_TRANSACTIONS	8-264
8.230	V\$FILE_CACHE_TRANSFER	8-265
8.231	V\$FILE_HISTOGRAM	8-266
8.232	V\$FILEMETRIC	8-267
8.233	V\$FILEMETRIC_HISTORY	8-267
8.234	V\$FILESPACE_USAGE	8-268
8.235	V\$FILESTAT	8-268
8.236	V\$FIXED_TABLE	8-269
8.237	V\$FIXED_VIEW_DEFINITION	8-270
8.238	V\$FLASHBACK_DATABASE_LOG	8-270
8.239	V\$FLASHBACK_DATABASE_LOGFILE	8-271
8.240	V\$FLASHBACK_DATABASE_STAT	8-271
8.241	V\$FLASHBACK_LOG_DEST	8-272
8.242	V\$FLASHBACK_TXN_GRAPH	8-273
8.243	V\$FLASHBACK_TXN_MODS	8-274
8.244	V\$FLASHFILESTAT	8-275
8.245	V\$FOREIGN_ARCHIVED_LOG	8-275
8.246	V\$FS_FAILOVER_OBSERVERS	8-278
8.247	V\$FS_FAILOVER_STATS	8-279
8.248	V\$FS_OBSERVER_HISTOGRAM	8-279
8.249	V\$GC_ELEMENT	8-281
8.250	V\$GC_ELEMENTS_WITH_COLLISIONS	8-281
8.251	V\$GCR_ACTIONS	8-282
8.252	V\$GCR_LOG	8-283
8.253	V\$GCR_METRICS	8-283
8.254	V\$GCR_STATUS	8-285
8.255	V\$GCSHVMaster_INFO	8-285
8.256	V\$GCSPFMASTER_INFO	8-286
8.257	V\$GES_BLOCKING_ENQUEUE	8-286
8.258	V\$GES_CONVERT_LOCAL	8-287
8.259	V\$GES_CONVERT_REMOTE	8-288

8.260	V\$GES_ENQUEUE	8-289
8.261	V\$GES_LATCH	8-290
8.262	V\$GES_RESOURCE	8-291
8.263	V\$GES_STATISTICS	8-291
8.264	V\$GG_APPLY_COORDINATOR	8-292
8.265	V\$GG_APPLY_READER	8-294
8.266	V\$GG_APPLY_RECEIVER	8-296
8.267	V\$GG_APPLY_SERVER	8-297
8.268	V\$GLOBAL_BLOCKED_LOCKS	8-300
8.269	V\$GLOBAL_TRANSACTION	8-300
8.270	V\$GOLDENGATE_CAPABILITIES	8-301
8.271	V\$GOLDENGATE_CAPTURE	8-302
8.272	V\$GOLDENGATE_MESSAGE_TRACKING	8-305
8.273	V\$GOLDENGATE_PROCEDURE_STATS	8-306
8.274	V\$GOLDENGATE_TABLE_STATS	8-307
8.275	V\$GOLDENGATE_TRANSACTION	8-308
8.276	V\$HANG_INFO	8-310
8.277	V\$HANG_SESSION_INFO	8-312
8.278	V\$HANG_STATISTICS	8-313
8.279	V\$HEAT_MAP_SEGMENT	8-313
8.280	V\$HM_CHECK	8-314
8.281	V\$HM_CHECK_PARAM	8-315
8.282	V\$HM_FINDING	8-315
8.283	V\$HM_INFO	8-316
8.284	V\$HM_RECOMMENDATION	8-317
8.285	V\$HM_RUN	8-318
8.286	V\$HS_AGENT	8-318
8.287	V\$HS_PARAMETER	8-319
8.288	V\$HS_SESSION	8-319
8.289	V\$HVMaster_INFO	8-320

9 Dynamic Performance (V\$) Views: V\$IM_COLUMN_LEVEL to V\$RULE_SET_AGGREGATE_STATS

9.1	V\$IM_COLUMN_LEVEL	9-1
9.2	V\$IM_SEGMENTS	9-2
9.3	V\$IM_USER_SEGMENTS	9-4
9.4	V\$INDEX_USAGE_INFO	9-5
9.5	V\$INDEXED_FIXED_COLUMN	9-6
9.6	V\$INMEMORY_AREA	9-7
9.7	V\$INMEMORY_FASTSTART_AREA	9-8
9.8	V\$INMEMORY_SIZE_ADVICE	9-9

9.9	V\$INSTANCE	9-9
9.10	V\$INSTANCE_CACHE_TRANSFER	9-12
9.11	V\$INSTANCE_PING	9-13
9.12	V\$INSTANCE_RECOVERY	9-14
9.13	V\$IO_CALIBRATION_STATUS	9-16
9.14	V\$IO_OUTLIER	9-16
9.15	V\$IOFUNCMETRIC	9-17
9.16	V\$IOFUNCMETRIC_HISTORY	9-17
9.17	V\$IOS_CLIENT	9-18
9.18	V\$IOSTAT_CONSUMER_GROUP	9-18
9.19	V\$IOSTAT_FILE	9-19
9.20	V\$IOSTAT_FUNCTION	9-20
9.21	V\$IOSTAT_FUNCTION_DETAIL	9-21
9.22	V\$IOSTAT_NETWORK	9-22
9.23	V\$IP_ACL	9-23
9.24	V\$JAVA_LIBRARY_CACHE_MEMORY	9-23
9.25	V\$JAVA_POOL_ADVICE	9-24
9.26	V\$KERNEL_IO_OUTLIER	9-25
9.27	V\$KEY_VECTOR	9-26
9.28	V\$LATCH	9-28
9.29	V\$LATCH_CHILDREN	9-29
9.30	V\$LATCH_MISSES	9-30
9.31	V\$LATCH_PARENT	9-31
9.32	V\$LATCHHOLDER	9-31
9.33	V\$LATCHNAME	9-31
9.34	V\$LCR_CACHE	9-32
9.35	V\$LGWRIO_OUTLIER	9-33
9.36	V\$LIBCACHE_LOCKS	9-34
9.37	V\$LIBRARY_CACHE_MEMORY	9-34
9.38	V\$LIBRARYCACHE	9-35
9.39	V\$LICENSE	9-36
9.40	V\$LOADISTAT	9-36
9.41	V\$LOADPSTAT	9-37
9.42	V\$LOCK	9-37
9.43	V\$LOCK_ACTIVITY	9-39
9.44	V\$LOCK_TYPE	9-40
9.45	V\$LOCKDOWN_RULES	9-41
9.46	V\$LOCKED_OBJECT	9-41
9.47	V\$LOG	9-42
9.48	V\$LOG_HISTORY	9-43
9.49	V\$LOGFILE	9-44
9.50	V\$LOGHIST	9-44

9.51	V\$LOGMNR_CONTENTS	9-45
9.52	V\$LOGMNR_DICTIONARY	9-50
9.53	V\$LOGMNR_DICTIONARY_LOAD	9-51
9.54	V\$LOGMNR_LATCH	9-52
9.55	V\$LOGMNR_LOGS	9-52
9.56	V\$LOGMNR_PARAMETERS	9-53
9.57	V\$LOGMNR_PROCESS	9-54
9.58	V\$LOGMNR_SESSION	9-55
9.59	V\$LOGMNR_STATS	9-57
9.60	V\$LOGSTDBY	9-59
9.61	V\$LOGSTDBY_PROCESS	9-59
9.62	V\$LOGSTDBY_PROGRESS	9-60
9.63	V\$LOGSTDBY_STATE	9-61
9.64	V\$LOGSTDBY_STATS	9-62
9.65	V\$LOGSTDBY_TRANSACTION	9-64
9.66	V\$MANAGED_STANDBY	9-65
9.67	V\$MAP_COMP_LIST	9-67
9.68	V\$MAP_ELEMENT	9-68
9.69	V\$MAP_EXT_ELEMENT	9-68
9.70	V\$MAP_FILE	9-69
9.71	V\$MAP_FILE_EXTENT	9-70
9.72	V\$MAP_FILE_IO_STACK	9-70
9.73	V\$MAP_LIBRARY	9-71
9.74	V\$MAP_SUBELEMENT	9-72
9.75	V\$MAPPED_SQL	9-72
9.76	V\$MEMOPTIMIZE_WRITE_AREA	9-73
9.77	V\$MEMORY_CURRENT_RESIZE_OPS	9-74
9.78	V\$MEMORY_DYNAMIC_COMPONENTS	9-75
9.79	V\$MEMORY_RESIZE_OPS	9-75
9.80	V\$MEMORY_TARGET_ADVICE	9-76
9.81	V\$METRIC	9-77
9.82	V\$METRICGROUP	9-78
9.83	V\$METRIC_HISTORY	9-79
9.84	V\$METRICNAME	9-79
9.85	V\$MTTR_TARGET_ADVICE	9-80
9.86	V\$MUTEX_SLEEP	9-81
9.87	V\$MUTEX_SLEEP_HISTORY	9-82
9.88	V\$MVREFRESH	9-82
9.89	V\$MYSTAT	9-83
9.90	V\$NFS_CLIENTS	9-83
9.91	V\$NFS_LOCKS	9-84
9.92	V\$NFS_OPEN_FILES	9-84

9.93	V\$NLS_PARAMETERS	9-85
9.94	V\$NLS_VALID_VALUES	9-85
9.95	V\$NONLOGGED_BLOCK	9-86
9.96	V\$OBJECT_DEPENDENCY	9-87
9.97	V\$OBJECT_PRIVILEGE	9-88
9.98	V\$OBSOLETE_BACKUP_FILES	9-88
9.99	V\$OBSOLETE_PARAMETER	9-90
9.100	V\$OFFLINE_RANGE	9-90
9.101	V\$OFS_STATS	9-91
9.102	V\$OFS_THREADS	9-93
9.103	V\$OFSMOUNT	9-94
9.104	V\$ONLINE_REDEF	9-94
9.105	V\$OPEN_CURSOR	9-95
9.106	V\$OPTIMIZER_PROCESSING_RATE	9-97
9.107	V\$OPTION	9-97
9.108	V\$OSSTAT	9-98
9.109	V\$PARALLEL_DEGREE_LIMIT_MTH	9-100
9.110	V\$PARAMETER	9-100
9.111	V\$PARAMETER_VALID_VALUES	9-103
9.112	V\$PARAMETER2	9-103
9.113	V\$PASSWORDFILE_INFO	9-105
9.114	V\$PATCHES	9-106
9.115	V\$PDB_INCARNATION	9-106
9.116	V\$PDBS	9-107
9.117	V\$PERSISTENT_PUBLISHERS	9-109
9.118	V\$PERSISTENT_QMN_CACHE	9-110
9.119	V\$PERSISTENT_QUEUES	9-111
9.120	V\$PERSISTENT_SUBSCRIBERS	9-113
9.121	V\$PGA_TARGET_ADVICE	9-114
9.122	V\$PGA_TARGET_ADVICE_HISTOGRAM	9-116
9.123	V\$PGASTAT	9-117
9.124	V\$PKCS11_PATH	9-119
9.125	V\$PLSQL_DEBUGGABLE_SESSIONS	9-119
9.126	V\$PMEM_FILESTORE	9-120
9.127	V\$PQ_SESSTAT	9-121
9.128	V\$PQ_SLAVE	9-122
9.129	V\$PQ_SYSSTAT	9-122
9.130	V\$PQ_TQSTAT	9-124
9.131	V\$PROCESS	9-124
9.132	V\$PROCESS_MEMORY	9-126
9.133	V\$PROCESS_MEMORY_DETAIL	9-126
9.134	V\$PROCESS_POOL	9-127

9.135	V\$PROPAGATION_RECEIVER	9-128
9.136	V\$PROPAGATION_SENDER	9-129
9.137	V\$PROXY_ARCHIVEDLOG	9-131
9.138	V\$PROXY_ARCHIVELOG_DETAILS	9-132
9.139	V\$PROXY_ARCHIVELOG_SUMMARY	9-133
9.140	V\$PROXY_COPY_DETAILS	9-134
9.141	V\$PROXY_COPY_SUMMARY	9-135
9.142	V\$PROXY_DATAFILE	9-135
9.143	V\$PROXY_PDB_TARGETS	9-137
9.144	V\$PWFILERS_USERS	9-138
9.145	V\$PX_INSTANCE_GROUP	9-140
9.146	V\$PX_PROCESS	9-140
9.147	V\$PX_PROCESS_DETAIL	9-141
9.148	V\$PX_PROCESS_SYSSTAT	9-141
9.149	V\$PX_SERVER	9-143
9.150	V\$PX_SESSION	9-143
9.151	V\$PX_SESSTAT	9-144
9.152	V\$QMON_COORDINATOR_STATS	9-145
9.153	V\$QMON_SERVER_STATS	9-146
9.154	V\$QMON_TASK_STATS	9-147
9.155	V\$QMON_TASKS	9-147
9.156	V\$QUARANTINE	9-148
9.157	V\$QUARANTINE_SUMMARY	9-148
9.158	V\$QUEUE	9-149
9.159	V\$QUEUEING_MTH	9-149
9.160	V\$RECOVER_FILE	9-150
9.161	V\$RECOVERY_AREA_USAGE	9-150
9.162	V\$RECOVERY_FILE_DEST	9-151
9.163	V\$RECOVERY_FILE_STATUS	9-151
9.164	V\$RECOVERY_LOG	9-152
9.165	V\$RECOVERY_PROGRESS	9-153
9.166	V\$RECOVERY_SLAVE	9-155
9.167	V\$RECOVERY_STATUS	9-155
9.168	V\$RECOVERY_WORKER	9-156
9.169	V\$REDO_DEST_RESP_HISTOGRAM	9-158
9.170	V\$REQDIST	9-158
9.171	V\$RESERVED_WORDS	9-159
9.172	V\$RESOURCE	9-159
9.173	V\$RESOURCE_LIMIT	9-160
9.174	V\$RESTORE_POINT	9-161
9.175	V\$RESULT_CACHE_DEPENDENCY	9-162
9.176	V\$RESULT_CACHE_MEMORY	9-162

9.177	V\$RESULT_CACHE_OBJECTS	9-163
9.178	V\$RESULT_CACHE_STATISTICS	9-165
9.179	V\$RESULT_SUBCACHE_STATISTICS	9-166
9.180	V\$RMAN_BACKUP_JOB_DETAILS	9-166
9.181	V\$RMAN_BACKUP_SUBJOB_DETAILS	9-168
9.182	V\$RMAN_BACKUP_TYPE	9-169
9.183	V\$RMAN_COMPRESSION_ALGORITHM	9-170
9.184	V\$RMAN_CONFIGURATION	9-170
9.185	V\$RMAN_ENCRYPTION_ALGORITHMS	9-171
9.186	V\$RMAN_OUTPUT	9-172
9.187	V\$RMAN_STATUS	9-173
9.188	V\$RO_USER_ACCOUNT	9-174
9.189	V\$ROLLNAME	9-175
9.190	V\$ROLLSTAT	9-175
9.191	V\$ROWCACHE	9-176
9.192	V\$ROWCACHE_PARENT	9-177
9.193	V\$ROWCACHE_SUBORDINATE	9-178
9.194	V\$RSRC_CONS_GROUP_HISTORY	9-178
9.195	V\$RSRC_CONSUMER_GROUP	9-181
9.196	V\$RSRC_CONSUMER_GROUP_CPU_MTH	9-184
9.197	V\$RSRC_PDB	9-185
9.198	V\$RSRC_PDB_HISTORY	9-187
9.199	V\$RSRC_PLAN	9-188
9.200	V\$RSRC_PLAN_CPU_MTH	9-190
9.201	V\$RSRC_PLAN_HISTORY	9-191
9.202	V\$RSRC_SESSION_INFO	9-192
9.203	V\$RSRCMGRMETRIC	9-197
9.204	V\$RSRCMGRMETRIC_HISTORY	9-199
9.205	V\$RSRCPDBMETRIC	9-199
9.206	V\$RSRCPDBMETRIC_HISTORY	9-201
9.207	V\$RULE	9-201
9.208	V\$RULE_SET	9-202
9.209	V\$RULE_SET_AGGREGATE_STATS	9-203

10 Dynamic Performance (V\$) Views: V\$SCHEDULER_IN_MEMORY_TRACE to V\$ZONEMAP_USAGE_STATS

10.1	V\$SCHEDULER_IN_MEMORY_TRACE	10-1
10.2	V\$SCHEDULER_RUNNING_JOBS	10-1
10.3	V\$SECUREFILE_SHRINK	10-2
10.4	V\$SECUREFILE_TIMER	10-3

10.5	V\$SEGMENT_STATISTICS	10-4
10.6	V\$SEGSTAT	10-4
10.7	V\$SEGSTAT_NAME	10-5
10.8	V\$SERV_MOD_ACT_STATS	10-5
10.9	V\$SERVICE_DRAIN_TIMEOUT_ADVICE	10-6
10.10	V\$SERVICE_EVENT	10-7
10.11	V\$SERVICE_REGION_METRIC	10-8
10.12	V\$SERVICE_STATS	10-9
10.13	V\$SERVICE_WAIT_CLASS	10-10
10.14	V\$SERVICEMETRIC	10-10
10.15	V\$SERVICEMETRIC_HISTORY	10-11
10.16	V\$SERVICES	10-12
10.17	V\$SES_OPTIMIZER_ENV	10-14
10.18	V\$SESS_IO	10-15
10.19	V\$SESS_TIME_MODEL	10-15
10.20	V\$SESSION	10-18
10.21	V\$SESSION_BLOCKERS	10-25
10.22	V\$SESSION_CONNECT_INFO	10-25
10.23	V\$SESSION_CURSOR_CACHE	10-27
10.24	V\$SESSION_EVENT	10-27
10.25	V\$SESSION_FIX_CONTROL	10-28
10.26	V\$SESSION_LONGOPS	10-29
10.27	V\$SESSION_OBJECT_CACHE	10-30
10.28	V\$SESSION_WAIT	10-31
10.29	V\$SESSION_WAIT_CLASS	10-33
10.30	V\$SESSION_WAIT_HISTORY	10-34
10.31	V\$SESSIONS_COUNT	10-34
10.32	V\$SESSMETRIC	10-35
10.33	V\$SESSTAT	10-35
10.34	V\$SGA	10-36
10.35	V\$SGA_CURRENT_RESIZE_OPS	10-36
10.36	V\$SGA_DYNAMIC_COMPONENTS	10-37
10.37	V\$SGA_DYNAMIC_FREE_MEMORY	10-38
10.38	V\$SGA_RESIZE_OPS	10-38
10.39	V\$SGA_TARGET_ADVICE	10-39
10.40	V\$SGAINFO	10-40
10.41	V\$SGASTAT	10-40
10.42	V\$SHARD_ACK_RECEIVER	10-40
10.43	V\$SHARD_ACK_SENDER	10-42
10.44	V\$SHARD_APPLY_COORDINATOR	10-42
10.45	V\$SHARD_APPLY_LCR_READER	10-44
10.46	V\$SHARD_APPLY_READER	10-45

10.47	V\$SHARD_APPLY_SERVER	10-47
10.48	V\$SHARD_LCR_LOGS	10-48
10.49	V\$SHARD_LCR_PERSISTER	10-49
10.50	V\$SHARD_LCR_PRODUCER	10-50
10.51	V\$SHARD_NETWORK_RECEIVER	10-51
10.52	V\$SHARD_NETWORK_SENDER	10-53
10.53	V\$SHARD_REPLICATION_UNIT	10-54
10.54	V\$SHARED_POOL_ADVICE	10-56
10.55	V\$SHARED_POOL_RESERVED	10-56
10.56	V\$SHARED_SERVER	10-57
10.57	V\$SHARED_SERVER_MONITOR	10-58
10.58	V\$SHARED_SERVER_STAT	10-59
10.59	V\$SORT_SEGMENT	10-60
10.60	V\$SPPARAMETER	10-61
10.61	V\$SQL	10-61
10.62	V\$SQL_BIND_CAPTURE	10-68
10.63	V\$SQL_BIND_DATA	10-69
10.64	V\$SQL_BIND_METADATA	10-70
10.65	V\$SQL_CS_HISTOGRAM	10-71
10.66	V\$SQL_CS_SELECTIVITY	10-72
10.67	V\$SQL_CS_STATISTICS	10-72
10.68	V\$SQL_CURSOR	10-73
10.69	V\$SQL_HISTORY	10-74
10.70	V\$SQL_JOIN_FILTER	10-75
10.71	V\$SQL_MONITOR	10-76
10.72	V\$SQL_MONITOR_SESSTAT	10-82
10.73	V\$SQL_MONITOR_STATNAME	10-82
10.74	V\$SQL_OPTIMIZER_ENV	10-83
10.75	V\$SQL_PLAN	10-84
10.76	V\$SQL_PLAN_MONITOR	10-86
10.77	V\$SQL_PLAN_STATISTICS	10-92
10.78	V\$SQL_PLAN_STATISTICS_ALL	10-94
10.79	V\$SQL_REDIRECTION	10-97
10.80	V\$SQL_SHARD	10-98
10.81	V\$SQL_SHARED_CURSOR	10-99
10.82	V\$SQL_SHARED_MEMORY	10-102
10.83	V\$SQL_TESTCASES	10-103
10.84	V\$SQL_WORKAREA	10-104
10.85	V\$SQL_WORKAREA_ACTIVE	10-105
10.86	V\$SQL_WORKAREA_HISTOGRAM	10-107
10.87	V\$SQLAREA	10-108
10.88	V\$SQLAREA_PLAN_HASH	10-112

10.89	V\$SQLCOMMAND	10-116
10.90	V\$SQLFN_ARG_METADATA	10-116
10.91	V\$SQLFN_METADATA	10-117
10.92	V\$SQLSTATS	10-118
10.93	V\$SQLSTATS_PLAN_HASH	10-121
10.94	V\$SQLTEXT	10-121
10.95	V\$SQLTEXT_WITH_NEWLINES	10-122
10.96	V\$STANDBY_EVENT_HISTOGRAM	10-122
10.97	V\$STANDBY_LOG	10-123
10.98	V\$STATISTICS_LEVEL	10-124
10.99	V\$STATNAME	10-125
10.100	V\$STATS_ADVISOR_RULES	10-126
10.101	V\$STREAMS_APPLY_COORDINATOR	10-127
10.102	V\$STREAMS_APPLY_READER	10-129
10.103	V\$STREAMS_APPLY_SERVER	10-131
10.104	V\$STREAMS_POOL_ADVICE	10-134
10.105	V\$STREAMS_POOL_STATISTICS	10-134
10.106	V\$SUBCACHE	10-135
10.107	V\$SUBSCR_REGISTRATION_STATS	10-136
10.108	V\$SYS_OPTIMIZER_ENV	10-137
10.109	V\$SYS_TIME_MODEL	10-137
10.110	V\$SYSAUX_OCCUPANTS	10-138
10.111	V\$SYSMETRIC	10-138
10.112	V\$SYSMETRIC_HISTORY	10-139
10.113	V\$SYSMETRIC_SUMMARY	10-140
10.114	V\$SYSSTAT	10-141
10.115	V\$SYSTEM_CURSOR_CACHE	10-142
10.116	V\$SYSTEM_EVENT	10-142
10.117	V\$SYSTEM_FIX_CONTROL	10-143
10.118	V\$SYSTEM_PARAMETER	10-144
10.119	V\$SYSTEM_PARAMETER2	10-146
10.120	V\$SYSTEM_WAIT_CLASS	10-147
10.121	V\$TABLE_ACCESS_STATS	10-148
10.122	V\$TABLESPACE	10-148
10.123	V\$TDM_STATS	10-149
10.124	V\$TEMP_CACHE_TRANSFER	10-150
10.125	V\$TEMP_EXTENT_MAP	10-151
10.126	V\$TEMP_EXTENT_POOL	10-151
10.127	V\$TEMP_SPACE_HEADER	10-152
10.128	V\$TEMPFILE	10-152
10.129	V\$TEMPORARY_LOBS	10-153
10.130	V\$TEMPSEG_USAGE	10-153

10.131	V\$TEMPSTAT	10-154
10.132	V\$TEMPUNDOSTAT	10-155
10.133	V\$TEXT_WAITING_EVENTS	10-156
10.134	V\$THREAD	10-157
10.135	V\$THRESHOLD_TYPES	10-158
10.136	V\$TIMER	10-159
10.137	V\$TIMEZONE_FILE	10-159
10.138	V\$TIMEZONE_NAMES	10-159
10.139	V\$TOPLEVELCALL	10-160
10.140	V\$TRANSACTION	10-160
10.141	V\$TRANSACTION_ENQUEUE	10-162
10.142	V\$TRANSPORTABLE_PLATFORM	10-163
10.143	V\$TRUE_CACHE	10-163
10.144	V\$TSDP_SUPPORTED_FEATURE	10-164
10.145	V\$TYPE_SIZE	10-165
10.146	V\$UNDOSTAT	10-165
10.147	V\$UNUSABLE_BACKUPFILE_DETAILS	10-167
10.148	V\$VERSION	10-168
10.149	V\$VPD_POLICY	10-168
10.150	V\$WAIT_CHAINS	10-169
10.151	V\$WAITCLASSMETRIC	10-171
10.152	V\$WAITCLASSMETRIC_HISTORY	10-171
10.153	V\$WAITSTAT	10-172
10.154	V\$WALLET	10-172
10.155	V\$WORKLOAD_REPLAY_THREAD	10-173
10.156	V\$XML_AUDIT_TRAIL	10-175
10.157	V\$XSTREAM_APPLY_COORDINATOR	10-177
10.158	V\$XSTREAM_APPLY_READER	10-179
10.159	V\$XSTREAM_APPLY_RECEIVER	10-181
10.160	V\$XSTREAM_APPLY_SERVER	10-182
10.161	V\$XSTREAM_CAPTURE	10-185
10.162	V\$XSTREAM_MESSAGE_TRACKING	10-188
10.163	V\$XSTREAM_OUTBOUND_SERVER	10-190
10.164	V\$XSTREAM_TABLE_STATS	10-193
10.165	V\$XSTREAM_TRANSACTION	10-194
10.166	V\$ZONEMAP_USAGE_STATS	10-195

Part IV Appendixes

A Database Limits

A.1	Datatype Limits	A-1
A.2	Physical Database Limits	A-3
A.3	Logical Database Limits	A-4
A.4	Process and Runtime Limits	A-7

B SQL Scripts

B.1	Creating the Data Dictionary	B-1
B.2	Creating Additional Data Dictionary Structures	B-2
B.3	The "NO" Scripts	B-5
B.4	Upgrade Scripts	B-6
B.5	Java Scripts	B-6

C Oracle Wait Events

C.1	Classes of Wait Events	C-1
C.2	Descriptions of Common Wait Event Parameters	C-2
C.3	Descriptions of Wait Events	C-5
C.3.1	alter system set dispatcher	C-5
C.3.2	ARCH Remote Write	C-5
C.3.3	ASYNC Remote Write	C-5
C.3.4	BFILE check if exists	C-5
C.3.5	BFILE check if open	C-6
C.3.6	BFILE closure	C-6
C.3.7	BFILE get length	C-6
C.3.8	BFILE get name object	C-6
C.3.9	BFILE get path object	C-6
C.3.10	BFILE internal seek	C-7
C.3.11	BFILE open	C-7
C.3.12	BFILE read	C-7
C.3.13	broadcast mesg queue transition	C-7
C.3.14	broadcast mesg recovery queue transition	C-8
C.3.15	buffer busy waits	C-8
C.3.16	buffer deadlock	C-9
C.3.17	buffer latch	C-9
C.3.18	buffer read retry	C-9
C.3.19	checkpoint completed	C-10
C.3.20	cleanup of aborted process	C-10
C.3.21	control file parallel write	C-10
C.3.22	control file sequential read	C-10

C.3.23	control file single write	C-11
C.3.24	cursor: mutex S	C-11
C.3.25	cursor: mutex X	C-11
C.3.26	cursor: pin S	C-12
C.3.27	cursor: pin S wait on X	C-12
C.3.28	cursor: pin X	C-12
C.3.29	db file async I/O submit	C-13
C.3.30	db file parallel read	C-13
C.3.31	db file parallel write	C-13
C.3.32	db file scattered read	C-14
C.3.33	db file sequential read	C-14
C.3.34	db file single write	C-15
C.3.35	DFS lock handle	C-15
C.3.36	direct path read	C-16
C.3.37	direct path sync	C-16
C.3.38	direct path write	C-16
C.3.39	Disk file operations I/O	C-17
C.3.40	dispatcher shutdown	C-17
C.3.41	dispatcher timer	C-18
C.3.42	dupl. cluster key	C-18
C.3.43	enq: OW - initialization	C-18
C.3.44	enq: OW - termination	C-19
C.3.45	enq: SV - contention	C-19
C.3.46	enq: TX - index contention	C-19
C.3.47	enq: TX - row lock (HIGH priority)	C-19
C.3.48	enq: TX - row lock (LOW priority)	C-20
C.3.49	enq: TX - row lock (MEDIUM priority)	C-20
C.3.50	enq: TX - row lock contention	C-21
C.3.51	enqueue	C-21
C.3.52	flashback buf free by RVWR	C-22
C.3.53	flashback log file sync	C-22
C.3.54	free buffer waits	C-22
C.3.55	free global transaction table entry	C-23
C.3.56	free process state object	C-23
C.3.57	gc buffer busy acquire	C-23
C.3.58	gc buffer busy release	C-23
C.3.59	gc cr block 2-way	C-24
C.3.60	gc cr block 3-way	C-24
C.3.61	gc cr block busy	C-24
C.3.62	gc cr block congested	C-25
C.3.63	gc cr block direct read	C-25
C.3.64	gc cr block lost	C-25

C.3.65	gc cr grant read-mostly invalidation	C-26
C.3.66	gc cr multi block grant	C-26
C.3.67	gc cr multi block mixed	C-26
C.3.68	gc cr request	C-27
C.3.69	gc current block 2-way	C-27
C.3.70	gc current block 3-way	C-27
C.3.71	gc current block busy	C-27
C.3.72	gc current block congested	C-28
C.3.73	gc current block direct read	C-28
C.3.74	gc current block lost	C-29
C.3.75	gc current request	C-29
C.3.76	inactive session	C-29
C.3.77	inactive transaction branch	C-30
C.3.78	index split completion	C-30
C.3.79	instance state change	C-30
C.3.80	io done	C-30
C.3.81	ksxr wait for mount shared	C-31
C.3.82	ktm: instance recovery	C-31
C.3.83	latch activity	C-31
C.3.84	latch free	C-32
C.3.85	latch: redo copy	C-32
C.3.86	library cache load lock	C-32
C.3.87	library cache lock	C-33
C.3.88	library cache pin	C-33
C.3.89	library cache shutdown	C-34
C.3.90	library cache: mutex X	C-34
C.3.91	Log archive I/O	C-34
C.3.92	log buffer space	C-34
C.3.93	log file parallel write	C-35
C.3.94	log file sequential read	C-35
C.3.95	log file single write	C-35
C.3.96	log file switch (archiving needed)	C-36
C.3.97	log file switch (checkpoint incomplete)	C-36
C.3.98	log file switch (clearing log file)	C-36
C.3.99	log file switch (private strand flush incomplete)	C-36
C.3.100	log file switch completion	C-36
C.3.101	log file sync	C-36
C.3.102	log switch/archive	C-37
C.3.103	optimizer stats update retry	C-37
C.3.104	parallel recovery change buffer free	C-37
C.3.105	parallel recovery control message reply	C-37
C.3.106	parallel recovery coord send blocked	C-38

C.3.107	parallel recovery coord wait for reply	C-38
C.3.108	parallel recovery coordinator waits for slave cleanup	C-38
C.3.109	parallel recovery read buffer free	C-38
C.3.110	parallel recovery slave next change	C-38
C.3.111	pending global transaction(s)	C-38
C.3.112	pipe get	C-39
C.3.113	pipe put	C-39
C.3.114	PL/SQL lock timer	C-39
C.3.115	pmon timer	C-39
C.3.116	prior spawner clean up	C-40
C.3.117	process startup	C-40
C.3.118	PX Deque wait	C-40
C.3.119	PX qref latch	C-41
C.3.120	PX server shutdown	C-41
C.3.121	PX signal server	C-41
C.3.122	rdbms ipc message	C-41
C.3.123	rdbms ipc message block	C-42
C.3.124	rdbms ipc reply	C-42
C.3.125	read by other session	C-42
C.3.126	recovery active instance mapping setup	C-42
C.3.127	recovery apply pending	C-42
C.3.128	recovery cancel	C-43
C.3.129	recovery checkpoint	C-43
C.3.130	recovery file header update for checkpoint	C-43
C.3.131	recovery file header update for fuzziness	C-43
C.3.132	recovery marker apply	C-43
C.3.133	recovery merge pending	C-43
C.3.134	recovery metadata latch	C-43
C.3.135	recovery move influx buffers	C-43
C.3.136	recovery read	C-43
C.3.137	recovery receive buffer free	C-44
C.3.138	recovery remote file verification	C-44
C.3.139	recovery send buffer free	C-44
C.3.140	recovery shutdown	C-44
C.3.141	Redo Transport Attach	C-44
C.3.142	Redo Transport Close	C-44
C.3.143	Redo Transport Detach	C-45
C.3.144	Redo Transport Open	C-45
C.3.145	Redo Transport Ping	C-45
C.3.146	Redo Transport Slave Startup	C-45
C.3.147	Redo Writer Remote Sync Complete	C-45
C.3.148	Redo Writer Remote Sync Notify	C-45

C.3.149	resmgr:become active	C-46
C.3.150	resmgr:cpu quantum	C-46
C.3.151	resmgr: I/O rate limit	C-46
C.3.152	resmgr:pq queued	C-47
C.3.153	rolling migration: cluster quiesce	C-47
C.3.154	row cache lock	C-47
C.3.155	RVWR wait for flashback copy	C-48
C.3.156	sbtbufinfo	C-48
C.3.157	sbtgetbuf	C-48
C.3.158	sbtmapbuf	C-48
C.3.159	sbtrelbuf	C-48
C.3.160	scging AST call	C-49
C.3.161	SGA: allocation forcing component growth	C-49
C.3.162	SGA: MMAN sleep for component shrink	C-49
C.3.163	SGA: sga_target resize	C-49
C.3.164	Shared IO Pool Memory	C-49
C.3.165	shared server idle wait	C-50
C.3.166	single-task message	C-50
C.3.167	smon timer	C-50
C.3.168	SQL*Net break/reset to client	C-50
C.3.169	SQL*Net break/reset to dblink	C-51
C.3.170	SQL*Net message from client	C-51
C.3.171	SQL*Net message from dblink	C-51
C.3.172	SQL*Net message to client	C-52
C.3.173	SQL*Net message to dblink	C-52
C.3.174	SQL*Net more data from client	C-52
C.3.175	SQL*Net more data from dblink	C-53
C.3.176	SQL*Net more data to client	C-53
C.3.177	SQL*Net more data to dblink	C-53
C.3.178	Streams AQ: waiting for messages in the queue	C-53
C.3.179	switch logfile command	C-54
C.3.180	SYNC Remote Write	C-54
C.3.181	TCP Socket (KGAS)	C-54
C.3.182	timer in sksawat	C-54
C.3.183	transaction	C-55
C.3.184	unbound tx	C-55
C.3.185	undo_retention publish retry	C-55
C.3.186	undo segment extension	C-55
C.3.187	undo segment recovery	C-56
C.3.188	undo segment tx slot	C-56
C.3.189	utl_file I/O	C-56
C.3.190	virtual circuit wait	C-56

C.3.191	WCR: replay client notify	C-56
C.3.192	WCR: replay clock	C-57
C.3.193	WCR: replay lock order	C-57
C.3.194	WCR: replay paused	C-57
C.3.195	WCR: Sync context busy	C-57
C.3.196	write complete waits	C-57

D Oracle Enqueue Names

E Statistics Descriptions

E.1	Displaying Statistics	E-1
E.2	Statistics Descriptions	E-1

F Background Processes

Index

Preface

This manual provides reference information about database initialization parameters, static data dictionary views, dynamic performance views, database limits, and SQL scripts that are part of the Oracle Database.

This preface contains these topics:

- [Audience](#)
- [Documentation Accessibility](#)
- [Diversity and Inclusion](#)
- [Related Documents](#)
- [Conventions](#)

Audience

Oracle Database Reference is intended for database administrators, system administrators, and database application developers.

To use this document, you need to be familiar with the following:

- Oracle database management system (DBMS) concepts
- Your operating system environment

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

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Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a diverse workforce that increases thought leadership and innovation. As part of our initiative to build a more inclusive culture that positively impacts our employees, customers, and partners, we are working to remove insensitive terms from our products and documentation. We are also mindful of the necessity to maintain compatibility with our customers' existing technologies and the need to ensure continuity of service as Oracle's offerings and industry standards evolve. Because of these technical constraints, our effort to remove insensitive terms is ongoing and will take time and external cooperation.

Related Documents

For more information, see these Oracle resources:

- *Oracle Database Concepts* for a comprehensive introduction to the concepts and terminology used in this manual
- *Oracle Database Administrator's Guide* for information about administering Oracle Database
- *Oracle Database Upgrade Guide* for the procedures for upgrading a previous release of Oracle to the new release
- *Oracle Database SQL Language Reference* for information on Oracle's SQL commands and functions
- *Oracle Database Development Guide* for information about developing database applications within Oracle Database

The complete documentation set for Oracle Database is available on the Oracle Help Center:

<http://docs.oracle.com/database/>

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1

Changes in This Release for Oracle Database Reference

This chapter lists the following changes in *Oracle Database Reference* for Oracle Database 23ai:

- [Changes in Oracle Database 23ai, Release Update 23.6](#)
- [Changes in Oracle Database 23ai](#)

1.1 Changes in Oracle Database 23ai, Release Update 23.6

The following static data dictionary views are new in Oracle Database 23ai, Release Update 23.6:

- [ALL_JSON_COLLECTION_VIEWS](#), [DBA_JSON_COLLECTION_VIEWS](#), and [USER_JSON_COLLECTION_VIEWS](#)

1.2 Changes in Oracle Database 23ai

This section lists the following changes in *Oracle Database Reference* for Oracle Database 23ai:

- [New Features](#)
- [Deprecated Features](#)
- [Desupported Features](#)

1.2.1 New Features

- The following feature is new in Oracle Database 23ai:
 - The maximum number of columns allowed in a database table or view has been increased from 1000 to 4096.
See: [MAX_COLUMNS](#)
- The following initialization parameters are new in Oracle Database 23ai:
 - [ALLOW_LEGACY_RECO_PROTOCOL](#)
 - [BLOCKCHAIN_TABLE_RETENTION_THRESHOLD](#)
 - [DB_FLASHBACK_LOG_DEST](#)
 - [DB_FLASHBACK_LOG_DEST_SIZE](#)
 - [DB_RECOVERY_AUTO_REKEY](#)
 - [ERROR_MESSAGE_DETAILS](#)
 - [GROUP_BY_POSITION_ENABLED](#)
 - [HYBRID_READ_ONLY](#)

- IDENTITY_PROVIDER_CONFIG
- IDENTITY_PROVIDER_TYPE
- INMEMORY_OPTIMIZED_DATE
- IORM_LIMIT_POLICY
- JSON_BEHAVIOR
- JSON_EXPRESSION_CHECK
- MAX_COLUMNS
- MAX_SAGA_DURATION
- MEMOPTIMIZE_WRITE_AREA_SIZE
- MEMOPTIMIZE_WRITES
- MEMORY_MAX_SIZE
- MEMORY_SIZE
- MLE_PROG_LANGUAGES
- PLSQL_IMPLICIT_CONVERSION_BOOL
- PRIORITY_TXNS_HIGH_WAIT_TARGET
- PRIORITY_TXNS_MEDIUM_WAIT_TARGET
- PRIORITY_TXNS_MODE
- READ_ONLY
- RESOURCE_MANAGER_CPU_SCOPE
- RESULT_CACHE_AUTO_BLOCKLIST
- RESULT_CACHE_INTEGRITY
- SAGA_HIST_RETENTION
- SESSION_EXIT_ON_PACKAGE_STATE_ERROR
- SHARD_ENABLE_RAFT_FOLLOWER_READ
- SHARD_RAFT_LOGFILE_SIZE
- SQL_ERROR_MITIGATION
- SQL_HISTORY_ENABLED
- SQL_TRANSPILER
- TABLESPACE_ENCRYPTION
- TIME_AT_DBTIMEZONE
- TRANSACTION_RECOVERY
- TRUE_CACHE
- TXN_PRIORITY
- XML_PARAMS
- The following static data dictionary views are new in Oracle Database 23ai:
 - DBA_ADDM_PENDING_AUTOTASKS
 - DBA_ADDM_SCHEDULED_AUTOTASKS
 - DBA_AIM_PERF_FEATURES

- ALL_ANNOTATION_VALUES, DBA_ANNOTATION_VALUES, and USER_ANNOTATION_VALUES
- ALL_ANNOTATIONS, DBA_ANNOTATIONS, and USER_ANNOTATIONS
- ALL_ANNOTATIONS_USAGE, DBA_ANNOTATIONS_USAGE, and USER_ANNOTATIONS_USAGE
- DBA_AUTO_CLUSTERING_CONFIG
- DBA_AUTO_CLUSTERING_RECOMMENDATIONS
- ALL_BLOCKCHAIN_ROW_VERSION_COLS, DBA_BLOCKCHAIN_ROW_VERSION_COLS, and USER_BLOCKCHAIN_ROW_VERSION_COLS
- ALL_BLOCKCHAIN_ROW_VERSION_HISTORY, DBA_BLOCKCHAIN_ROW_VERSION_HISTORY, and USER_BLOCKCHAIN_ROW_VERSION_HISTORY
- ALL_BLOCKCHAIN_TABLE_CHAINS, DBA_BLOCKCHAIN_TABLE_CHAINS, and USER_BLOCKCHAIN_TABLE_CHAINS
- ALL_BLOCKCHAIN_TABLE_EPOCHS, DBA_BLOCKCHAIN_TABLE_EPOCHS, and USER_BLOCKCHAIN_TABLE_EPOCHS
- ALL_BLOCKCHAIN_TABLE_HASH_COL_ORDER, DBA_BLOCKCHAIN_TABLE_HASH_COL_ORDER, and USER_BLOCKCHAIN_TABLE_HASH_COL_ORDER
- DBA_BLOCKER_RESOLVER_PARAMETERS
- DBA_DDL_REGS and USER_DDL_REGS
- ALL_DOMAIN_COLS, DBA_DOMAIN_COLS, and USER_DOMAIN_COLS
- ALL_DOMAIN_CONSTRAINTS, DBA_DOMAIN_CONSTRAINTS, and USER_DOMAIN_CONSTRAINTS
- ALL_DOMAINS, DBA_DOMAINS, and USER_DOMAINS
- DBA_HIST_OPTIMIZER_ENV_DETAILS
- ALL_HIST_SAGAS, DBA_HIST_SAGAS, and USER_HIST_SAGAS
- ALL_IMMUTABLE_ROW_VERSION_COLS, DBA_IMMUTABLE_ROW_VERSION_COLS, and USER_IMMUTABLE_ROW_VERSION_COLS
- ALL_IMMUTABLE_ROW_VERSION_HISTORY, DBA_IMMUTABLE_ROW_VERSION_HISTORY, and USER_IMMUTABLE_ROW_VERSION_HISTORY
- ALL_IMMUTABLE_TABLE_COLUMNS, DBA_IMMUTABLE_TABLE_COLUMNS, and USER_IMMUTABLE_TABLE_COLUMNS
- ALL_IMMUTABLE_TABLE_EPOCHS, DBA_IMMUTABLE_TABLE_EPOCHS, and USER_IMMUTABLE_TABLE_EPOCHS
- ALL_INCOMPLETE_SAGAS, DBA_INCOMPLETE_SAGAS, and USER_INCOMPLETE_SAGAS
- DBA_INMEMORY_ADVISOR_RECOMMENDATION
- ALL_JSON_COLLECTION_TABLES, DBA_JSON_COLLECTION_TABLES, and USER_JSON_COLLECTION_TABLES

- ALL_JSON_COLLECTIONS, DBA_JSON_COLLECTIONS, and USER_JSON_COLLECTIONS
- ALL_JSON_DOMAIN_SCHEMA_COLUMNS, DBA_JSON_DOMAIN_SCHEMA_COLUMNS, and USER_JSON_DOMAIN_SCHEMA_COLUMNS
- ALL_JSON_DUALITY_VIEW_LINKS, DBA_JSON_DUALITY_VIEW_LINKS, and USER_JSON_DUALITY_VIEW_LINKS
- ALL_JSON_DUALITY_VIEW_TAB_COLS, DBA_JSON_DUALITY_VIEW_TAB_COLS, and USER_JSON_DUALITY_VIEW_TAB_COLS
- ALL_JSON_DUALITY_VIEW_TABS, DBA_JSON_DUALITY_VIEW_TABS, and USER_JSON_DUALITY_VIEW_TABS
- ALL_JSON_DUALITY_VIEWS, DBA_JSON_DUALITY_VIEWS, and USER_JSON_DUALITY_VIEWS
- ALL_JSON_INDEXES, DBA_JSON_INDEXES, and USER_JSON_INDEXES
- ALL_JSON_SCHEMA_COLUMNS, DBA_JSON_SCHEMA_COLUMNS, and USER_JSON_SCHEMA_COLUMNS
- DBA_KAFKA_APPLICATIONS and USER_KAFKA_APPLICATIONS
- DBA_KAFKA_CLUSTERS and USER_KAFKA_CLUSTERS
- DBA_KAFKA_LOAD_METRICS and USER_KAFKA_LOAD_METRICS
- USER_KAFKA_MESSAGES
- DBA_KAFKA_OPS and USER_KAFKA_OPS
- DBA_KAFKA_OPS_RESULTS and USER_KAFKA_OPS_RESULTS
- DBA_KAFKA_PARTITIONS and USER_KAFKA_PARTITIONS
- ALL_MLE_ENV_IMPORTS, DBA_MLE_ENV_IMPORTS, and USER_MLE_ENV_IMPORTS
- ALL_MLE_ENVS, DBA_MLE_ENVS, and USER_MLE_ENVS
- ALL_MLE_MODULES, DBA_MLE_MODULES, and USER_MLE_MODULES
- ALL_MLE_PROCEDURES, DBA_MLE_PROCEDURES, and USER_MLE_PROCEDURES
- ALL_MVIEW_DETAIL_LOGICAL_PARTITION, DBA_MVIEW_DETAIL_LOGICAL_PARTITION, and USER_MVIEW_DETAIL_LOGICAL_PARTITION
- ALL_PG_EDGE_RELATIONSHIPS, DBA_PG_EDGE_RELATIONSHIPS, and USER_PG_EDGE_RELATIONSHIPS
- ALL_PG_ELEMENT_LABELS, DBA_PG_ELEMENT_LABELS, and USER_PG_ELEMENT_LABELS
- ALL_PG_ELEMENTS, DBA_PG_ELEMENTS, and USER_PG_ELEMENTS
- ALL_PG_KEYS, DBA_PG_KEYS, and USER_PG_KEYS
- ALL_PG_LABEL_PROPERTIES, DBA_PG_LABEL_PROPERTIES, and USER_PG_LABEL_PROPERTIES
- ALL_PG_LABELS, DBA_PG_LABELS, and USER_PG_LABELS
- ALL_PG_PROP_DEFINITIONS, DBA_PG_PROP_DEFINITIONS, and USER_PG_PROP_DEFINITIONS

- ALL_PROPERTY_GRAPHS, DBA_PROPERTY_GRAPHS, and USER_PROPERTY_GRAPHS
- DBA_QUARANTINED_TRANSACTIONS
- ALL_SAGA_BROKERS, DBA_SAGA_BROKERS, and USER_SAGA_BROKERS
- ALL_SAGA_DETAILS, DBA_SAGA_DETAILS, and USER_SAGA_DETAILS
- ALL_SAGA_ERRORS, DBA_SAGA_ERRORS, and USER_SAGA_ERRORS
- ALL_SAGA_FINALIZATION, DBA_SAGA_FINALIZATION, and USER_SAGA_FINALIZATION
- ALL_SAGA_PARTICIPANT_SET, DBA_SAGA_PARTICIPANT_SET, and USER_SAGA_PARTICIPANT_SET
- ALL_SAGA_PARTICIPANTS, DBA_SAGA_PARTICIPANTS, and USER_SAGA_PARTICIPANTS
- ALL_SAGA_PENDING, DBA_SAGA_PENDING, and USER_SAGA_PENDING
- ALL_SAGAS, DBA_SAGAS, and USER_SAGAS
- DBA_SCHEDULER_IN_MEMORY_TRACE
- DBA_SCHEMA_PRIVS, ROLE_SCHEMA_PRIVS, SESSION_SCHEMA_PRIVS, and USER_SCHEMA_PRIVS
- DBA_SQL_ERROR_MITIGATIONS
- DBA_SQL_FIREWALL_ALLOW_LISTS
- DBA_SQL_FIREWALL_ALLOWED_IP_ADDR
- DBA_SQL_FIREWALL_ALLOWED_OS_PROG
- DBA_SQL_FIREWALL_ALLOWED_OS_USER
- DBA_SQL_FIREWALL_ALLOWED_SQL
- DBA_SQL_FIREWALL_CAPTURE_LOGS
- DBA_SQL_FIREWALL_CAPTURES
- DBA_SQL_FIREWALL_SESSION_LOGS
- DBA_SQL_FIREWALL_SQL_LOGS
- DBA_SQL_FIREWALL_STATUS
- DBA_SQL_FIREWALL_VIOLATIONS
- DBA_SYS_PRIVS_ALL, ROLE_SYS_PRIVS_ALL, SESSION_PRIVS_ALL, and USER_SYS_PRIVS_ALL
- ALL_TABLE_ACCESS_STATS, DBA_TABLE_ACCESS_STATS, and USER_TABLE_ACCESS_STATS
- ALL_TABLE_VIRTUAL_COLUMNS, DBA_TABLE_VIRTUAL_COLUMNS, and USER_TABLE_VIRTUAL_COLUMNS
- ALL_TXEVENTQ_MIGRATION_STATUS, DBA_TXEVENTQ_MIGRATION_STATUS and USER_TXEVENTQ_MIGRATION_STATUS
- DBA_UNUSED_SCHEMA_PRIVS
- DBA_UNUSED_SCHEMA_PRIVS_PATH
- DBA_USED_SCHEMA_PRIVS
- DBA_USED_SCHEMA_PRIVS_PATH

- SHARD_RAFT_PARAMETERS
- The following tables are new in Oracle Database 23ai:
 - DBMS_KAFKA_APPLICATIONS
 - DBMS_KAFKA_CLUSTERS
 - DBMS_KAFKA_LOAD_METRICS
 - DBMS_KAFKA_MESSAGES
 - DBMS_KAFKA_OPS
 - DBMS_KAFKA_OPS_RESULTS
 - DBMS_KAFKA_PARTITIONS
 - DBMS_KAFKA_SEC_ALLOWED_PROPERTIES
- The following dynamic performance views are new in Oracle Database 23ai:
 - V\$AUTO_IM_FEATURES
 - V\$DATAPUMP_SESSIONWAIT_INFO
 - V\$DG_BROKER_ROLE_CHANGE
 - V\$ENABLEDSCHEMAPRIVS
 - V\$FAST_START_FAILOVER_CONFIG
 - V\$FLASHBACK_LOG_DEST
 - V\$INMEMORY_SIZE_ADVICE
 - V\$OFS_THREADS
 - V\$PX_PROCESS_DETAIL
 - V\$PX_SERVER
 - V\$RECOVERY_WORKER
 - V\$SCHEDULER_IN_MEMORY_TRACE
 - V\$SECUREFILE_SHRINK
 - V\$SERVICE_DRAIN_TIMEOUT_ADVICE
 - V\$SHARD_ACK_RECEIVER
 - V\$SHARD_ACK_SENDER
 - V\$SHARD_APPLY_COORDINATOR
 - V\$SHARD_APPLY_LCR_READER
 - V\$SHARD_APPLY_READER
 - V\$SHARD_APPLY_SERVER
 - V\$SHARD_LCR_LOGS
 - V\$SHARD_LCR_PERSISTER
 - V\$SHARD_LCR_PRODUCER
 - V\$SHARD_NETWORK_RECEIVER
 - V\$SHARD_NETWORK_SENDER
 - V\$SHARD_REPLICATION_UNIT
 - V\$SQL_HISTORY

- [V\\$TABLE_ACCESS_STATS](#)
- [V\\$TDM_STATS](#)
- [V\\$TEXT_WAITING_EVENTS](#)
- [V\\$TRUE_CACHE](#)



See Also:

Oracle Database New Features for a complete list of new features for this release

1.2.2 Deprecated Features

The following features are deprecated in Oracle Database 23ai, and may be desupported in a future release:

Initialization parameters:

- [ENCRYPT_NEW_TABLESPACES](#)
- [ONE_STEP_PLUGIN_FOR_PDB_WITH_TDE](#)
- [PRE_PAGE_SGA](#)

Static data dictionary views:

- [DBA_HANG_MANAGER_PARAMETERS](#)

Dynamic performance views:

- [V\\$FS_FAILOVER_STATS](#)
- [V\\$PQ_SLAVE](#)
- [V\\$RECOVERY_SLAVE](#)



See Also:

Oracle Database Upgrade Guide for a complete list of deprecated features for this release

1.2.3 Desupported Features

The following features are desupported in Oracle Database 23ai:

- The `OPTIMIZER_SECURE_VIEW_MERGING` initialization parameter
- The `V$EMX_USAGE_STATS` view



See Also:

Oracle Database Upgrade Guide for a complete list of desupported features for this release

Part I

Initialization Parameters

Database initialization parameters can be specified in a parameter file to start or configure an instance.

This part contains the following chapter:

- [Initialization Parameters](#)



Note:

A multitenant container database is the only supported architecture in Oracle Database 21c and later releases. While the documentation is being revised, legacy terminology may persist. In most cases, "database" and "non-CDB" refer to a CDB or PDB, depending on context. In some contexts, such as upgrades, "non-CDB" refers to a non-CDB from a previous release.

2

Initialization Parameters

This chapter contains detailed descriptions (in alphabetical order) of the database initialization parameters.

This chapter contains the following topics:

- [Uses of Initialization Parameters](#)
- [Basic Initialization Parameters](#)
- [Parameter Files](#)
- [Changing Parameter Values in a Parameter File](#)
- [Reading the Parameter Descriptions](#)
- [Initialization Parameter Descriptions](#)

2.1 Uses of Initialization Parameters

Initialization parameters are used to perform various functions.

For example, initialization parameters are used to:

- Set limits for the entire database
- Set user or process limits
- Set limits on database resources
- Affect performance (these are called **variable parameters**)

Variable parameters are of particular interest to database administrators, because these parameters are used primarily to improve database performance.

Database administrators can use initialization parameters to:

- Optimize performance by adjusting memory structures, such as the number of database buffers in memory
- Set database-wide defaults, such as the amount of space initially allocated for a context area when it is created
- Set database limits, such as the maximum number of database users
- Specify names of files or directories required by the database

Many initialization parameters can be fine-tuned to improve database performance. Other parameters should never be altered or should be altered only under the supervision of Oracle Support Services.

All initialization parameters are optional. Oracle has a default value for each parameter. This value may be operating system-dependent, depending on the parameter.

2.1.1 Types of Initialization Parameters

The Oracle database server has derived parameters, operating system-dependent parameters, and variable parameters.

- [Derived Parameters](#)
- [Operating System-Dependent Parameters](#)
- [Variable Parameters](#) (these can be dynamic parameters or any of the preceding ones)

2.1.1.1 Derived Parameters

Some initialization parameters are **derived**, meaning that their values are calculated from the values of other parameters. Normally, you should not alter values for derived parameters, but if you do, then the value you specify will override the calculated value.

For example, the default value of the `SESSIONS` parameter is derived from the value of the `PROCESSES` parameter. If the value of `PROCESSES` changes, then the default value of `SESSIONS` changes as well, unless you override it with a specified value.

2.1.1.2 Operating System-Dependent Parameters

The valid values or value ranges of some initialization parameters depend upon the host operating system. For example, the parameter `DB_BLOCK_BUFFERS` indicates the number of data buffers in main memory, and its maximum value depends on the operating system. The size of those buffers, set by `DB_BLOCK_SIZE`, has an operating system-dependent default value.



See Also:

Your operating system-specific Oracle documentation for more information on operating system-dependent Oracle parameters and operating system parameters

2.1.1.3 Variable Parameters

The variable initialization parameters offer the most potential for improving system performance. Some variable parameters set capacity limits but do not affect performance. For example, when the value of `OPEN_CURSORS` is 10, a user process attempting to open its eleventh cursor receives an error. Other variable parameters affect performance but do not impose absolute limits. For example, reducing the value of `DB_BLOCK_BUFFERS` does not prevent work even though it may slow down performance.

Increasing the values of variable parameters may improve your system's performance, but increasing most parameters also increases the system global area (SGA) size. A larger SGA can improve database performance up to a point. In virtual memory operating systems, an SGA that is too large can degrade performance if it is swapped in and out of memory. Operating system parameters that control virtual memory working areas should be set with the SGA size in mind. The operating system configuration can also limit the maximum size of the SGA.

2.2 Basic Initialization Parameters

Most databases should only need to have the database basic initialization parameters set to run properly and efficiently.

Oracle advises you to become familiar with the basic parameters and only use other parameters when directed to by feature documentation or in special circumstances. The following is a list of the database basic initialization parameters:

CLUSTER_DATABASE
COMPATIBLE
CONTROL_FILES
DB_BLOCK_SIZE
DB_CREATE_FILE_DEST
DB_CREATE_ONLINE_LOG_DEST_1
DB_DOMAIN
DB_NAME
DB_RECOVERY_FILE_DEST
DB_RECOVERY_FILE_DEST_SIZE
DB_UNIQUE_NAME
INSTANCE_NUMBER
LDAP_DIRECTORY_SYSAUTH
LOG_ARCHIVE_DEST_1
LOG_ARCHIVE_DEST_STATE_1
NLS_DATE_LANGUAGE
NLS_TERRITORY
OPEN_CURSORS
PGA_AGGREGATE_TARGET
PROCESSES
REMOTE_LISTENER
REMOTE_LOGIN_PASSWORDFILE
SESSIONS
SGA_TARGET
SHARED_SERVERS
STAR_TRANSFORMATION_ENABLED
UNDO_TABLESPACE

2.3 Parameter Files

A **parameter file** is a file that contains a list of initialization parameters and a value for each parameter. You specify initialization parameters in a parameter file that reflect your particular installation.

Oracle supports the following two types of parameter files:

- [Server Parameter Files](#)
- [Initialization Parameter Files](#)

2.3.1 Server Parameter Files

A **server parameter file** is a binary file that acts as a repository for initialization parameters.

The server parameter file can reside on the computer where the Oracle database server executes. Initialization parameters stored in a server parameter file are persistent, in that any changes made to the parameters while an instance is running can persist across instance shutdown and startup.

 See Also:

Oracle Database Administrator's Guide for an introduction to and detailed information about managing and using server parameter files and initialization parameter files

2.3.2 Initialization Parameter Files

An **initialization parameter file** is a text file that contains a list of initialization parameters.

 Note:

See "[About the Character Set of Parameter Values](#)" for more information about the character set to use when specifying values in an initialization parameter file.

The following are sample entries in an initialization parameter file:

```
PROCESSES = 100
OPEN_LINKS = 12
GLOBAL_NAMES = true
```

The name of the initialization parameter file varies depending on the operating system. For example, it can be in mixed case or lowercase, or it can have a logical name or a variation of the name `init.ora`. Also supplied is an `initdw.ora` file, which contains suggested parameter settings for data warehouses and data marts. The database administrator can choose a different file name for the initialization parameter file.

Refer to your operating system-specific Oracle documentation for the default locations and filenames for initialization parameter files on your operating system. The initialization parameter file is read by the client-side tool used to start the server (such as SQL*Plus).

Sample initialization parameter files are provided on the Oracle distribution medium for each operating system. A sample file is sufficient for initial use, but you will probably want to modify the file to tune the database for best performance. Any changes will take effect after you completely shut down and restart the instance.

2.3.2.1 About the Character Set of Parameter Values

Only characters from the default character set of the database platform are supported in parameter values. For all platforms except IBM z/OS and Fujitsu BS2000 the default platform character set is US7ASCII (7-bit ASCII).

The database behavior is undefined when parameter values with unsupported characters are specified. When using the `ALTER SYSTEM` statement to set a parameter value in a server parameter file, make sure only supported characters are used. The database does not always report an error when a value with unsupported characters is specified.

The initialization parameter file is a client-side file. When used, it is located on the host on which you start SQL*Plus to start up a database instance. The initialization parameter file must be written in the client character set as specified by the `NLS_LANG` client setting. However, parameter values should not contain characters not supported by the default character set of the database.

2.3.2.2 Specifying Values in an Initialization Parameter File

This section describes several aspects of setting parameter values in an initialization parameter file.

2.3.2.2.1 Rules Governing Initialization Parameter Files

This section describes the rules that govern the specification of parameters in initialization parameter files.

- An initialization parameter file should contain only parameters and comments. A pound sign (#) starts a comment line. The rest of the line is ignored.
- Comments must use the same character set as parameter values.
- You can specify parameters in any order.
- Case (upper or lower) in filenames is significant only if case is significant on the host operating system.
- To enter several parameters on one line, use spaces between parameter names and values, as in the following example:

```
PROCESSES = 100 CPU_COUNT = 1 OPEN_CURSORS = 10
```

- Some parameters, such as `ROLLBACK_SEGMENTS`, accept multiple values. Any of the following represent valid syntax.

- Enter multiple values enclosed in parentheses and separated by commas. For example:

```
ROLLBACK_SEGMENTS = (SEG1, SEG2, SEG3, SEG4, SEG5)
```

- Enter multiple values without parentheses and commas. For example:

```
ROLLBACK_SEGMENTS = SEG1 SEG2 SEG3 SEG4 SEG5
```

- Enter multiple values, one per line. For example:

```
ROLLBACK_SEGMENTS = SEG1  
ROLLBACK_SEGMENTS = SEG2  
ROLLBACK_SEGMENTS = SEG3  
ROLLBACK_SEGMENTS = SEG4  
ROLLBACK_SEGMENTS = SEG5
```

If you enter values for one parameter on multiple lines, then the entries must be on consecutive lines. If they are not, then the first entry will not be processed properly. For example, in the following entry the setting for `SEG3` and `SEG4` will override the setting for `SEG1` and `SEG2`:

```
ROLLBACK_SEGMENTS = SEG1 SEG2  
OPEN_CURSORS = 10  
ROLLBACK_SEGMENTS = SEG3 SEG4
```

- A backslash (\), also known as an escape character, indicates continuation of the parameter specification. If a backslash continues a line, then the continued line must have no leading spaces. For example:

```
ROLLBACK_SEGMENTS = (SEG1, SEG2, \
SEG3, SEG4, SEG5)
```

- You can use the `IFILE` initialization parameter to embed the contents of another initialization parameter file into the current initialization parameter file.
- Enclose in quotation marks any parameter values that contain spaces or tabs. You can use either single or double quotation marks unless otherwise indicated. For example:

```
NLS_TERRITORY = 'CZECH REPUBLIC'
```

 Note:

Listing parameters in alphabetical order in the initialization parameter file can help you to find them and can help ensure that each parameter is specified only once.

- Enclose in quotation marks any parameter value that contains a special character.

 See Also:

- Your operating system-specific Oracle documentation for more information on initialization parameter files
- `"IFILE"`

2.3.2.2.2 Using Expressions for Parameter Values

You can specify an expression as the value for an initialization parameter.

The optimal value for an initialization parameter can depend on environmental characteristics, such as system configurations, run-time decisions, and the values of other parameters. In previous releases, you were required to specify an absolute value when setting an initialization parameter, which meant that maintaining its optimal value required manual oversight and adjustments. Starting with Oracle Database 21c, you can specify an expression as the value for some initialization parameters, which enables the database to automatically adjust the parameter value in response to environmental changes.

Specifying an expression for a parameter value is also useful in Oracle Real Application Cluster (Oracle RAC) environments. You can specify the same expression for a parameter value across all Oracle RAC instances, but the expression will be evaluated on a per-instance basis, utilizing the environmental characteristics of the current instance. This allows the database to fine-tune the parameter value for each Oracle RAC instance.

You can specify expressions only for initialization parameters of type integer or big integer.

Initialization parameter expressions can contain the following constructs:

1. Integer values

```
OLAP_PAGE_POOL_SIZE = 1073741824
```

2. Decimal values, but only when they are part of a numeric operation

```
CPU_COUNT = 8 * 0.6
```

If the operation evaluates to a decimal value, then the result is truncated to an integer value. The above example would set `CPU_COUNT` to 4.

3. An integer value followed by an indicator that the integer is expressed in kilobytes (k or K), megabytes (m or M), gigabytes (g or G), terabytes (t or T), petabytes (p or P), or exabytes (e or E)

```
OLAP_PAGE_POOL_SIZE = 900m  
MEMORY_TARGET = 2G
```

4. Other parameter names

```
JOB_QUEUE_PROCESSES = PROCESSES
```

5. The binary operators for multiplication (*), division (/), modulo (%), addition (+), and subtraction (-)

```
SHARED_SERVERS = MAX_SHARED_SERVERS / 2  
DATA_GUARD_MAX_LONGIO_TIME = DATA_GUARD_MAX_IO_TIME + 10 * 3
```

Operator precedence: the multiplication, division, and modulo operators are evaluated first, from left to right, and then the addition and subtraction operators are evaluated from left to right.

If the expression evaluates to a decimal value, then the result is truncated to an integer value.

6. Parentheses, which allow you to override operator precedence

```
SHARED_SERVERS = (MAX_SHARED_SERVERS - 1) / 2  
DATA_GUARD_MAX_LONGIO_TIME = (DATA_GUARD_MAX_IO_TIME + 10) * 3
```

7. The `MIN` and `MAX` functions. These functions take two operands and return the minimum and maximum value, respectively.

```
AQ_TM_PROCESSES = MIN(40, PROCESSES * .1)  
SESSIONS = MAX(200, PROCESSES * 1.5)
```

8. Environment variable values, which must be preceded by the dollar sign (\$)

```
CPU_COUNT = $SYSTEM_CPU/5
```

You can specify an expression when using any of the following methods to set an initialization parameter:

- In a server parameter file (SPFILE)
- In a text initialization parameter file, for example, `initORACLE_SID.ora`.

Note that you cannot use expressions in a client-side text initialization parameter file (PFILE).

- In the SQL statements `ALTER SESSION SET` and `ALTER SYSTEM SET`. In this case you must enclose the expression in single quotation marks. For example:

```
ALTER SESSION SET AQ_TM_PROCESSES = 'MIN(40, PROCESSES * .1)';  
ALTER SYSTEM SET JOB_QUEUE_PROCESSES = 'PROCESSES' SCOPE=BOTH;
```

2.3.2.2.3 Using Special Characters in Parameter Values

If a parameter value contains a special character, then the special character must be preceded by a backslash or the entire parameter value must be enclosed in quotation marks.

For example, you can specify special characters using either of the following:

```
DB_DOMAIN = 'JAPAN.ACME#.COM'
```

```
DB_DOMAIN = JAPAN.ACME\#.COM
```

[Table 2-1](#) lists the special characters you can use in initialization parameter files.

Table 2-1 Special Characters in Initialization Parameter Files

Character	Name	Description
#	Number sign	Comment
(	Left parenthesis	Start list of values
)	Right parenthesis	End list of values
"	Double quotation mark	Start or end of quoted string
'	Single quotation mark	Start or end of quoted string
=	Equal sign	Separator of keyword and values
,	Comma	Separator of elements
-	Minus sign	Precedes UNIX-style keywords
\	Backslash	Escape character

If a special character must be treated literally in an initialization parameter file, then it must either be preceded by the backslash character, or the entire string containing the special character must be enclosed in quotation marks.

2.3.2.2.4 Using the Escape Character

In an initialization parameter file, a backslash (\) can also signify a line continuation. If the backslash is followed by an alphanumeric character, then the backslash is treated as a normal character in the input.

If it is not followed by an alphanumeric character, then the backslash is treated either as a backslash or as a continuation character.



See Also:

["Rules Governing Initialization Parameter Files"](#)

2.3.2.2.5 Using Quotation Marks

Quotation marks can be nested in two ways in an initialization parameter file.

The first method is to double the quotation marks in the nested string. For example:

```
NLS_DATE_FORMAT = '''Today is''' MM/DD/YYYY'
```

The second method is to alternate single and double quotation marks. For example:

```
NLS_DATE_FORMAT = '"Today is" MM/DD/YYYY'
```

2.4 Changing Parameter Values in a Parameter File

You can change the value of a parameter in a parameter file in several ways.

- By editing an initialization parameter file
In most cases, the new value takes effect the next time you start an instance of the database.
- By issuing an `ALTER SYSTEM SET ... SCOPE=SPFILE` statement to update a server parameter file
- By issuing an `ALTER SYSTEM RESET` statement to clear an initialization parameter value.

See Also:

Oracle Database Administrator's Guide for more information about using the `ALTER SYSTEM RESET` statement to clear initialization parameter values

2.4.1 Parameters by Functional Category

This section lists initialization parameters by their functional category.

- **ANSI Compliance**
`BLANK_TRIMMING`
- **Backup and Restore**
`BACKUP_TAPE_IO_SLAVES`
`DATA_TRANSFER_CACHE_SIZE`
`CLONEDB`
`CLONEDB_DIR`
`RECYCLEBIN`
`TAPE_ASYNC_IO`
- **BFILES**
`SESSION_MAX_OPEN_FILES`
- **Buffer Cache and I/O**
`CLIENT_RESULT_CACHE_LAG`
`CLIENT_RESULT_CACHE_SIZE`
`DB_nK_CACHE_SIZE`

DB_BIG_TABLE_CACHE_PERCENT_TARGET
DB_BLOCK_BUFFERS
DB_BLOCK_SIZE
DB_CACHE_ADVICE
DB_CACHE_SIZE
DB_FILE_MULTIBLOCK_READ_COUNT
DB_KEEP_CACHE_SIZE
DB_RECYCLE_CACHE_SIZE
DB_WRITER_PROCESSES
DBWR_IO_SLAVES
DISK_ASYNC_IO
DNFS_BATCH_SIZE
FILESYSTEMIO_OPTIONS
IORM_LIMIT_POLICY
READ_ONLY
READ_ONLY_OPEN_DELAYED
RESULT_CACHE_AUTO_BLOCKLIST
RESULT_CACHE_EXECUTION_THRESHOLD
RESULT_CACHE_INTEGRITY
RESULT_CACHE_MAX_RESULT
RESULT_CACHE_MAX_SIZE
RESULT_CACHE_MAX_TEMP_RESULT
RESULT_CACHE_MAX_TEMP_SIZE
RESULT_CACHE_MODE

- **Cursors and Library Cache**

CURSOR_BIND_CAPTURE_DESTINATION
CURSOR_INVALIDATION
CURSOR_SHARING
CURSOR_SPACE_FOR_TIME
OPEN_CURSORS
SESSION_CACHED_CURSORS

- **Database/Instance Identification**

DB_DOMAIN
DB_NAME
INSTANCE_NAME

- **Diagnostics and Statistics**

BACKGROUND_CORE_DUMP
BACKGROUND_DUMP_DEST
CLIENT_STATISTICS_LEVEL
CORE_DUMP_DEST
DB_BLOCK_CHECKING
DB_BLOCK_CHECKSUM
DIAGNOSTIC_DEST
DIAGNOSTICS_CONTROL
ERROR_MESSAGE_DETAILS
EVENT
HEAT_MAP
MAX_DUMP_FILE_SIZE

SHADOW_CORE_DUMP
SQL_ERROR_MITIGATION
SQL_HISTORY_ENABLED
STATISTICS_LEVEL
TIMED_OS_STATISTICS
TIMED_STATISTICS
TRACE_ENABLED
TRACEFILE_IDENTIFIER
USER_DUMP_DEST

- **Distributed, Replication**

COMMIT_POINT_STRENGTH
DISTRIBUTED_LOCK_TIMEOUT
ENABLE_GOLDENGATE_REPLICATION
GLOBAL_NAMES
HS_AUTOREGISTER
OPEN_LINKS
OPEN_LINKS_PER_INSTANCE
REPLICATION_DEPENDENCY_TRACKING

- **File Locations, Names, and Sizes**

AUDIT_FILE_DEST
BACKGROUND_CORE_DUMP
BACKGROUND_DUMP_DEST
CONTROL_FILES
CORE_DUMP_DEST
DB_CREATE_FILE_DEST
DB_CREATE_ONLINE_LOG_DEST_#
DB_FILES
DB_RECOVERY_FILE_DEST
DB_RECOVERY_FILE_DEST_SIZE
FILE_MAPPING
IFILE
LOG_ARCHIVE_DEST_#
SPFILE

- **Globalization**

NLS_CALENDAR
NLS_COMP
NLS_CURRENCY
NLS_DATE_FORMAT
NLS_DATE_LANGUAGE
NLS_DUAL_CURRENCY
NLS_ISO_CURRENCY
NLS_LANGUAGE
NLS_LENGTH_SEMANTICS
NLS_NCHAR_CONV_EXCP
NLS_NUMERIC_CHARACTERS
NLS_SORT
NLS_TERRITORY
NLS_TIMESTAMP_FORMAT

NLS_TIMESTAMP_TZ_FORMAT
TIMEZONE_VERSION_UPGRADE_ONLINE

- **Java**

JAVA_JIT_ENABLED
JAVA_MAX_SESSIONSPACE_SIZE
JAVA_POOL_SIZE
JAVA_SOFT_SESSIONSPACE_LIMIT

- **Job Queues**

JOB_QUEUE_PROCESSES

- **License Limits**

LICENSE_MAX_SESSIONS
LICENSE_MAX_USERS
LICENSE_SESSIONS_WARNING

- **Memory**

INMEMORY_ADG_ENABLED
INMEMORY_AUTOMATIC_LEVEL
INMEMORY_CLAUSE_DEFAULT
INMEMORY_DEEP_VECTORIZATION
INMEMORY_EXPRESSIONS_USAGE
INMEMORY_FORCE
INMEMORY_MAX_POPULATE_SERVERS
INMEMORY_OPTIMIZED_ARITHMETIC
INMEMORY_OPTIMIZED_DATE
INMEMORY_QUERY
INMEMORY_SIZE
INMEMORY_TRICKLE_REPOPULATE_SERVERS_PERCENT
INMEMORY_VIRTUAL_COLUMNS
MEMOPTIMIZE_POOL_SIZE
MEMOPTIMIZE_WRITE_AREA_SIZE
MEMOPTIMIZE_WRITES
MEMORY_MAX_SIZE
MEMORY_SIZE
MEMORY_MAX_TARGET
MEMORY_TARGET
PMEM_FILESTORE

- **Miscellaneous**

ALLOW_ROWID_COLUMN_TYPE
AQ_TM_PROCESSES
ASM_IO_PROCESSES
ASM_PREFERRED_READ_FAILURE_GROUPS
AWR_SNAPSHOT_TIME_OFFSET
COMPATIBLE
DB_INDEX_COMPRESSION_INHERITANCE
ENABLE_DNFS_DISPATCHER
FIXED_DATE
GROUP_BY_POSITION_ENABLED
IGNORE_SESSION_SET_PARAM_ERRORS

INSTANCE_ABORT_DELAY_TIME
JSON_BEHAVIOR
JSON_EXPRESSION_CHECK
LDAP_DIRECTORY_SYSAUTH
MAX_COLUMNS
MAX_DATAPUMP_JOBS_PER_PDB
MAX_DATAPUMP_PARALLEL_PER_JOB
MAX_STRING_SIZE
MLE_PROG_LANGUAGES
PRIVATE_TEMP_TABLE_PREFIX
SPATIAL_VECTOR_ACCELERATION
TIME_AT_DBTIMEZONE
UNIFORM_LOG_TIMESTAMP_FORMAT
XML_DB_EVENTS
XML_PARAMS

- **Multitenant Architecture**

AUTOTASK_MAX_ACTIVE_PDBS
AWR_PDB_AUTOFLUSH_ENABLED
COMMON_USER_PREFIX
CONTAINER_DATA
CONTAINERS_PARALLEL_DEGREE
CPU_MIN_COUNT
DB_PERFORMANCE_PROFILE
DBNEST_ENABLE
DBNEST_PDB_FS_CONF
DEFAULT_SHARING
ENABLE_AUTOMATIC_MAINTENANCE_PDB
ENABLED_PDBS_ON_STANDBY
EXTERNAL_KEYSTORE_CREDENTIAL_LOCATION
HYBRID_READ_ONLY
MAX_IOPS
MAX_MBPS
MAX_PDBS
NONCDB_COMPATIBLE
PDB_FILE_NAME_CONVERT
PDB_LOCKDOWN
PDB_OS_CREDENTIAL
SGA_MIN_SIZE

- **Networking**

CONNECTION_BROKERS
DRCP_CONNECTION_LIMIT
DRCP_DEDICATED_OPT
ENABLE_PER_PDB_DRCP
FORWARD_LISTENER
LOCAL_LISTENER
MAX_AUTH_SERVERS
MIN_AUTH_SERVERS
OFS_THREADS
REMOTE_LISTENER

SERVICE_NAMES

- **Objects and LOBs**

OBJECT_CACHE_MAX_SIZE_PERCENT
OBJECT_CACHE_OPTIMAL_SIZE

- **OLAP**

OLAP_PAGE_POOL_SIZE

- **Optimizer**

APPROX_FOR_AGGREGATION
APPROX_FOR_COUNT_DISTINCT
APPROX_FOR_PERCENTILE
OPTIMIZER_ADAPTIVE_PLANS
OPTIMIZER_ADAPTIVE_REPORTING_ONLY
OPTIMIZER_ADAPTIVE_STATISTICS
OPTIMIZER_CAPTURE_SQL_PLAN_BASELINES
OPTIMIZER_CAPTURE_SQL_QUARANTINE
OPTIMIZER_DYNAMIC_SAMPLING
OPTIMIZER_FEATURES_ENABLE
OPTIMIZER_IGNORE_HINTS
OPTIMIZER_IGNORE_PARALLEL_HINTS
OPTIMIZER_INDEX_CACHING
OPTIMIZER_INDEX_COST_ADJ
OPTIMIZER_INMEMORY_AWARE
OPTIMIZER_MODE
OPTIMIZER_REAL_TIME_STATISTICS
OPTIMIZER_SESSION_TYPE
OPTIMIZER_USE_PENDING_STATISTICS
OPTIMIZER_USE_SQL_PLAN_BASELINES
OPTIMIZER_USE_SQL_QUARANTINE
QUERY_REWRITE_ENABLED
QUERY_REWRITE_INTEGRITY
STAR_TRANSFORMATION_ENABLED

- **Oracle RAC**

ACTIVE_INSTANCE_COUNT
CLUSTER_DATABASE
CLUSTER_INTERCONNECTS
INSTANCE_NUMBER
PARALLEL_INSTANCE_GROUP
THREAD

- **Parallel Execution**

PARALLEL_ADAPTIVE_MULTI_USER
PARALLEL_EXECUTION_MESSAGE_SIZE
PARALLEL_MAX_SERVERS
PARALLEL_MIN_DEGREE
PARALLEL_MIN_PERCENT
PARALLEL_MIN_SERVERS
PARALLEL_THREADS_PER_CPU

- **PL/SQL**
 - LONG_MODULE_ACTION
 - PLSQL_IMPLICIT_CONVERSION_BOOL
 - PLSQL_V2_COMPATIBILITY
 - REMOTE_DEPENDENCIES_MODE
 - SESSION_EXIT_ON_PACKAGE_STATE_ERROR
- **PL/SQL Compiler**
 - NLS_LENGTH_SEMANTICS
 - PERMIT_92_WRAP_FORMAT
 - PLSCOPE_SETTINGS
 - PLSQL_CCFLAGS
 - PLSQL_CODE_TYPE
 - PLSQL_DEBUG
 - PLSQL_OPTIMIZE_LEVEL
 - PLSQL_WARNINGS
 - SQL_TRANSPILER
- **Redo Logs, Archiving, and Recovery**
 - ADG_ACCOUNT_INFO_TRACKING
 - ADG_REDIRECT_DML
 - CONTROL_FILE_RECORD_KEEP_TIME
 - DATA_GUARD_MAX_IO_TIME
 - DATA_GUARD_MAX_LONGIO_TIME
 - DATA_GUARD_SYNC_LATENCY
 - DB_CREATE_ONLINE_LOG_DEST_#
 - DB_FLASHBACK_LOG_DEST
 - DB_FLASHBACK_LOG_DEST_SIZE
 - DB_RECOVERY_FILE_DEST
 - DB_RECOVERY_FILE_DEST_SIZE
 - DB_UNRECOVERABLE_SCN_TRACKING
 - FAST_START_MTTR_TARGET
 - LOG_ARCHIVE_CONFIG
 - LOG_ARCHIVE_DEST_#
 - LOG_ARCHIVE_DEST_STATE_#
 - LOG_ARCHIVE_DUPLEX_DEST
 - LOG_ARCHIVE_FORMAT
 - LOG_ARCHIVE_MAX_PROCESSES
 - LOG_ARCHIVE_MIN_SUCCEED_DEST
 - LOG_ARCHIVE_TRACE
 - LOG_BUFFER
 - LOG_CHECKPOINT_INTERVAL
 - LOG_CHECKPOINT_TIMEOUT
 - LOG_CHECKPOINTS_TO_ALERT
 - RECOVERY_PARALLELISM
 - REDO_TRANSPORT_USER
 - REMOTE_RECOVERY_FILE_DEST
- **Resource Manager**
 - MAX_IDLE_BLOCKER_TIME
 - MAX_IDLE_TIME

PROCESSOR_GROUP_NAME
RESOURCE_LIMIT
RESOURCE_MANAGER_CPU_ALLOCATION
RESOURCE_MANAGER_CPU_SCOPE
RESOURCE_MANAGER_PLAN
SGA_MIN_SIZE
STANDBY_DB_PRESERVE_STATES

- **Security and Auditing**

ALLOW_GLOBAL_DBLINKS
ALLOW_GROUP_ACCESS_TO_SGA
ALLOW_LEGACY_RECO_PROTOCOL
AUDIT_FILE_DEST
AUDIT_SYS_OPERATIONS
AUDIT_SYSLOG_LEVEL
AUDIT_TRAIL
BLOCKCHAIN_TABLE_MAX_NO_DROP
BLOCKCHAIN_TABLE_RETENTION_THRESHOLD
COMMIT_LOGGING
COMMIT_WAIT
DBFIPS_140
ENCRYPT_NEW_TABLESPACES
HEARTBEAT_BATCH_SIZE
IDENTITY_PROVIDER_CONFIG
IDENTITY_PROVIDER_TYPE
LOB_SIGNATURE_ENABLE
MANDATORY_USER_PROFILE
OS_AUTHENT_PREFIX
OS_ROLES
OUTBOUND_DBLINK_PROTOCOLS
PKCS11_LIBRARY_LOCATION
RDBMS_SERVER_DN
REMOTE_LOGIN_PASSWORDFILE
REMOTE_OS_ROLES
SEC_MAX_FAILED_LOGIN_ATTEMPTS
SEC_PROTOCOL_ERROR_FURTHER_ACTION
SEC_PROTOCOL_ERROR_TRACE_ACTION
SEC_RETURN_SERVER_RELEASE_BANNER
SQL92_SECURITY
TABLESPACE_ENCRYPTION
TABLESPACE_ENCRYPTION_DEFAULT_ALGORITHM
TDE_CONFIGURATION
TDE_KEY_CACHE
UNIFIED_AUDIT_COMMON_SYSTEMLOG
UNIFIED_AUDIT_SYSTEMLOG
WALLET_ROOT

- **Sessions and Processes**

CPU_COUNT
CPU_MIN_COUNT
PROCESSES

SESSIONS
THREADED_EXECUTION
USE_DEDICATED_BROKER

- **SGA Memory**

DB_nK_CACHE_SIZE
DB_CACHE_SIZE
HI_SHARED_MEMORY_ADDRESS
JAVA_POOL_SIZE
LARGE_POOL_SIZE
LOCK_SGA
OLAP_PAGE_POOL_SIZE
PRE_PAGE_SGA
SGA_MAX_SIZE
SGA_MIN_SIZE
SGA_TARGET
SHARED_MEMORY_ADDRESS
SHARED_POOL_RESERVED_SIZE
SHARED_POOL_SIZE
STREAMS_POOL_SIZE
USE_LARGE_PAGES

- **Sharding**

MULTISHARD_QUERY_DATA_CONSISTENCY
OPTIMIZER_CROSS_SHARD_RESILIENCY
SHARD_ENABLE_RAFT_FOLLOWER_READ
SHARD_RAFT_LOGFILE_SIZE
SHRD_DUPL_TABLE_REFRESH_RATE

- **Shared Server Architecture**

CIRCUITS
DISPATCHERS
MAX_DISPATCHERS
MAX_SHARED_SERVERS
SHARED_SERVER_SESSIONS
SHARED_SERVERS

- **Standby Database**

ARCHIVE_LAG_TARGET
DB_FILE_NAME_CONVERT
DB_RECOVERY_AUTO_REKEY
DB_UNIQUE_NAME
DG_BROKER_CONFIG_FILEn
DG_BROKER_START
ENABLE_IMC_WITH_MIRA
FAL_CLIENT
FAL_SERVER
LOG_FILE_NAME_CONVERT
STANDBY_FILE_MANAGEMENT
STANDBY_PDB_SOURCE_FILE_DBLINK
STANDBY_PDB_SOURCE_FILE_DIRECTORY

- **Temporary Sort Space**
 - BITMAP_MERGE_AREA_SIZE
 - CREATE_BITMAP_AREA_SIZE
 - HASH_AREA_SIZE
 - PGA_AGGREGATE_LIMIT
 - PGA_AGGREGATE_TARGET
 - SORT_AREA_RETAINED_SIZE
 - SORT_AREA_SIZE
 - WORKAREA_SIZE_POLICY
- **Transactions**
 - COMMIT_LOGGING
 - COMMIT_WAIT
 - DB_LOST_WRITE_PROTECT
 - DDL_LOCK_TIMEOUT
 - DML_LOCKS
 - FAST_START_PARALLEL_ROLLBACK
 - GLOBAL_TXN_PROCESSES
 - MAX_SAGA_DURATION
 - PRIORITY_TXNS_HIGH_WAIT_TARGET
 - PRIORITY_TXNS_MEDIUM_WAIT_TARGET
 - PRIORITY_TXNS_MODE
 - SAGA_HIST_RETENTION
 - TRANSACTION_RECOVERY
 - TRANSACTIONS
 - TXN_PRIORITY
- **Undo Management**
 - RESUMABLE_TIMEOUT
 - ROLLBACK_SEGMENTS
 - TEMP_UNDO_ENABLED
 - TRANSACTIONS_PER_ROLLBACK_SEGMENT
 - UNDO_MANAGEMENT
 - UNDO_RETENTION
 - UNDO_TABLESPACE

2.4.2 Modifiable Parameters

You can modify some initialization parameters using the `ALTER SESSION` or `ALTER SYSTEM` statements while an instance is running.

Use the following syntax to modify initialization parameters:

```
ALTER SESSION SET parameter_name = value
ALTER SYSTEM SET parameter_name = value [DEFERRED]
```

Whenever a parameter is modified using the `ALTER SYSTEM` statement, the Oracle Database records the statement that modifies the parameter in the alert log.

The `ALTER SESSION` statement changes the value of the specified parameter for the duration of the session that invokes the statement. The value of the parameter does not change for other sessions in the instance. The value of the following initialization parameters can be changed with `ALTER SESSION`:

ALLOW_ROWID_COLUMN_TYPE
APPROX_FOR_AGGREGATION
APPROX_FOR_COUNT_DISTINCT
APPROX_FOR_PERCENTILE
AQ_TM_PROCESSES
ASM_DISKSTRING
ASM_POWER_LIMIT
COMMIT_LOGGING
COMMIT_WAIT
COMMIT_WRITE
CONTAINER_DATA
CONTAINERS_PARALLEL_DEGREE
CREATE_STORED_OUTLINES
CURSOR_BIND_CAPTURE_DESTINATION
CURSOR_INVALIDATION
CURSOR_SHARING
DB_BLOCK_CHECKING
DB_CREATE_FILE_DEST
DB_CREATE_ONLINE_LOG_DEST_#
DB_FILE_MULTIBLOCK_READ_COUNT
DB_FILE_NAME_CONVERT
DB_INDEX_COMPRESSION_INHERITANCE
DB_SECUREFILE
DB_UNRECOVERABLE_SCN_TRACKING
DDL_LOCK_TIMEOUT
DEFAULT_SHARING
DEFERRED_SEGMENT_CREATION
DIAGNOSTICS_CONTROL
DST_UPGRADE_INSERT_CONV
ENABLE_DDL_LOGGING
ERROR_MESSAGE_DETAILS
GLOBAL_NAMES
GROUP_BY_POSITION_ENABLED
HASH_AREA_SIZE
HEAT_MAP
HYBRID_READ_ONLY
IGNORE_SESSION_SET_PARAM_ERRORS
INMEMORY_CLAUSE_DEFAULT
INMEMORY_DEEP_VECTORIZATION
INMEMORY_OPTIMIZED_DATE
INMEMORY_QUERY
JAVA_JIT_ENABLED
JSON_BEHAVIOR
JSON_EXPRESSION_CHECK
LOG_ARCHIVE_DEST_#
LOG_ARCHIVE_DEST_STATE_#
LOG_ARCHIVE_MIN_SUCCEED_DEST
MAX_DUMP_FILE_SIZE
MEMOPTIMIZE_WRITES
MLE_PROG_LANGUAGES

MULTISHARD_QUERY_DATA_CONSISTENCY
NLS_CALENDAR
NLS_COMP
NLS_CURRENCY
NLS_DATE_FORMAT
NLS_DATE_LANGUAGE
NLS_DUAL_CURRENCY
NLS_ISO_CURRENCY
NLS_LANGUAGE
NLS_LENGTH_SEMANTICS
NLS_NCHAR_CONV_EXCP
NLS_NUMERIC_CHARACTERS
NLS_SORT
NLS_TERRITORY
NLS_TIMESTAMP_FORMAT
NLS_TIMESTAMP_TZ_FORMAT
OBJECT_CACHE_MAX_SIZE_PERCENT
OBJECT_CACHE_OPTIMAL_SIZE
OLAP_PAGE_POOL_SIZE
OPTIMIZER_ADAPTIVE_PLANS
OPTIMIZER_ADAPTIVE_REPORTING_ONLY
OPTIMIZER_ADAPTIVE_STATISTICS
OPTIMIZER_CAPTURE_SQL_PLAN_BASELINES
OPTIMIZER_CAPTURE_SQL_QUARANTINE
OPTIMIZER_CROSS_SHARD_RESILIENCY
OPTIMIZER_DYNAMIC_SAMPLING
OPTIMIZER_FEATURES_ENABLE
OPTIMIZER_IGNORE_HINTS
OPTIMIZER_IGNORE_PARALLEL_HINTS
OPTIMIZER_INDEX_CACHING
OPTIMIZER_INDEX_COST_ADJ
OPTIMIZER_INMEMORY_AWARE
OPTIMIZER_MODE
OPTIMIZER_REAL_TIME_STATISTICS
OPTIMIZER_SESSION_TYPE
OPTIMIZER_USE_INVISIBLE_INDEXES
OPTIMIZER_USE_PENDING_STATISTICS
OPTIMIZER_USE_SQL_PLAN_BASELINES
OPTIMIZER_USE_SQL_QUARANTINE
PARALLEL_DEGREE_LIMIT
PARALLEL_DEGREE_POLICY
PARALLEL_FORCE_LOCAL
PARALLEL_INSTANCE_GROUP
PARALLEL_MIN_DEGREE
PARALLEL_MIN_PERCENT
PARALLEL_MIN_TIME_THRESHOLD
PDB_FILE_NAME_CONVERT
PDB_LOCKDOWN
PLSCOPE_SETTINGS
PLSQL_CCFLAGS

PLSQL_CODE_TYPE
PLSQL_DEBUG
PLSQL_IMPLICIT_CONVERSION_BOOL
PLSQL_OPTIMIZE_LEVEL
PLSQL_V2_COMPATIBILITY
PLSQL_WARNINGS
QUERY_REWRITE_ENABLED
QUERY_REWRITE_INTEGRITY
READ_ONLY
RECYCLEBIN
REMOTE_DEPENDENCIES_MODE
RESULT_CACHE_MODE
RESULT_CACHE_REMOTE_EXPIRATION
RESUMABLE_TIMEOUT
SESSION_CACHED_CURSORS
SESSION_EXIT_ON_PACKAGE_STATE_ERROR
SHARD_ENABLE_RAFT_FOLLOWER_READ
SHRD_DUPL_TABLE_REFRESH_RATE
SKIP_UNUSABLE_INDEXES
SMTP_OUT_SERVER
SORT_AREA_RETAINED_SIZE
SORT_AREA_SIZE
SPATIAL_VECTOR_ACCELERATION
SQL_ERROR_MITIGATION
SQL_HISTORY_ENABLED
SQL_TRACE
SQL_TRANSPIER
SQLTUNE_CATEGORY
STAR_TRANSFORMATION_ENABLED
STATISTICS_LEVEL
TDE_KEY_CACHE
TEMP_UNDO_ENABLED
TIMED_OS_STATISTICS
TIMED_STATISTICS
TRACEFILE_IDENTIFIER
TXN_PRIORITY
WORKAREA_SIZE_POLICY
XML_DB_EVENTS
XML_PARAMS

The `ALTER SYSTEM` statement without the `DEFERRED` keyword modifies the global value of the parameter for all sessions in the instance, for the duration of the instance (until the database is shut down). The value of the following initialization parameters can be changed with `ALTER SYSTEM`:

ADG_REDIRECT_DML
ALLOW_GLOBAL_DBLINKS
ALLOW_ROWID_COLUMN_TYPE
APPROX_FOR_AGGREGATION
APPROX_FOR_COUNT_DISTINCT
APPROX_FOR_PERCENTILE

AQ_TM_PROCESSES
ASM_IO_PROCESSES
AWR_SNAPSHOT_TIME_OFFSET
ARCHIVE_LAG_TARGET
ASM_DISKGROUPS
ASM_DISKSTRING
ASM_POWER_LIMIT
ASM_PREFERRED_READ_FAILURE_GROUPS
AUTOTASK_MAX_ACTIVE_PDBS
AWR_PDB_AUTOFLUSH_ENABLED
BACKGROUND_CORE_DUMP
BACKGROUND_DUMP_DEST
BLOCKCHAIN_TABLE_MAX_NO_DROP
BLOCKCHAIN_TABLE_RETENTION_THRESHOLD
CIRCUITS
COMMIT_LOGGING
COMMIT_WAIT
COMMIT_WRITE
CONNECTION_BROKERS
CONTAINERS_PARALLEL_DEGREE
CONTROL_FILE_RECORD_KEEP_TIME
CONTROL_MANAGEMENT_PACK_ACCESS
CORE_DUMP_DEST
CPU_COUNT
CPU_MIN_COUNT
CREATE_STORED_OUTLINES
CURSOR_BIND_CAPTURE_DESTINATION
CURSOR_INVALIDATION
CURSOR_SHARING
DATA_GUARD_MAX_IO_TIME
DATA_GUARD_MAX_LONGIO_TIME
DATA_GUARD_SYNC_LATENCY
DATA_TRANSFER_CACHE_SIZE
DB_nK_CACHE_SIZE
DB_BIG_TABLE_CACHE_PERCENT_TARGET
DB_BLOCK_CHECKING
DB_BLOCK_CHECKSUM
DB_CACHE_ADVICE
DB_CACHE_SIZE
DB_CREATE_FILE_DEST
DB_CREATE_ONLINE_LOG_DEST_n
DB_FILE_MULTIBLOCK_READ_COUNT
DB_FILE_NAME_CONVERT
DB_FLASH_CACHE_FILE
DB_FLASH_CACHE_SIZE
DB_FLASHBACK_LOG_DEST
DB_FLASHBACK_LOG_DEST_SIZE
DB_FLASHBACK_RETENTION_TARGET
DB_INDEX_COMPRESSION_INHERITANCE
DB_KEEP_CACHE_SIZE

DB_LOST_WRITE_PROTECT
DB_PERFORMANCE_PROFILE
DB_RECOVERY_AUTO_REKEY
DB_RECOVERY_FILE_DEST
DB_RECOVERY_FILE_DEST_SIZE
DB_RECYCLE_CACHE_SIZE
DB_SECUREFILE
DB_UNRECOVERABLE_SCN_TRACKING
DDL_LOCK_TIMEOUT
DEFAULT_SHARING
DEFERRED_SEGMENT_CREATION
DG_BROKER_CONFIG_FILE*n*
DG_BROKER_START
DIAGNOSTIC_DEST
DISPATCHERS
DISTRIBUTED_LOCK_TIMEOUT
DRCP_CONNECTION_LIMIT
DRCP_DEDICATED_OPT
DST_UPGRADE_INSERT_CONV
ENABLE_AUTOMATIC_MAINTENANCE_PDB
ENABLE_DDL_LOGGING
ENABLE_GOLDENGATE_REPLICATION
ENABLE_IMC_WITH_MIRA
ENABLED_PDBS_ON_STANDBY
ENCRYPT_NEW_TABLESPACES
ERROR_MESSAGE_DETAILS
FAL_CLIENT
FAL_SERVER
FAST_START_MTTR_TARGET
FAST_START_PARALLEL_ROLLBACK
FILE_MAPPING
FIXED_DATE
FORWARD_LISTENER
GLOBAL_NAMES
GLOBAL_TXN_PROCESSES
GROUP_BY_POSITION_ENABLED
HEAT_MAP
HEARTBEAT_BATCH_SIZE
HS_AUTOREGISTER
HYBRID_READ_ONLY
IDENTITY_PROVIDER_CONFIG
IDENTITY_PROVIDER_TYPE
IGNORE_SESSION_SET_PARAM_ERRORS
INMEMORY_ADG_ENABLED
INMEMORY_AUTOMATIC_LEVEL
INMEMORY_CLAUSE_DEFAULT
INMEMORY_EXPRESSIONS_USAGE
INMEMORY_DEEP_VECTORIZATION
INMEMORY_FORCE
INMEMORY_MAX_POPULATE_SERVERS

INMEMORY_OPTIMIZED_ARITHMETIC
INMEMORY_OPTIMIZED_DATE
INMEMORY_QUERY
INMEMORY_SIZE
INMEMORY_TRICKLE_REPOPULATE_SERVERS_PERCENT
INMEMORY_VIRTUAL_COLUMNS
IORM_LIMIT_POLICY
JAVA_JIT_ENABLED
JAVA_POOL_SIZE
JOB_QUEUE_PROCESSES
JSON_EXPRESSION_CHECK
LARGE_POOL_SIZE
LDAP_DIRECTORY_ACCESS
LICENSE_MAX_SESSIONS
LICENSE_MAX_USERS
LICENSE_SESSIONS_WARNING
LISTENER_NETWORKS
LOB_SIGNATURE_ENABLE
LOCAL_LISTENER
LOG_ARCHIVE_CONFIG
LOG_ARCHIVE_DEST
LOG_ARCHIVE_DEST_1
LOG_ARCHIVE_DEST_STATE_1
LOG_ARCHIVE_DUPLEX_DEST
LOG_ARCHIVE_MAX_PROCESSES
LOG_ARCHIVE_MIN_SUCCEED_DEST
LOG_ARCHIVE_TRACE
LOG_CHECKPOINT_INTERVAL
LOG_CHECKPOINT_TIMEOUT
LOG_CHECKPOINTS_TO_ALERT
LOG_FILE_NAME_CONVERT
LONG_MODULE_ACTION
MANDATORY_USER_PROFILE
MAX_AUTH_SERVERS
MAX_DATAPUMP_JOBS_PER_PDB
MAX_DATAPUMP_PARALLEL_PER_JOB
MAX_DISPATCHERS
MAX_DUMP_FILE_SIZE
MAX_IDLE_BLOCKER_TIME
MAX_IDLE_TIME
MAX_IOPS
MAX_MBPS
MAX_PDBS
MAX_SAGA_DURATION
MAX_SHARED_SERVERS
MEMOPTIMIZE_POOL_SIZE
MEMOPTIMIZE_WRITE_AREA_SIZE
MEMORY_SIZE
MEMORY_TARGET
MIN_AUTH_SERVERS

MLE_PROG_LANGUAGES
MULTISHARD_QUERY_DATA_CONSISTENCY
NLS_LENGTH_SEMANTICS
NLS_NCHAR_CONV_EXCP
OFS_THREADS
OPEN_CURSORS
OPTIMIZER_ADAPTIVE_PLANS
OPTIMIZER_ADAPTIVE_REPORTING_ONLY
OPTIMIZER_ADAPTIVE_STATISTICS
OPTIMIZER_CAPTURE_SQL_PLAN_BASELINES
OPTIMIZER_CAPTURE_SQL_QUARANTINE
OPTIMIZER_CROSS_SHARD_RESILIENCY
OPTIMIZER_DYNAMIC_SAMPLING
OPTIMIZER_FEATURES_ENABLE
OPTIMIZER_IGNORE_HINTS
OPTIMIZER_IGNORE_PARALLEL_HINTS
OPTIMIZER_INDEX_CACHING
OPTIMIZER_INDEX_COST_ADJ
OPTIMIZER_INMEMORY_AWARE
OPTIMIZER_MODE
OPTIMIZER_REAL_TIME_STATISTICS
OPTIMIZER_USE_INVISIBLE_INDEXES
OPTIMIZER_USE_PENDING_STATISTICS
OPTIMIZER_USE_SQL_PLAN_BASELINES
OPTIMIZER_USE_SQL_QUARANTINE
OUTBOUND_DBLINK_PROTOCOLS
PARALLEL_ADAPTIVE_MULTI_USER
PARALLEL_DEGREE_LIMIT
PARALLEL_DEGREE_POLICY
PARALLEL_FORCE_LOCAL
PARALLEL_INSTANCE_GROUP
PARALLEL_MAX_SERVERS
PARALLEL_MIN_DEGREE
PARALLEL_MIN_SERVERS
PARALLEL_MIN_TIME_THRESHOLD
PARALLEL_SERVERS_TARGET
PARALLEL_THREADS_PER_CPU
PDB_LOCKDOWN
PGA_AGGREGATE_LIMIT
PGA_AGGREGATE_TARGET
PKCS11_LIBRARY_LOCATION
PLSCOPE_SETTINGS
PLSQL_CCFLAGS
PLSQL_CODE_TYPE
PLSQL_DEBUG
PLSQL_IMPLICIT_CONVERSION_BOOL
PLSQL_OPTIMIZE_LEVEL
PLSQL_V2_COMPATIBILITY
PLSQL_WARNINGS
PRIORITY_TXNS_HIGH_WAIT_TARGET

PRIORITY_TXNS_MEDIUM_WAIT_TARGET
PRIORITY_TXNS_MODE
PROCESSES
QUERY_REWRITE_ENABLED
QUERY_REWRITE_INTEGRITY
RECOVERY_PARALLELISM
REDO_TRANSPORT_USER
REMOTE_DEPENDENCIES_MODE
REMOTE_LISTENER
REMOTE_RECOVERY_FILE_DEST
RESOURCE_LIMIT
RESOURCE_MANAGER_CPU_ALLOCATION
RESOURCE_MANAGER_PLAN
RESULT_CACHE_AUTO_BLOCKLIST
RESULT_CACHE_EXECUTION_THRESHOLD
RESULT_CACHE_INTEGRITY
RESULT_CACHE_MAX_RESULT
RESULT_CACHE_MAX_SIZE
RESULT_CACHE_MAX_TEMP_RESULT
RESULT_CACHE_MAX_TEMP_SIZE
RESULT_CACHE_MODE
RESULT_CACHE_REMOTE_EXPIRATION
RESUMABLE_TIMEOUT
SAGA_HIST_RETENTION
SEC_PROTOCOL_ERROR_FURTHER_ACTION
SEC_PROTOCOL_ERROR_TRACE_ACTION
SERVICE_NAMES
SESSION_EXIT_ON_PACKAGE_STATE_ERROR
SGA_MIN_SIZE
SGA_TARGET
SHADOW_CORE_DUMP
SHARD_ENABLE_RAFT_FOLLOWER_READ
SHARD_RAFT_LOGFILE_SIZE
SHARED_POOL_SIZE
SHARED_SERVER_SESSIONS
SHARED_SERVERS
SHRD_DUPL_TABLE_REFRESH_RATE
SKIP_UNUSABLE_INDEXES
SMTP_OUT_SERVER
SPATIAL_VECTOR_ACCELERATION
SPFILE
SQL_ERROR_MITIGATION
SQL_HISTORY_ENABLED
SQL_TRACE
SQL_TRANSPIER
SQLTUNE_CATEGORY
STANDBY_FILE_MANAGEMENT
STANDBY_PDB_SOURCE_FILE_DBLINK
STANDBY_PDB_SOURCE_FILE_DIRECTORY
STAR_TRANSFORMATION_ENABLED

STATISTICS_LEVEL
STREAMS_POOL_SIZE
TABLESPACE_ENCRYPTION_DEFAULT_ALGORITHM
TDE_CONFIGURATION
TDE_KEY_CACHE
TEMP_UNDO_ENABLED
THREAD
TIMED_OS_STATISTICS
TIMED_STATISTICS
TIMEZONE_VERSION_UPGRADE_ONLINE
TRACE_ENABLED
TRANSACTION_RECOVERY
UNDO_RETENTION
UNDO_TABLESPACE
UNIFORM_LOG_TIMESTAMP_FORMAT
USE_DEDICATED_BROKER
USER_DUMP_DEST
WORKAREA_SIZE_POLICY
XML_DB_EVENTS
XML_PARAMS

The `ALTER SYSTEM ... DEFERRED` statement does not modify the global value of the parameter for existing sessions, but the value will be modified for future sessions that connect to the database. The value of the following initialization parameters can be changed with `ALTER SYSTEM ... DEFERRED`:

AUDIT_FILE_DEST
BACKUP_TAPE_IO_SLAVES
CLIENT_STATISTICS_LEVEL
OBJECT_CACHE_MAX_SIZE_PERCENT
OBJECT_CACHE_OPTIMAL_SIZE
OLAP_PAGE_POOL_SIZE
PRIVATE_TEMP_TABLE_PREFIX
RECYCLEBIN
SESSION_CACHED_CURSORS
SORT_AREA_RETAINED_SIZE
SORT_AREA_SIZE

2.4.3 Displaying Current Parameter Values

You can use the SQL*Plus `SHOW PARAMETERS` statement to see the current settings for initialization parameters.

For example:

```
SQL> SHOW PARAMETERS
```

This statement displays all parameters in alphabetical order, along with their current values.

Enter the following text string to display all parameters having `BLOCK` in their names:

```
SQL> SHOW PARAMETERS BLOCK
```

You can use the `SPOOL` command to write the output to a file.

2.4.4 Parameters You Should Not Specify in the Parameter File

You should not specify these types of parameters in your parameter files:

- Parameters that you never alter unless instructed to do so by Oracle to resolve a problem
- Derived parameters, which normally do not need altering because their values are calculated automatically by the Oracle database server

2.4.5 When Parameters Are Set Incorrectly

When a parameter is set incorrectly, the effect can be different for different parameters, or based on how low or high the parameter is set.

Some parameters have a minimum setting below which an Oracle instance will not start. For other parameters, setting the value too low or too high may cause Oracle to perform badly, but it will still run. Also, Oracle may convert some values outside the acceptable range to usable levels.

If a parameter value is too low or too high, or you have reached the maximum for some resource, then Oracle returns an error. Frequently, you can wait a short while and retry the operation when the system is not as busy. If a message occurs repeatedly, then you should shut down the instance, adjust the relevant parameter, and restart the instance.

2.5 Reading the Parameter Descriptions

This section describes the properties that are documented in the initialization parameter descriptions.

PARAMETER_NAME

Property	Description
Parameter type	Specifies the type of the parameter: • A Boolean parameter accepts either <code>true</code> or <code>false</code> as its value. • A string parameter accepts any sequence of characters as its value, subject to the syntax for the parameter. • An integer parameter accepts a 4-byte value that can range from 0 to $2^{32} - 1$. • A parameter file parameter accepts an initialization parameter file specification as its value. • A big integer parameter accepts an 8-byte value that can range from 0 to $2^{64} - 1$. You specify a value for a big integer as an integer together with an optional modifier such as K, M, or G, which respectively denotes kilobytes, megabytes, or gigabytes. For example, 1000, 100 KB, 50 MB and 2 GB are valid specifications for big integers.
Syntax	For string and big integer parameters, specifies the valid syntax for specifying the parameter.
Default value	Specifies the value that the parameter assumes if a value is not explicitly specified. For most initialization parameters, the value that is documented for the Default value property is obtained by querying the <code>DEFAULT_VALUE</code> column in the <code>V\$PARAMETER</code> view for the parameter.

Property	Description
Modifiable	Specifies whether the parameter can be changed for the current session (by an <code>ALTER SESSION</code> statement) or for all sessions in the current instance (by an <code>ALTER SYSTEM</code> statement): • <code>ALTER SESSION</code> overrides the instance-wide setting of the parameter for the current session only. You can restore the instance-wide setting for that session only by issuing another <code>ALTER SESSION</code> statement. • <code>ALTER SYSTEM</code> can be used to change the value in the server parameter file (SPFILE) of any initialization parameter. Such a change takes effect only in subsequent instances. The parameter descriptions indicate only those parameters that can be modified for the current instance.
Modifiable in a PDB	Specifies whether the parameter can be modified in a PDB (Yes) or not (No). For most initialization parameters, the value that is documented for the Modifiable in a PDB property is obtained by querying the <code>ISPDB_MODIFIABLE</code> column in the <code>V\$PARAMETER</code> view for the parameter.
Range of values	Specifies the valid range of values that this parameter can assume, shown as a minimum and maximum value. Not applicable to all parameters.
Basic	Specifies whether the parameter is a basic initialization parameter or not.
Oracle RAC	Specifies how the values for this parameter must be specified for multiple instances in an Oracle Real Application Clusters environment. Not applicable to all parameters.

For each parameter, paragraphs following these details further describe the parameter and the effects of different settings.

**See Also:**

["V\\$PARAMETER"](#)

2.6 Initialization Parameter Descriptions

The remainder of this chapter describes the initialization parameters in alphabetical order.

Initialization parameter values apply to the entire database, not to an individual user, unless otherwise specified.

**Note:**

Parameters that have become obsolete are not documented.

 See Also:

- *Oracle Database Upgrade Guide* for information about obsolete parameters
- Your system release bulletins or other operating system-specific Oracle documentation

2.7 ACTIVE_INSTANCE_COUNT

`ACTIVE_INSTANCE_COUNT` enables you to designate one instance in a two-instance cluster as the primary instance and the other instance as the secondary instance. This parameter has no functionality in a cluster with more than two instances.

Property	Description
Parameter type	Integer
Default value	There is no default value.
Modifiable	No
Modifiable in a PDB	No
Range of values	1 or $\geq$ the number of instances in the cluster. (Values other than 1 have no effect on the active or standby status of any instances.)
Basic	No
Oracle RAC	You must set this parameter for every instance, and multiple instances must have the same value.

 Note:

The `ACTIVE_INSTANCE_COUNT` parameter is deprecated. It is retained for backward compatibility only.

When you set this parameter to 1, the first instance you start up becomes the primary instance and accepts client connections. The second instance starts up as a secondary instance and can accept client connections only if the first instance fails. In such an event, the secondary instance becomes the primary instance.

When the failed instance can once again be started up, it starts up as the secondary instance, and will not accept client connections unless the current primary instance fails.

 Note:

This parameter functions only in a cluster with only two instances.

2.8 ADG_ACCOUNT_INFO_TRACKING

ADG_ACCOUNT_INFO_TRACKING controls login attempts of users on Oracle Active Data Guard standby databases. It extends the control of user account security information.

Property	Description
Parameter type	String
Syntax	ADG_ACCOUNT_INFO_TRACKING = { LOCAL GLOBAL }
Default value	LOCAL
Modifiable	No
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	The same value must be used on all instances.

Setting ADG_ACCOUNT_INFO_TRACKING to **LOCAL** (the default value) continues to enforce the default behavior, by maintaining a local copy of users account information in the standby's in-memory view. Login failures are only tracked locally on a per database basis, and login is denied when the failure maximum is reached.

Setting the parameter to **GLOBAL** triggers a more secure behavior, by maintaining a single global copy of users account information across all Data Guard databases (primary and standby). Login failures across all databases in the Data Guard configuration count towards the maximum count and logins anywhere will be denied when the count is reached. This setting improves security against login attacks across a production database and all Active Data Guard standby databases.

2.9 ADG_REDIRECT_DML

Use ADG_REDIRECT_DML to enable or disable automatic redirection of DML operations from a standby to the primary in Oracle Active Data Guard environments.

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	ALTER SYSTEM Can be modified at the session level with a special ALTER SESSION command. See details below.
Modifiable in a PDB	No
Range of values	true false
Basic	No
Oracle RAC	Different instances can use different values.

Automatic redirection of DML operations to the primary can be configured at the system level or the session level. The session level setting overrides the system level setting.

- To enable automatic redirection of DML operations to the primary at the system level, set ADG_REDIRECT_DML to true.

- To disable automatic redirection of DML operations to the primary at the system level, set `ADG_REDIRECT_DML` to `false`.
- To enable automatic redirection of DML operations from a standby to the primary for the current session, issue the following SQL statement:

```
ALTER SESSION ENABLE ADG_REDIRECT_DML;
```

- To disable automatic redirection of DML operations from a standby to the primary for the current session, issue the following SQL statement:

```
ALTER SESSION DISABLE ADG_REDIRECT_DML;
```

 See Also:

Oracle Data Guard Concepts and Administration for more information about automatic redirection of DML operations

2.10 ALLOW_GLOBAL_DBLINKS

`ALLOW_GLOBAL_DBLINKS` specifies whether LDAP lookup for database links is allowed for the database.

Property	Description
Parameter type	Boolean
Syntax	<code>ALLOW_GLOBAL_DBLINKS = { FALSE TRUE }</code>
Default value	<code>FALSE</code>
Modifiable	<code>ALTER SYSTEM</code>
Modifiable in a PDB	No
Basic	No
Oracle RAC	The same value must be used on all instances.

The following values can be set:

- `FALSE`: LDAP lookup for a database link's definition is not allowed for the database.
- `TRUE`: LDAP lookup for a database link's definition is allowed for the database.

2.11 ALLOW_GROUP_ACCESS_TO_SGA

`ALLOW_GROUP_ACCESS_TO_SGA` controls group access to shared memory on UNIX platforms.

Property	Description
Parameter type	Boolean
Default value	<code>false</code>
Modifiable	No
Modifiable in a PDB	No

Property	Description
Range of values	true false
Basic	No
Oracle RAC	The same value must be used on all instances.

The default value is `false`, which means that database shared memory is created with `owner` access only. In Oracle Database releases prior to Oracle Database 12c Release 2 (12.2.0.1), database shared memory was created with `owner` and `group` access.

When this parameter is set to `true`, database shared memory is created with `owner` and `group` access. This behavior grants permissions to DBAs to manage shared memory outside the database, but also allows DBAs to read and write to shared memory, which may not be desirable for certain installations.

2.12 ALLOW_LEGACY_RECO_PROTOCOL

`ALLOW_LEGACY_RECO_PROTOCOL` specifies whether the distributed transactions recovery process RECO uses a legacy recovery protocol or an upgraded recovery protocol.

Property	Description
Parameter type	Boolean
Default value	true
Modifiable	No
Modifiable in a PDB	No
Range of values	true false
Basic	No
Oracle RAC	All instances must use the same value.

By default, `ALLOW_LEGACY_RECO_PROTOCOL` is set to `true`, which instructs RECO to use the legacy recovery protocol available in releases prior to Oracle Database 23ai.

Setting this parameter to `false` instructs RECO to use an upgraded recovery protocol. In this case, all databases involved in distributed transactions must run Oracle Database 23ai or later. If you set this parameter to `false` and a pre-Oracle Database 23ai database is involved in a distributed transaction, the distributed transaction recovery will fail. To ensure that distributed transaction recovery will complete successfully, the `ALLOW_LEGACY_RECO_PROTOCOL` must remain set to `true` until all databases are upgraded to at least Oracle Database 23ai.



Note:

This parameter is available starting with Oracle Database 23ai.



See Also:

Oracle Database Administrator's Guide for more information about this parameter

2.13 ALLOW_ROWID_COLUMN_TYPE

ALLOW_ROWID_COLUMN_TYPE determines whether table columns of data type ROWID are allowed to be created.



Note:

This parameter is valid only for Oracle Autonomous Database on dedicated Exadata infrastructure. On other types of Oracle databases, the value of this parameter is ignored and ROWID columns are always allowed to be created.

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	true false
Basic	No
Oracle RAC	Multiple instances should use the same value

Values:

- false

Columns of data type ROWID are not allowed.

You cannot specify ROWID columns when creating tables, nor can you add ROWID columns to existing tables. If the value of this parameter is changed from true to false at a time when ROWID columns exist in the database, then those columns are allowed to remain. However, Oracle recommends that you leave this parameter set to its default value of false and avoid introducing ROWID columns into Oracle Autonomous Database on dedicated Exadata infrastructure.

- true

Columns of data type ROWID are allowed.

If you choose this setting, be aware that ROWID columns are incompatible with rolling upgrade operations and other internal operations that physically move table rows. At a minimum, database activities involving ROWID columns should be suspended during upgrades. Applications using ROWID columns should introduce correctness validation to mitigate against logical errors in the application if a row relocates.

2.14 APPROX_FOR_AGGREGATION

`APPROX_FOR_AGGREGATION` replaces exact query processing for aggregation queries with approximate query processing.

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	true false
Basic	No
Oracle RAC	Different instances can use different values.

Data analysis applications heavily use aggregate function and analytic function queries. Aggregation functions and analytic functions require sorting of large volumes of data, and exact query answering requires lots of memory, and can be time consuming. With approximate query processing, the results of aggregate function and analytic function queries are returned much faster than with exact query processing. Approximate query processing is useful for situations where a tolerable amount of error is acceptable in order to obtain faster query results.

The values that can be set are:

- `false`:
Approximate query processing is not used for aggregation queries and analytic queries.
- `true`: Approximate query processing is used for aggregation queries and analytic queries.

See Also:

- ["APPROX_FOR_COUNT_DISTINCT"](#)
- ["APPROX_FOR_PERCENTILE"](#)

2.15 APPROX_FOR_COUNT_DISTINCT

`APPROX_FOR_COUNT_DISTINCT` automatically replaces `COUNT (DISTINCT expr)` queries with `APPROX_COUNT_DISTINCT` queries.

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	true false

Property	Description
Basic	No
Oracle RAC	Different instances can use different values.

Query results for `APPROX_COUNT_DISTINCT` queries are returned faster than the equivalent `COUNT (DISTINCT expr)` queries. `APPROX_COUNT_DISTINCT` queries are useful for situations where a tolerable amount of error is acceptable in order to obtain faster query results than with a `COUNT (DISTINCT expr)` query.

See Also:

- ["APPROX_FOR_AGGREGATION"](#)
- ["APPROX_FOR_PERCENTILE"](#)

2.16 APPROX_FOR_PERCENTILE

`APPROX_FOR_PERCENTILE` converts exact percentile functions to their approximate percentile function counterparts.

Property	Description
Parameter type	String
Syntax	<code>APPROX_FOR_PERCENTILE = { NONE PERCENTILE_CONT PERCENTILE_CONT DETERMINISTIC PERCENTILE_DISC PERCENTILE_DISC DETERMINISTIC ALL ALL DETERMINISTIC }</code>
Default value	none
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	Different instances can use different values.

Approximate percentile function queries are faster than their exact percentile function query counterparts, so they can be useful in situations where a tolerable amount of error is acceptable in order to obtain faster query results.

The values that can be set are:

- **NONE:**
No queries are converted. This is the default value.
- **PERCENTILE_CONT:**
Converts `PERCENTILE_CONT` queries to `APPROX_PERCENTILE` queries.
- **PERCENTILE_CONT DETERMINISTIC:**
Converts `PERCENTILE_CONT` queries to `APPROX_PERCENTILE DETERMINISTIC` queries.
- **PERCENTILE_DISC:**

Converts PERCENTILE_DISC queries to APPROX_PERCENTILE queries.

- PERCENTILE DISC DETERMINISTIC:

Converts PERCENTILE_DISC queries to APPROX_PERCENTILE DETERMINISTIC queries.

- ALL:

Converts both PERCENTILE_CONT queries and PERCENTILE_DISC queries to APPROX_PERCENTILE queries.

- ALL DETERMINISTIC:

Converts both PERCENTILE_CONT and PERCENTILE_DISC queries to APPROX_PERCENTILE DETERMINISTIC queries.

See Also:

- ["APPROX_FOR_AGGREGATION"](#)
- ["APPROX_FOR_COUNT_DISTINCT"](#)
- *Oracle Database SQL Language Reference* for information about APPROX_MEDIAN aggregate functions
- *Oracle Database SQL Language Reference* for information about APPROX_PERCENTILE aggregate functions

2.17 AQ_TM_PROCESSES

AQ_TM_PROCESSES controls time monitoring on queue messages and controls processing of messages with delay and expiration properties specified.

Property	Description
Parameter type	Integer
Default value	1
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	0 to 40
Basic	No

You do not need to specify a value for this parameter because Oracle Database automatically determines the number of processes and autotunes them, as necessary. Therefore, Oracle highly recommends that you leave the AQ_TM_PROCESSES parameter unspecified and let the system autotune.

The default value for AQ_TM_PROCESSES is used if the client does not explicitly set a value for the parameter in the `init.ora` file or using the `ALTER SYSTEM` statement.

**Note:**

If you want to disable the Queue Monitor Coordinator, then you must set `AQ_TM_PROCESSES` to 0 in your parameter file. Oracle strongly recommends that you do NOT set `AQ_TM_PROCESSES` to 0.

**See Also:**

Oracle Database Advanced Queuing User's Guide for more information about this parameter

2.18 ARCHIVE_LAG_TARGET

`ARCHIVE_LAG_TARGET` forces a log switch after the specified amount of time elapses.

Property	Description
Parameter type	Integer
Default value	0 (disabled)
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	0 or any integer in [60, 7200]
Basic	No
Oracle RAC	Multiple instances should use the same value

A 0 value disables the time-based thread advance feature; otherwise, the value represents the number of seconds. Values larger than 7200 seconds are not of much use in maintaining a reasonable lag in the standby database. The typical, or recommended value is 1800 (30 minutes). Extremely low values can result in frequent log switches, which could degrade performance; such values can also make the archiver process too busy to archive the continuously generated logs.

**See Also:**

Oracle Database Administrator's Guide for more information about setting this parameter

2.19 ASM_DISKGROUPS

`ASM_DISKGROUPS` specifies a list of disk group names that an Oracle ASM instance mounts at startup when the `ALTER DISKGROUP ALL MOUNT` statement is issued.

Property	Description
Parameter type	String
Syntax	ASM_DISKGROUPS = <i>diskgroup</i> [, <i>diskgroup</i>] ...
Default value	There is no default value.
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	Comma-separated list of strings, up to 30 characters
Basic	No
Oracle RAC	Multiple instances can have different values.

**Note:**

This parameter may only be specified in an Oracle Automatic Storage Management (Oracle ASM) instance.

The Oracle ASM instance startup process executes `ALTER DISKGROUP ALL MOUNT` unless the `NOMOUNT` startup option is specified.

The `ASM_DISKGROUPS` parameter is dynamic. If you are using a server parameter file (SPFILE), then you do not have to manually alter the value of `ASM_DISKGROUPS` in most situations. Oracle ASM automatically adds a disk group to the parameter when the disk group is successfully created or mounted. Oracle ASM also automatically removes a disk group from the parameter when the disk group is dropped. However, the SPFILE is not updated on a manual dismount.

Issuing the `ALTER DISKGROUP...ALL MOUNT` or `ALTER DISKGROUP...ALL DISMOUNT` command does not affect the value of this parameter.

Supporting Up to 511 Disk Groups for an Oracle ASM Instance

In Oracle Database 12c Release 1 or later, Oracle ASM configurations support up to 511 disk groups. Oracle ASM configurations with Oracle Database releases before 12c Release 1 can only support up to 63 disk groups.

**See Also:**

Oracle Automatic Storage Management Administrator's Guide for more information about and examples of using this parameter

2.20 ASM_DISKSTRING

`ASM_DISKSTRING` specifies an operating system-dependent value used by Oracle ASM to limit the set of disks considered for discovery.

Property	Description
Parameter type	String

Property	Description
Syntax	<code>ASM_DISKSTRING = discovery_string [, discovery_string] ...</code>
Default value	The null string; Oracle Automatic Storage Management discovery finds all disks in an operating system-specific location to which the Oracle Automatic Storage Management instance has read/write access.
Modifiable	<code>ALTER SESSION</code> , <code>ALTER SYSTEM</code>
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	Multiple instances can have different values. Different nodes might see the same disks under different names; however, each instance must be able to use its <code>ASM_DISKSTRING</code> to discover the same physical media as the other nodes in the cluster.

 Note:

This parameter may only be specified in an Oracle Automatic Storage Management (Oracle ASM) instance.

When a new disk is added to a disk group, each Oracle ASM instance that has the disk group mounted must be able to discover the new disk using the value of `ASM_DISKSTRING`.

In most cases, the default value will be sufficient. Using a more restrictive value may reduce the time required for Oracle ASM to perform discovery, and thus improve disk group mount time or the time for adding a disk to a disk group. A "?" at the beginning of the string gets expanded to the Oracle home directory. Depending on the operating system, wildcard characters can be used. It may be necessary to dynamically change `ASM_DISKSTRING` before adding a disk so that the new disk will be discovered.

An attempt to dynamically modify `ASM_DISKSTRING` will be rejected and the old value retained if the new value cannot be used to discover a disk that is in a disk group that is already mounted.

 See Also:

Oracle Automatic Storage Management Administrator's Guide for more information and examples of using this parameter

2.21 ASM_IO_PROCESSES

`ASM_IO_PROCESSES` specifies the number of I/O worker processes to be started in an Oracle IOServer instance.

Property	Description
Parameter type	Integer
Default value	20
Modifiable	<code>ALTER SYSTEM</code>

Property	Description
Modifiable in a PDB	No
Range of values	1 – 32
Basic	No
Oracle RAC	Multiple instances can have different values.

This parameter is applicable only in an Oracle IOServer instance, which runs out of an Oracle Grid Infrastructure home.

The default value should work in most cases. However, under heavy I/O load, there may be some delays associated with posting processes out of I/O waits. In this case, a slightly higher value than the default may be appropriate.

2.22 ASM_POWER_LIMIT

`ASM_POWER_LIMIT` specifies the maximum power on an Oracle ASM instance for disk rebalancing.

Property	Description
Parameter type	Integer
Default value	1
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	No
Range of values	0 to 11 ¹
Basic	No
Oracle RAC	Multiple instances can have different values.

¹ Beginning with Oracle Database 11g Release 2 (11.2.0.2), if the `COMPATIBLE.ASM` disk group attribute is set to 11.2.0.2 or higher, then the range of values is 0 to 1024.

Note:

- This parameter may only be specified in an Oracle Automatic Storage Management (Oracle ASM) instance.
- In an Oracle Exadata or Oracle Data Appliance environment, you cannot set this parameter to 0.

The higher the limit, the faster rebalancing will complete. Lower values will take longer, but consume fewer processing and I/O resources.

If the `POWER` clause of a rebalance operation is not specified, then the default power will be the value of `ASM_POWER_LIMIT`.

**See Also:**

Oracle Automatic Storage Management Administrator's Guide for more information about using this parameter

2.23 ASM_PREFERRED_READ_FAILURE_GROUPS

ASM_PREFERRED_READ_FAILURE_GROUPS specifies the failure groups that contain preferred read disks. Preferred disks are instance specific.

Property	Description
Parameter type	String
Syntax	ASM_PREFERRED_READ_FAILURE_GROUPS = '<diskgroup_name>.<failure_group_name>, ...'
Default value	NULL
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Basic	No
Oracle RAC	The value is different on different nodes

**Note:**

The ASM_PREFERRED_READ_FAILURE_GROUPS initialization parameter is deprecated in Oracle Database 12c Release 2 (12.2.0.1) and may be desupported in a future release. It is replaced by the PREFERRED_READ.ENABLED disk group attribute.

See *Oracle Automatic Storage Management Administrator's Guide* for more information about the PREFERRED_READ.ENABLED disk group attribute.

To reset the parameter value to null, issue the following statement, which updates the server parameter file (SP file), then reboot Oracle ASM so that the change takes effect:

```
alter system reset asm_preferred_read_failure_groups;
```

**See Also:**

Oracle Automatic Storage Management Administrator's Guide for more information about this parameter

2.24 AUDIT_FILE_DEST

`AUDIT_FILE_DEST` specifies the operating system directory into which the audit trail is written when the `AUDIT_TRAIL` initialization parameter is set to **os**, **xml**, or **xml,extended**.



Note:

This parameter is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored. However, you cannot create new traditional audit settings. You can delete existing traditional audit settings. See *Oracle Database Security Guide* for more information about how this desupport works.

Property	Description
Parameter type	String
Syntax	<code>AUDIT_FILE_DEST = 'directory'</code>
Default value	The first default value is: <code>ORACLE_BASE/admin/ORACLE_SID/adump</code> The second default value, which is used if the first default value does not exist or is unusable, is: <code>ORACLE_HOME/rdbms/audit</code> Both of these default values are for UNIX systems. Other platforms may have different defaults. In a multitenant container database (CDB), both of these default values will be appended with the GUID of the pluggable database (PDB) to store audit records that belong to the PDB. For example, if the PDB's GUID is <code>03E1F908EE04252CE053B280E80AAAA3</code>, the first default directory will be: <code>ORACLE_BASE/admin/ORACLE_SID/adump/ 03E1F908EE04252CE053B280E80AAAA3</code> You can use the <code>V\$CONTAINERS</code> view to query a PDB's GUID.
Modifiable	<code>ALTER SYSTEM ... DEFERRED</code>
Modifiable in a PDB	No
Basic	No

The audit records will be written in XML format if the `AUDIT_TRAIL` initialization parameter is set to **xml** or **xml, extended**. It is also the location to which mandatory auditing information is written and, if so specified by the `AUDIT_SYS_OPERATIONS` initialization parameter, audit records for user `SYS`.

In a multitenant container database (CDB), the scope of the settings for this initialization parameter is the CDB. Although the audit trail is provided per pluggable database (PDB) in a CDB, this initialization parameter cannot be configured for individual PDBs.

 See Also:

- *Oracle Multitenant Administrator's Guide* for conceptual information about CDBs and PDBs
- *Oracle Multitenant Administrator's Guide* for information about managing CDBs and PDBs
- "V\$CONTAINERS"
- "V\$PDBS"

2.25 AUDIT_SYS_OPERATIONS

AUDIT_SYS_OPERATIONS enables or disables the auditing of directly issued user SQL statements with SYS authorization. These include SQL statements directly issued by users when connected with the SYSASM, SYSBACKUP, SYSDBA, SYSDG, SYSKM, or SYSOPER privileges, as well as SQL statements that have been executed with SYS authorization using the PL/SQL package DBMS_SYS_SQL.

 Note:

This parameter is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored. However, you cannot create new traditional audit settings. You can delete existing traditional audit settings. See *Oracle Database Security Guide* for more information about how this desupport works.

Property	Description
Parameter type	Boolean
Default value	FALSE
Modifiable	No
Modifiable in a PDB	No
Range of values	TRUE FALSE
Basic	No

The audit records are written to the operating system's audit trail. The audit records will be written in XML format if the AUDIT_TRAIL initialization parameter is set to xml or xml, extended

On UNIX platforms, if the AUDIT_SYSLOG_LEVEL parameter has also been set, then it overrides the AUDIT_TRAIL parameter and SYS audit records are written to the system audit log using the SYSLOG utility.

In a CDB, the scope of the settings for this initialization parameter is the CDB. Although the audit trail is provided per PDB in a CDB, this initialization parameter cannot be configured for individual PDBs.

2.26 AUDIT_SYSLOG_LEVEL

AUDIT_SYSLOG_LEVEL allows SYS and standard OS audit records to be written to the system audit log using the SYSLOG utility.



Note:

This parameter is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored. However, you cannot create new traditional audit settings. You can delete existing traditional audit settings. See *Oracle Database Security Guide* for more information about how this desupport works.

Property	Description
Parameter type	String
Syntax	AUDIT_SYSLOG_LEVEL = 'facility_clause.priority_clause'
Syntax	facility_clause::= { USER LOCAL[0 1 2 3 4 5 6 7] SYSLOG DAEMON KERN MAIL AUTH LPR NEWS UUCP CRON }
Syntax	priority_clause::= { NOTICE INFO DEBUG WARNING ERR CRIT ALERT EMERG }
Default value	There is no default value.
Modifiable	No
Modifiable in a PDB	No
Basic	No
Examples	AUDIT_SYSLOG_LEVEL = 'KERN.EMERG'; AUDIT_SYSLOG_LEVEL = 'LOCAL1.WARNING';

If you use this parameter, it is best to assign a file corresponding to every combination of facility and priority (especially KERN.EMERG) in `syslog.conf`. Sometimes these are assigned to print to the console in the default `syslog.conf` file. This can become annoying and will be useless as audit logs. Also, if you use this parameter, it is best to set the maximum length of syslog messages in the system to 512 bytes.



Note:

Audit records written to the system audit log could get truncated to 512 bytes, and different parts of the same audit record may not be joined to get the original complete audit record.

**See Also:**

Oracle Database Security Guide for information about configuring syslog auditing

If `AUDIT_SYSLOG_LEVEL` is set and SYS auditing is enabled (`AUDIT_SYS_OPERATIONS = TRUE`), then SYS audit records are written to the system audit log. If `AUDIT_SYSLOG_LEVEL` is set and standard audit records are being sent to the operating system (`AUDIT_TRAIL = os`), then standard audit records are written to the system audit log.

In a CDB, the scope of the settings for this initialization parameter is the CDB. Although the audit trail is provided per PDB in a CDB, this initialization parameter cannot be configured for individual PDBs.

2.27 AUDIT_TRAIL

`AUDIT_TRAIL` enables or disables database auditing.

**Note:**

This parameter is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored. However, you cannot create new traditional audit settings. You can delete existing traditional audit settings. See *Oracle Database Security Guide* for more information about how this desupport works.

Property	Description
Parameter type	String
Syntax	<code>AUDIT_TRAIL = { none os db [, extended] xml [, extended] }</code>
Default value	<code>none</code>
Modifiable	No
Modifiable in a PDB	No
Basic	No

Values

- `none`
Disables standard auditing. This value is the default if the `AUDIT_TRAIL` parameter was not set in the initialization parameter file or if you created the database using a method other than Database Configuration Assistant. If you created the database using Database Configuration Assistant, then the default is `db`.
- `os`
Directs all audit records to an operating system file. Oracle recommends that you use the `os` setting, particularly if you are using an ultra-secure database configuration.
- `db`

Directs audit records to the database audit trail (the `SYS.AUD$` table), except for records that are always written to the operating system audit trail. Use this setting for a general database for manageability.

If the database was started in read-only mode with `AUDIT_TRAIL` set to `db`, then Oracle Database internally sets `AUDIT_TRAIL` to `os`. Check the alert log for details.

- `db, extended`

Performs all actions of `AUDIT_TRAIL=db`, and also populates the SQL bind and SQL text CLOB-type columns of the `SYS.AUD$` table, when available. These two columns are populated only when this parameter is specified. When standard auditing is used with `DB`, `EXTENDED`, then virtual private database (VPD) predicates and policy names are also populated in the `SYS.AUD$` table.

If the database was started in read-only mode with `AUDIT_TRAIL` set to `db, extended`, then Oracle Database internally sets `AUDIT_TRAIL` to `os`. Check the alert log for details.

- `xml`

Writes to the operating system audit record file in XML format. Records all elements of the `AuditRecord` node except `Sql_Text` and `Sql_Bind` to the operating system XML audit file.

- `xml, extended`

Performs all actions of `AUDIT_TRAIL=xml`, and includes SQL text and SQL bind information in the audit trail.

You can use the SQL `AUDIT` statement to set auditing options regardless of the setting of this parameter.

In a CDB, the scope of the settings for this initialization parameter is the CDB. Although the audit trail is provided per PDB in a CDB, this initialization parameter cannot be configured for individual PDBs.

Examples

The following statement sets the `db, extended` value for the `AUDIT_TRAIL` parameter. The new value takes effect after the database is restarted.

```
SQL> alter system set AUDIT_TRAIL=db, extended scope=spfile;
```

System altered.

```
SQL>
```

The following statement sets the `xml, extended` value for the `AUDIT_TRAIL` parameter. The new value takes effect after the database is restarted.

```
SQL> alter system set AUDIT_TRAIL=xml, extended scope=spfile;
```

System altered.

```
SQL>
```

The following statement sets the `db` value for the `AUDIT_TRAIL` parameter. The new value takes effect after the database is restarted.

```
SQL> alter system set AUDIT_TRAIL=db scope=spfile;
```

System altered.

```
SQL>
```

 See Also:

- *Oracle Database Security Guide* for information about configuring unified audit policies
- *Oracle Database Upgrade Guide* to learn more about traditional non-unified auditing

2.28 AUTOTASK_MAX_ACTIVE_PDBS

`AUTOTASK_MAX_ACTIVE_PDBS` enables you to specify the maximum number of PDBs that can schedule automated maintenance tasks at the same time (during a maintenance window).

Property	Description
Parameter type	Integer
Default value	2
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	0 to the number of PDBs in the CDB
Basic	No
Oracle RAC	The same value should be used on all instances.

This parameter only affects PDBs. The CDB\$ROOT container (CDB root) for a CDB can always schedule and run maintenance tasks during a maintenance window.

The default value is 2. Therefore, by default, two PDBs and the CDB root can run tasks at the same time during a maintenance window.

This parameter can be set only in the CDB root, not in a PDB.

 See Also:

- ["ENABLE_AUTOMATIC_MAINTENANCE_PDB"](#) for information on disabling or enabling the running of automated maintenance tasks for specific PDBs or for all the PDBs in CDB
- *Oracle Database Administrator's Guide* for more information about managing automated database maintenance tasks

2.29 AWR_PDB_AUTOFLUSH_ENABLED

`AWR_PDB_AUTOFLUSH_ENABLED` enables you to specify whether to enable or disable automatic Automatic Workload Repository (AWR) snapshots for all the PDBs in a CDB or for individual PDBs in a CDB.

Property	Description
Parameter type	Boolean
Default value	true
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	true false
Basic	No
Oracle RAC	The same value must be used on all instances.

Note:

The value of this parameter in `CDB$ROOT` (the root of a CDB) has no effect in the root. Automatic AWR snapshots are always enabled in the root, regardless of the setting of this parameter.

The default value of `AWR_PDB_AUTOFLUSH_ENABLED` is `true`. Thus, by default, automatic AWR snapshots are enabled for all the PDBs in a CDB.

When you change the value of `AWR_PDB_AUTOFLUSH_ENABLED` in the CDB root, the new value takes effect in all the PDBs in the CDB.

Therefore, if you change the value of `AWR_PDB_AUTOFLUSH_ENABLED` in the CDB root to `false`, the value of `AWR_PDB_AUTOFLUSH_ENABLED` is also changed to `false` in all of the PDBs, so that automatic AWR snapshots are disabled for all the PDBs.

You can also change the value of `AWR_PDB_AUTOFLUSH_ENABLED` in any of the individual PDBs in a CDB, and the value that is set for each individual PDB will be honored. This enables you to enable or disable automatic AWR snapshots for individual PDBs.

When a new PDB is created, or a PDB from a previous database release is upgraded to the current database release, automatic AWR snapshots are enabled or disabled for the PDB based on the current value of `AWR_PDB_AUTOFLUSH_ENABLED` in the root.

See Also:

- *Oracle Database Performance Tuning Guide* for more information about Automatic Workload Repository (AWR)
- *Oracle Database Performance Tuning Guide* for more information about AWR snapshots

2.30 AWR_PDB_MAX_PARALLEL_SLAVES

`AWR_PDB_MAX_PARALLEL_SLAVES` enables a DBA to allocate the correct amount of resources to enable quick and timely Automatic Workload Repository (AWR) flushes for multitenant container databases (CDBs).

Property	Description
Parameter type	Integer
Default value	10
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	1 – 30
Basic	No
Oracle RAC	Different instances can use different values.

Use `AWR_PDB_MAX_PARALLEL_SLAVES` to control the amount of resources dedicated to AWR snapshot flushing in pluggable databases (PDBs). With this parameter, a DBA can modify the maximum number of MMON worker processes (*Mnnn* background processes) that can concurrently be used to handle AWR flush operations for the entire CDB.

For CDBs with a large number of PDBs enabled to create automatic AWR snapshots, a DBA can increase this parameter to enable timely AWR flushing. For CDBs with a small number of PDBs enabled, the value of this parameter can be decreased to reduce the concurrency and the chance of performance spikes.

Note that this parameter is set in the root of a CDB and determines the maximum degree of parallelism used to create AWR automatic snapshots for PDBs.

See Also:

- "[AWR_PDB_AUTOFLUSH_ENABLED](#)" for information about enabling the automatic creation of AWR PDB snapshots
- *Oracle Database Performance Tuning Guide* for an introduction to AWR
- "[Background Processes](#)" for more information about the MMON and *Mnnn* background processes

2.31 AWR_SNAPSHOT_TIME_OFFSET

`AWR_SNAPSHOT_TIME_OFFSET` specifies an offset for the Automatic Workload Repository (AWR) snapshot start time.

Property	Description
Parameter type	Integer
Default value	There is no offset by default.

Property	Description
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	0 - 3599, or the special value 1000000
Basic	No
Oracle RAC	Multiple instances should use the same value

AWR snapshots normally start at the top of the hour (12:00, 1:00, 2:00, and so on). This parameter allows DBAs to specify an offset for the AWR snapshot start time.

This is a useful parameter to avoid CPU spikes from multiple instances all starting their AWR snapshots at the same time. If you have a large system with many instances on it (like many Exadata installations), and you are experiencing such CPU spikes, this parameter can be very useful.

The parameter is specified in seconds. Normally, you set it to a value less than 3600. If you set the special value 1000000 (1,000,000), you get an automatic mode, in which the offset is based on the database name.

The automatic mode is an effective way of getting a reasonable distribution of offset times when you have a very large number of instances running on the same node.

2.32 BACKGROUND_CORE_DUMP

`BACKGROUND_CORE_DUMP` specifies whether Oracle includes the SGA in the core file for Oracle background processes.

Property	Description
Parameter type	String
Syntax	<code>BACKGROUND_CORE_DUMP = { partial full }</code>
Default value	<code>partial</code>
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Basic	No

Values

- `partial`
Oracle does not include the SGA in the core dump.
- `full`
Oracle includes the SGA in the core dump.



See Also:

["SHADOW_CORE_DUMP"](#)

2.33 BACKGROUND_DUMP_DEST

BACKGROUND_DUMP_DEST specifies the pathname (directory or disc) where debugging trace files for the background processes (LGWR, DBWn, and so on) are written during Oracle operations.

Property	Description
Parameter type	String
Syntax	BACKGROUND_DUMP_DEST = { <i>pathname</i> <i>directory</i> }
Default value	Operating system-dependent
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	Any valid local path, directory, or disk
Basic	No



Note:

The BACKGROUND_DUMP_DEST parameter is deprecated in Oracle Database 12c Release 1 (12.1.0.1).

An **alert log** in the directory specified by BACKGROUND_DUMP_DEST logs significant database events and messages. Anything that affects the database instance or global database is recorded here. The alert log is a normal text file. Its file name is operating system-dependent. For platforms that support multiple instances, it takes the form `alert_sid.log`, where *sid* is the system identifier. This file grows slowly, but without limit, so you might want to delete it periodically. You can delete the file even when the database is running.



Note:

This parameter is ignored by the diagnosability infrastructure introduced in Oracle Database 11g Release 1 (11.1), which places trace and core files in a location controlled by the DIAGNOSTIC_DEST initialization parameter.



See Also:

- *Oracle Database Administrator's Guide* for more information on the DIAGNOSTIC_DEST initialization parameter
- "[USER_DUMP_DEST](#)" for information on setting a destination for server process trace files

2.34 BACKUP_TAPE_IO_SLAVES

BACKUP_TAPE_IO_SLAVES specifies whether I/O server processes are used by Recovery Manager to back up, copy, or restore data to tape.

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	ALTER SYSTEM ... DEFERRED
Modifiable in a PDB	No
Range of values	true false
Basic	No

When the value is set to `true`, Oracle uses an I/O server process to write to or read from a tape device. When the value is set to `false` (the default), Oracle does not use I/O server process for backups. Instead, the shadow process engaged in the backup accesses the tape device.



Note:

You cannot perform duplexed backups unless you enable this parameter. Otherwise, Oracle returns an error. When this parameter is enabled, Recovery Manager will configure as many server processes as needed for the number of backup copies requested.



See Also:

- *Oracle Database Backup and Recovery User's Guide* for more information on duplexed backups
- ["DBWR_IO_SLAVES"](#)

2.35 BITMAP_MERGE_AREA_SIZE

BITMAP_MERGE_AREA_SIZE specifies the amount of memory Oracle uses to merge bitmaps retrieved from a range scan of the index.

Property	Description
Parameter type	Integer
Default value	1048576 (1 MB)
Modifiable	No
Modifiable in a PDB	Yes

Property	Description
Range of values	Operating system-dependent
Basic	No

**Note:**

Oracle does not recommend using the `BITMAP_MERGE_AREA_SIZE` parameter unless the instance is configured with the shared server option. Oracle recommends that you enable automatic sizing of SQL working areas by setting `PGA_AGGREGATE_TARGET` instead. `BITMAP_MERGE_AREA_SIZE` is retained for backward compatibility.

`BITMAP_MERGE_AREA_SIZE` is relevant only for systems containing bitmap indexes. A larger value usually improves performance, because the bitmap segments must be sorted before being merged into a single bitmap.

**See Also:**

Oracle Database SQL Tuning Guide for more information on using bitmap indexes for performance

2.36 BLANK_TRIMMING

`BLANK_TRIMMING` specifies the data assignment semantics of character datatypes.

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	No
Modifiable in a PDB	Yes
Range of values	true false
Basic	No

Values

- TRUE

Allows the data assignment of a source character string or variable to a destination character column or variable even though the source length is longer than the destination length. In this case, however, the additional length over the destination length must be all blanks, else an exception condition is raised. This value complies with the semantics of SQL-92 Transitional Level and above.

- FALSE

Disallows the data assignment if the source length is longer than the destination length and reverts to SQL92 Entry Level semantics.

**See Also:**

Oracle Database Globalization Support Guide for more information on how using this parameter can help prevent data truncation issues during character set migration

2.37 BLOCKCHAIN_TABLE_MAX_NO_DROP

`BLOCKCHAIN_TABLE_MAX_NO_DROP` lets you control the maximum amount of idle time that can be specified when creating a blockchain table or an immutable table. The idle time represents the length of time the table must be inactive before it can be dropped. When explicitly set by a user, the only value allowed for this parameter is 0.

Property	Description
Parameter type	Integer
Default value	None
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	None or 0
Basic	No
Oracle RAC	The same value must be used on all instances.

When creating a blockchain table or an immutable table with the SQL statement `CREATE TABLE`, you can specify the clause `NO DROP UNTIL number DAYS IDLE`. This clause specifies the number of days the table must be inactive before it can be dropped, that is, the number of days that must pass after the most recent row insertion before the table can be dropped.

- If `BLOCKCHAIN_TABLE_MAX_NO_DROP` is set to 0, then when a user creates a blockchain table or an immutable table, and specifies the `NO DROP UNTIL number DAYS IDLE` clause, the value of *number* must be 0:

```
CREATE BLOCKCHAIN TABLE ... NO DROP UNTIL 0 DAYS IDLE ...  
CREATE IMMUTABLE TABLE ... NO DROP UNTIL 0 DAYS IDLE ...
```

This allows the table to be dropped at any time, regardless of how long the table has been inactive.

- If `BLOCKCHAIN_TABLE_MAX_NO_DROP` is not set, then when a user creates a blockchain table or an immutable table, and specifies the `NO DROP UNTIL number DAYS IDLE` clause, any number value can be specified for *number*.

**See Also:**

Oracle Database SQL Language Reference for information about the `CREATE TABLE` statement

2.38 BLOCKCHAIN_TABLE_RETENTION_THRESHOLD

`BLOCKCHAIN_TABLE_RETENTION_THRESHOLD` lets you control the maximum amount of idle time that can be specified when a database user without the `TABLE RETENTION` system privilege creates or alters a blockchain table or an immutable table.

Property	Description
Parameter type	Integer
Default value	16
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	0 to 365,000
Basic	No
Oracle RAC	The same value must be used on all instances.

The idle time for a non-empty blockchain table or a non-empty immutable table represents the length of time (in days) the table must be inactive before it can be dropped.



Note:

This parameter is available starting with Oracle Database 23ai.

2.39 CIRCUITS

`CIRCUITS` specifies the total number of virtual circuits that are available for inbound and outbound network sessions.

Property	Description
Parameter type	Integer
Default value	4294967295
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Basic	No

It is one of several parameters that contribute to the total SGA requirements of an instance.

You should not specify a value for this parameter unless you want to limit the number of virtual circuits.

**See Also:**

- *Oracle Database Concepts* for more information on memory structures
- *Oracle Database Concepts* for more information on processes

2.40 CLIENT_RESULT_CACHE_LAG

`CLIENT_RESULT_CACHE_LAG` specifies the maximum time (in milliseconds) since the last round trip to the server, before which the OCI client query execute makes a round trip to get any database changes related to the queries cached on the client.

Property	Description
Parameter type	Big integer
Syntax	<code>CLIENT_RESULT_CACHE_LAG = integer</code>
Default value	3000
Modifiable	No
Modifiable in a PDB	Yes
Range of values	0 to operating system-dependent
Basic	No

**See Also:**

Oracle Call Interface Developer's Guide for more information about the client query cache feature

2.41 CLIENT_RESULT_CACHE_SIZE

`CLIENT_RESULT_CACHE_SIZE` specifies the maximum size of the client per-process result set cache (in bytes).

Property	Description
Parameter type	Big integer
Syntax	<code>CLIENT_RESULT_CACHE_SIZE = integer [K M G]</code>
Default value	0
Modifiable	No
Modifiable in a PDB	Yes
Range of values	0 to operating system-dependent
Basic	No

All OCI client processes inherit this maximum size. Setting a nonzero value enables the client query cache feature. This can be overridden by the client configuration parameter `OCI_RESULT_CACHE_MAX_SIZE`.

**See Also:**

Oracle Call Interface Developer's Guide for more information about the client query cache feature

2.42 CLIENT_STATISTICS_LEVEL

`CLIENT_STATISTICS_LEVEL` controls whether database clients report network statistics to the database.

This parameter applies only to clients that use Oracle Call Interface (OCI) to connect to the database.

Property	Description
Parameter type	String
Syntax	<code>CLIENT_STATISTICS_LEVEL = { TYPICAL OFF }</code>
Default value	TYPICAL
Modifiable	<code>ALTER SYSTEM ... DEFERRED</code>
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	The same value must be used on all instances.

Database clients sometimes have performance issues when interacting with the database over a network (LAN or WAN). You can use this parameter to enable clients to collect network statistics and periodically send them to the database, where the statistics are displayed in `AWR` and `V$` views. These statistics include TCP and SQL*Net statistics. They complement existing database statistics and can be used to analyze, troubleshoot, and tune potential network performance or configuration issues.

Possible values:

- TYPICAL

This setting enables clients to collect network statistics and periodically send them to the database.

- OFF

This setting disables this feature. Clients will not send network statistics to the database.

When you modify this parameter, the new setting applies only to subsequent new connections to database clients.

**Note:**

To view a complete listing of the statistics that are collected and reported when this feature is enabled, issue the following SQL statement:

```
SELECT name FROM V$STATNAME
       WHERE name LIKE 'Client%' ORDER BY name;

NAME
-----
Client Advertised Receive Window
Client Advertised Send Window
Client Data Segments In
Client Data Segments Out
Client Lost Packets
Client Path Maximum Transmission Unit(MTU)
Client Send Congestion Window
Client Time (usec) Busy Sending Data
Client Time (usec) Busy Sending Data under Congestion
Client Time (usec) Last Ack Received
Client Time (usec) Last Ack Sent
Client Time (usec) Last Data Received
Client Time (usec) Last Data Sent
Client Time (usec) Limited by Receive Window
Client Time (usec) Limited by Send Buffer
Client Time (usec) Round Trip Time
Client Time (usec) Round Trip Time Variance
Client Total Bytes Acked
Client Total Bytes Received
Client Total Number of Retransmitted Packets
```

2.43 CLONEDB

CLONEDB should be set on Direct NFS Client CloneDB databases. When this parameter is set, the CloneDB database uses the database backup as the backing store for the datafiles.

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	No
Modifiable in a PDB	No
Range of values	true false
Basic	No
Oracle RAC	The same value should be set for all instances.

**See Also:**

- See *Oracle Database Administrator's Guide* for more information about cloning databases on network attached storage (NAS).
- ["CLONEDB_DIR"](#)

2.44 CLONEDB_DIR

CLONEDB_DIR sets the directory path where CloneDB bitmap files should be created and accessed.

Property	Description
Parameter type	String
Syntax	CLONEDB_DIR = <i>string</i>
Default value	\$ORACLE_HOME/dbs
Modifiable	No
Modifiable in a PDB	No
Basic	No
Oracle RAC	In an Oracle RAC environment, this parameter should be set to a shared location that is accessible from all the instances.

By default the CloneDB bitmap file is created under the \$ORACLE_HOME/dbs directory. This directory may not be in a shared location in an Oracle RAC environment, and therefore this parameter is provided to identify a shared location where CloneDB specific files can be created.

**See Also:**

["CLONEDB"](#)

2.45 CLUSTER_DATABASE

CLUSTER_DATABASE is an Oracle RAC parameter that specifies whether Oracle RAC is enabled.

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	No
Modifiable in a PDB	No
Range of values	true false
Basic	Yes
Oracle RAC	For all instances, the value must be set to true.

**See Also:**

Oracle Real Application Clusters Administration and Deployment Guide for an introduction to Oracle RAC

2.46 CLUSTER_INTERCONNECTS

CLUSTER_INTERCONNECTS can be used in Oracle Real Application Clusters environments to indicate cluster interconnects available for use for the database traffic.

Property	Description
Parameter type	String
Syntax	CLUSTER_INTERCONNECTS = <i>ifn</i> [: <i>ifn</i>] ...
Default value	There is no default value.
Modifiable	No
Modifiable in a PDB	No
Range of values	One or more IP addresses, separated by colons
Basic	No

Use this parameter to override the default interconnect configured for the database traffic, which is stored in the cluster registry. This procedure also may be useful with Data Warehouse systems that have reduced availability requirements and high interconnect bandwidth demands.

CLUSTER_INTERCONNECTS specifically overrides the following:

- Network classifications stored by `oifcfg` in the OCR.
- The default interconnect chosen by Oracle.

If you want to load-balance the interconnect, then Oracle recommends that you use link-bonding at the operating system level, even if you have two databases on the same server, so that multiple interconnects use the same address. Note that multiple private addresses provide load balancing, but do not provide failover unless bonded. If you specify multiple addresses in `init.ora` using CLUSTER_INTERCONNECTS, instead of bonding multiple addresses at the operating system level, then typically availability is reduced, because each network interface card failure will take down that instance.

Refer to your vendor documentation for information about bonding interfaces. Some vendor bonding architectures may require the use of this parameter.

If you have multiple database instances on Oracle Real Application Clusters nodes and want to use a specific interface for each instance, then you can set the CLUSTER_INTERCONNECTS initialization parameter to the IP address for each database instance. For example:

```
hr1.init.ora.cluster_interconnects="192.0.2.111"
oltp3.init.ora.cluster_interconnects="192.0.2.112"
```

If the Oracle RAC interconnect is configured to run on a different interface than the Oracle Clusterware interconnect, then this configuration can cause reduced availability, as failovers or instance evictions can be delayed if the Oracle RAC interconnect fails while the Oracle Clusterware NIC remains up.

**See Also:**

Oracle Real Application Clusters Administration and Deployment Guide for additional information about using `CLUSTER_INTERCONNECTS`

2.47 COMMIT_LOGGING

`COMMIT_LOGGING` is an advanced parameter used to control how redo is batched by Log Writer.

Property	Description
Parameter type	String
Syntax	<code>COMMIT_LOGGING = { IMMEDIATE BATCH }</code>
Default value	There is no default value.
Modifiable	Yes (at both session-level and system-level)
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	Each instance may have its own setting

If `COMMIT_LOGGING` is altered after setting `COMMIT_WAIT` to `FORCE_WAIT`, then the `FORCE_WAIT` option is no longer valid.

2.48 COMMIT_POINT_STRENGTH

`COMMIT_POINT_STRENGTH` specifies a value that determines the **commit point site** in a distributed transaction.

Property	Description
Parameter type	Integer
Default value	1
Modifiable	No
Modifiable in a PDB	Yes
Range of values	0 to 255
Basic	No

**Note:**

This parameter is relevant only in distributed database systems.

The node in the transaction with the highest value for `COMMIT_POINT_STRENGTH` will be the commit point site.

The commit point site of a database should reflect the amount of critical shared data in the database. For example, a database on a mainframe computer typically shares more data

among users than one on a personal computer. Therefore, `COMMIT_POINT_STRENGTH` should be set to a higher value for the mainframe computer.

The commit point site stores information about the status of transactions. Other computers in a distributed transaction require this information during Oracle's two-phase commit, so it is desirable to have machines that are always available as commit point sites. Therefore, set `COMMIT_POINT_STRENGTH` to a higher value on your more available machines.

See Also:

- *Oracle Database Concepts* and *Oracle Database Administrator's Guide* for information on two-phase commit
- Your operating system-specific Oracle documentation for the default value of this parameter

2.49 COMMIT_WAIT

`COMMIT_WAIT` is an advanced parameter used to control when the redo for a commit is flushed to the redo logs.

Property	Description
Parameter type	String
Syntax	<code>COMMIT_WAIT = { NOWAIT WAIT FORCE_WAIT }</code>
Default value	There is no default value.
Modifiable	Yes (at both session-level and system-level)
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	Each instance may have its own setting

Be aware that the `NOWAIT` option can cause a failure that occurs after the database receives the commit message, but before the redo log records are written. This can falsely indicate to a transaction that its changes are persistent. Also, it can violate the durability of ACID (Atomicity, Consistency, Isolation, Durability) transactions if the database shuts down unexpectedly.

If the parameter is set to `FORCE_WAIT`, the default behavior (immediate flushing of the redo log buffer with wait) is used. If this is a system setting, the session level and transaction level options will be ignored. If this is a session level setting, the transaction level options will be ignored. If `COMMIT_WAIT` is altered after it has been set to `FORCE_WAIT`, then the `FORCE_WAIT` option is no longer valid.

2.50 COMMIT_WRITE

`COMMIT_WRITE` is an advanced parameter used to control how redo for transaction commits is written to the redo logs.

Property	Description
Parameter type	String

Property	Description
Syntax	<code>COMMIT_WRITE = '{IMMEDIATE BATCH},{WAIT NOWAIT}'</code>
Default value	If this parameter is not explicitly specified, then database commit behavior defaults to writing commit records to disk before control is returned to the client. If only <code>IMMEDIATE</code> or <code>BATCH</code> is specified, but not <code>WAIT</code> or <code>NOWAIT</code>, then <code>WAIT</code> mode is assumed. If only <code>WAIT</code> or <code>NOWAIT</code> is specified, but not <code>IMMEDIATE</code> or <code>BATCH</code>, then <code>IMMEDIATE</code> mode is assumed. Be aware that the <code>NOWAIT</code> option can cause a failure that occurs after the database receives the commit message, but before the redo log records are written. This can falsely indicate to a transaction that its changes are persistent. Also, it can violate the durability of ACID (Atomicity, Consistency, Isolation, Durability) transactions if the database shuts down unexpectedly.
Modifiable	Yes (at both session-level and system-level). Values supplied for <code>COMMIT_WRITE</code> in an <code>ALTER SYSTEM</code> or <code>ALTER SESSION</code> statement must be separated by a comma.
Modifiable in a PDB	Yes
Range of values	Single-quoted, comma-separated list of either <code>IMMEDIATE</code> or <code>BATCH</code> , and either <code>WAIT</code> or <code>NOWAIT</code> .
Basic	No
Oracle RAC	Each instance may have its own setting

The `IMMEDIATE` and `BATCH` options control how redo is batched by Log Writer. The `WAIT` and `NOWAIT` options control when the redo for a commit is flushed to the redo logs.



Note:

The `COMMIT_WRITE` parameter is deprecated. It is retained for backward compatibility only. It is replaced by the `COMMIT_LOGGING` and `COMMIT_WAIT` parameters.

2.51 COMMON_USER_PREFIX

`COMMON_USER_PREFIX` specifies a prefix that the names of common users, roles, and profiles in a multitenant container database (CDB) must start with.

Property	Description
Parameter type	String
Syntax	<code>COMMON_USER_PREFIX = prefix</code>
Default value	In a CDB root, <code>C##</code> is the default value. In an application root, the empty string is the default value.
Modifiable	No
Modifiable in a PDB	No However, you can modify this parameter in an application root.
Basic	No

Property	Description
Oracle RAC	Multiple instances must have the same value

Names of local users, roles, and profiles must not start with the same prefix. A case-insensitive comparison of the prefixes for user, role, and profile names to the value of this parameter is done.

When a value is set for `COMMON_USER_PREFIX`, Oracle will require that the names of common users, roles, and profiles start with the string assigned to this parameter.

The names of users, roles, and profiles created using this prefix must be valid names.

Regardless of the value of the `COMMON_USER_PREFIX` parameter, the names of local users, roles, and profiles cannot start with `C##`. Similarly, the names of application common users and local users in an application PDB cannot start with `C##`.

 Caution:

You can change the value of the `COMMON_USER_PREFIX` parameter, but do so only with great care.

If `COMMON_USER_PREFIX` is set to an empty string, Oracle will *not* enforce any restrictions on the names of common or local users, roles, and profiles.

Setting this parameter to an empty string will result in no restrictions being placed on names of common and local users, roles, and profiles, which could lead to conflicts between the names of local and common users, roles, and profiles when a PDB is plugged into a different CDB, or when opening a PDB that was closed when a common user was created.

 Note:

`COMMON_USER_PREFIX` can be set in the context of an application container.

If you set `COMMON_USER_PREFIX` in the application root to a non-null value, then the application common user should start with that prefix, and a local user created in an application PDB cannot start with that prefix.

By default, `COMMON_USER_PREFIX` is the empty string in an application root.

 Note:

When you query the `V$PARAMETER` or `V$SYSTEM_PARAMETER` view, a value of `NONE` is returned for the `DEFAULT_VALUE` column for the `COMMON_USER_PREFIX` parameter.

However, the database enforces a default value of `C##` for a CDB root and a default value of the empty string for an application root.

 See Also:

- *Oracle Database SQL Language Reference* for information about valid user names
- *Oracle Database SQL Language Reference* for information about valid role names
- *Oracle Database SQL Language Reference* for information about valid profile names
- *Oracle Multitenant Administrator's Guide* for more information about the multitenant architecture

2.52 COMPATIBLE

`COMPATIBLE` enables you to use a new release of Oracle while ensuring the ability to downgrade the database to an earlier release.

Property	Description
Parameter type	String
Syntax	<code>COMPATIBLE = release_number</code>
Default value	Oracle Database 23ai (initial release): 23.4.0 Oracle Database 23ai, Release Update 23.5: 23.5.0 Oracle Database 23ai, Release Update 23.6: 23.6.0
Modifiable	No
Modifiable in a PDB	No
Range of values	19.0.0 to default release Values must be specified as at least three decimal numbers with each number separated by a dot, such as 23.4.0 or 23.4.0.0
Basic	Yes
Oracle RAC	Multiple instances must have the same value.

The `COMPATIBLE` parameter specifies the Oracle version number that the database disk format must be compatible with. The database can be downgraded to the version specified in the `COMPATIBLE` parameter or any later version.

Setting `COMPATIBLE` ensures that new features do not write data formats or structures to disk that are not compatible with the earlier release, preventing a future downgrade. Features that require a higher value of `COMPATIBLE` to work correctly may be restricted or disabled to ensure downgrades are possible.

Typically, users keep `COMPATIBLE` unchanged when upgrading their Oracle software. After upgrade, users will run the new release of the Oracle software for a few weeks to ensure that the new release is working correctly. Afterwards, users can choose to update `COMPATIBLE` to the latest version to take advantage of the new features.

The following Release Update guidelines apply:

- For Oracle Database 21c, Oracle Database 19c, and Oracle Database 18c:

The value of the `COMPATIBLE` parameter should not be changed for a Release Update (RU) or Release Update Revision (RUR). For example, assume you are running Oracle Database 21c and the value of `COMPATIBLE` is 21.0.0. You then apply Oracle Database 21c, Release Update 21.4. Do not set the value of `COMPATIBLE` to 21.4.0; leave it set to 21.0.0.

- For Oracle Database 23ai:

The value of the `COMPATIBLE` parameter should not be changed for an RUR. The value of the `COMPATIBLE` parameter should be changed for an RU only under the following circumstance: You are running the Oracle Database 23ai initial release and you have *explicitly* set `COMPATIBLE` to any value (including the default value of 23.4.0). You then apply a Release Update. In this case, if you apply Release Update 23.5, then you must set the value of `COMPATIBLE` to 23.5.0 in order to use all of the features of Oracle Database 23ai, or if you apply Release Update 23.6, then you must set the value of `COMPATIBLE` to 23.6.0 in order to use all of the features of Oracle Database 23ai.

Notes:

- The value of the `COMPATIBLE` parameter can be increased to a higher version, but it can never be decreased to a lower version.
- When using a standby database, this parameter must have the same value on both the primary and standby databases.

See Also:

Oracle Database Upgrade Guide for more information on setting this parameter

2.53 CONNECTION_BROKERS

`CONNECTION_BROKERS` is used to specify connection broker types, the number of connection brokers of each type, and the maximum number of connections per broker.

Property	Description
Parameter type	String
Syntax	<code>CONNECTION_BROKERS = broker_description[,...]</code>
Syntax	broker_description::= <code>((type_clause) (brokers_clause) [(broker_options)])</code>
Syntax	type_clause::= <code>TYPE={ DEDICATED EMON POOLED }</code> Indicates the broker type. This is a mandatory parameter.

Property	Description
Syntax	brokers_clause ::= <code>BROKERS=integer</code> Indicates the number of brokers of the specified type. This is a mandatory parameter. The specified integer value must be greater than or equal to 0. If set to 0, brokers will not accept new connections, but existing connections will continue as normal.
Syntax	broker_options ::= <code>CONNECTIONS=integer</code> The maximum number of connections per broker. This is an optional parameter. If the specified integer value is greater than the maximum allowed for the platform, the maximum allowed for the platform is used.
Default value	The default value for the initialization parameter will contain the <code>DEDICATED</code> and <code>EMON</code> broker types. Certain types of brokers are only started when certain features are enabled, so their configuration will only apply if the broker is needed.
Modifiable	<code>ALTER SYSTEM</code>
Modifiable in a PDB	No
Basic	No
Oracle RAC	The same value should be set on all instances

The connection brokers are used in these cases:

- `DEDICATED` brokers are used by the multiprocess and multithreaded Oracle features. See *Oracle Database Concepts* for more information about these features.

`DEDICATED` brokers are also used when the `USE_DEDICATED_BROKER` initialization parameter is set to `true`. See "[USE_DEDICATED_BROKER](#)" for more information about the `USE_DEDICATED_BROKER` initialization parameter.

- `EMON` brokers are used when there is a client registered for notification over 12c AQ queues. It is not on by default. See *Oracle Database Advanced Queuing User's Guide* for more information about AQ queues.
- `POOLED` brokers are used whenever a Database Resident Connection Pooling (DRCP) pool is active. See *Oracle Database Concepts* for more information about DRCP pooling.

The `POOLED` broker does not appear in the parameter by default. In this case, the DRCP fields are used. If you specify the `POOLED` broker in the parameter, then that specification will override the DRCP fields, and further attempts to set the DRCP fields will then throw an error. Oracle recommends that the parameter be used instead of the DRCP fields.

To make it easier to modify the list, individual entries are indexed using the `TYPE` so it is not necessary to re-specify the entire list. For example, to adjust the number of `DEDICATED` brokers:

```
alter system set connection_brokers = '((TYPE=DEDICATED) (BROKERS=2))'
```

2.54 CONTAINER_DATA

Use `CONTAINER_DATA` to control whether queries on extended data-linked objects from within a PDB return rows from both the root and the PDB, or rows from only the PDB.

Property	Description
Parameter type	String
Syntax	<code>CONTAINER_DATA = { ALL CURRENT CURRENT_DICTIONARY }</code>
Default value	ALL
Modifiable	ALTER SESSION
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	Different instances can use different values.

This parameter controls the behavior of queries on the following types of objects:

- Extended data-linked application common objects

This type of object stores shared data in an application root, and also allows application PDBs to store local data that is unique to each application PDB.

When this type of object is queried from an application root, only the shared data in the application root is returned.

When this type of object is queried from an application PDB, the value of the `CONTAINER_DATA` initialization parameter controls the query result as follows:

 - ALL: The query returns both the shared data in the application root and the local data pertaining to the application PDB
 - CURRENT: The query returns only the local data pertaining to the application PDB
 - CURRENT_DICTIONARY: The query returns both the shared data in the application root and the local data pertaining to the application PDB
- Extended data-linked Oracle-supplied data dictionary objects

This type of object stores data pertaining to the CDB root, as well as data pertaining to individual PDBs.

When this type of object is queried from the CDB root, only data pertaining to the CDB root is returned.

When this type of object is queried from a PDB, the value of the `CONTAINER_DATA` initialization parameter controls the query result as follows:

 - ALL: The query returns data pertaining to both the CDB root and the PDB
 - CURRENT: The query returns only data pertaining to the PDB
 - CURRENT_DICTIONARY: The query returns only data pertaining to the PDB

2.55 CONTAINERS_PARALLEL_DEGREE

CONTAINERS_PARALLEL_DEGREE can be used to control the degree of parallelism of a query involving containers().

Property	Description
Parameter type	Integer
Default value	65535
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	Cannot be set to a value lower than 2 or higher than 65535.
Basic	No
Oracle RAC	Different values can be set on different instances.

The value of CONTAINERS_PARALLEL_DEGREE, if set, will override the default DOP for a containers() query.

By default, a containers() query uses a degree of parallelism equal to (1 + number of open PDBs) in the case of CDB root and (1 + number of open application PDBs) in the case of application root.

If the value of CONTAINERS_PARALLEL_DEGREE is lower than 65535, then this value is used as the degree of parallelism of a query involving containers(). Otherwise (when the value is 65535), the default degree of parallelism is (1 + number of open PDBs) or (1 + number of open application PDBs) as described above.

See Also:

- *Oracle Multitenant Administrator's Guide* for more information about CDB roots
- *Oracle Multitenant Administrator's Guide* for more information about application roots

2.56 CONTROL_FILE_RECORD_KEEP_TIME

CONTROL_FILE_RECORD_KEEP_TIME specifies the minimum number of days before a reusable record in the control file can be reused.

Property	Description
Parameter type	Integer
Default value	7 (days)
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	0 to 365 (days)

Property	Description
Basic	No

In the event a new record must be added to a reusable section and the oldest record has not aged enough, the record section expands. If this parameter is set to 0, then reusable sections never expand, and records are reused as needed.

If the number of reusable records in the control file exceeds the circular reuse record limit `UB4MAXVAL`, then reusable records will be overwritten even if `CONTROL_FILE_RECORD_KEEP_TIME` has not elapsed. `UB4MAXVAL` is defined in the `oratypes.h` header file, which is found in the `public` directory. Its value may vary according to the operating system you are using.



Note:

This parameter applies only to records in the control file that are circularly reusable (such as archive log records and various backup records). It does not apply to records such as data file, tablespace, and redo thread records, which are never reused unless the corresponding object is dropped from the tablespace.



See Also:

- ["CONTROL_FILES"](#)
- *Oracle Database Backup and Recovery User's Guide* for more information about this parameter

2.57 CONTROL_FILES

`CONTROL_FILES` specifies one or more names of control files, separated by commas.

Property	Description
Parameter type	String
Syntax	<code>CONTROL_FILES = filename [, filename] ...</code> Note: The control file name can be an OMF (Oracle Managed Files) name. This occurs when the control file is re-created using the <code>CREATE CONTROLFILE REUSE</code> statement.
Default value	Operating system-dependent
Modifiable	No
Modifiable in a PDB	No
Range of values	1 to 8 filenames
Basic	Yes
Oracle RAC	Multiple instances must have the same value.

Every database has a **control file**, which contains entries that describe the structure of the database (such as its name, the timestamp of its creation, and the names and locations of its data files and redo files).

Oracle recommends that you multiplex multiple control files on different devices or mirror the file at the operating system level.

**See Also:**

Oracle Database Administrator's Guide for information about specifying control files at database creation

2.58 CONTROL_MANAGEMENT_PACK_ACCESS

CONTROL_MANAGEMENT_PACK_ACCESS specifies which of the Server Manageability Packs should be active.

Property	Description
Parameter type	String
Syntax	CONTROL_MANAGEMENT_PACK_ACCESS = { NONE DIAGNOSTIC DIAGNOSTIC+TUNING }
Default value	Enterprise Edition: DIAGNOSTIC+TUNING Oracle Database Free: DIAGNOSTIC+TUNING All other editions: NONE
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Basic	No

The following packs are available:

- The **DIAGNOSTIC** pack includes AWR, ADDM, and so on.
- The **TUNING** pack includes SQL Tuning Advisor, SQLAccess Advisor, and so on.

A license for **DIAGNOSTIC** is required for enabling the **TUNING** pack.

Values

- **NONE**
Neither pack is available.
- **DIAGNOSTIC**
Only the **DIAGNOSTIC** pack is available.
- **DIAGNOSTIC+TUNING**
Both packs are available.

**See Also:**

Oracle Database Licensing Information User Manual

2.59 CORE_DUMP_DEST

CORE_DUMP_DEST specifies the directory where Oracle dumps core files.

Property	Description
Parameter type	String
Syntax	CORE_DUMP_DEST = <i>directory</i>
Default value	ORACLE_HOME/DBS
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Basic	No

CORE_DUMP_DEST is primarily a UNIX parameter and may not be supported on your platform.

**Note:**

This parameter is ignored by the new diagnosability infrastructure introduced in Oracle Database 11g Release 1 (11.1), which places trace and core files in a location controlled by the DIAGNOSTIC_DEST initialization parameter.

**See Also:**

["DIAGNOSTIC_DEST"](#)

2.60 CPU_COUNT

CPU_COUNT specifies the number of CPUs available for Oracle Database to use.

Property	Description
Parameter type	String
Default value	0
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	0 to unlimited
Basic	No
Oracle RAC	The same value should be used on all instances.

On CPUs with multiple CPU threads, it specifies the total number of available CPU threads. Various components of Oracle Database are configured based on the number of CPUs, such as the Optimizer, Parallel Query, and Resource Manager.

If `CPU_COUNT` is set to 0 (its default setting), then Oracle Database continuously monitors the number of CPUs reported by the operating system and uses the current count. If `CPU_COUNT` is set to a value other than 0, then Oracle Database will use this count rather than the actual number of CPUs, thus disabling dynamic CPU reconfiguration.

When Resource Manager is managing CPU (`RESOURCE_MANAGER_PLAN` is set), then the database's CPU utilization is limited to `CPU_COUNT` CPU threads. This feature is called Instance Caging. If Resource Manager is enabled at the CDB level, then the PDB's CPU utilization is limited to the PDB's `CPU_COUNT`.

**Note:**

Setting `CPU_COUNT` to a value greater than the current number of CPUs results in an error. However, if `CPU_COUNT` is set to a value greater than the current number of CPUs in the initialization parameter file, then `CPU_COUNT` is capped to the current number of CPUs.

**Note:**

When a value is not explicitly set for `CPU_COUNT`, the maximum default value for `CPU_COUNT` is 2 for an Oracle ASM Proxy instance, 4 for an Oracle ASM instance, and 8 for an Oracle IO Server instance.

**See Also:**

- "`CPU_MIN_COUNT`"
- *Oracle Database VLDB and Partitioning Guide* for information about how `CPU_COUNT` is used to determine the default degree of parallelism for a single instance or Oracle RAC configuration when the `PARALLEL` clause is specified but no degree of parallelism is listed
- *Oracle Database Administrator's Guide* for an example of how CPU resources are allocated if you enable instance caging and set a maximum utilization limit in a resource plan

2.61 CPU_MIN_COUNT

`CPU_MIN_COUNT` specifies the minimum number of CPUs required by a pluggable database (PDB) at any given time.

Property	Description
Parameter type	String

Property	Description
Syntax	<code>CPU_MIN_COUNT = 'value'</code>
Default value	The value of <code>CPU_COUNT</code>
Modifiable	<code>ALTER SYSTEM</code>
Modifiable in a PDB	Yes
Range of Values	Decimal values from 0.1 through 0.95, where the decimal value is a multiple of 0.05 Integer values from 1 up to and including the value of <code>CPU_COUNT</code>
Basic	No
Oracle RAC	The same value should be used on all instances.

This parameter specifies the minimum number of CPUs required by a PDB at any given time. For multi-threaded CPUs, this number corresponds to CPU threads, not CPU cores.

You can set this parameter at the CDB level, and for each individual PDB. This enables you to control each PDB's minimum share of CPU utilization within a CDB. If the sum of the `CPU_MIN_COUNT` values across all open PDBs in a CDB is equal to the value of `CPU_MIN_COUNT` for the CDB, then the CDB instance is considered full. If the sum exceeds the value of `CPU_MIN_COUNT` for the CDB, then the CDB instance is over-provisioned. Oracle does not prevent you from over-provisioning a CDB.

Resource Manager is enabled at the CDB level by setting the `RESOURCE_MANAGER_PLAN` at the root level to the name of a CDB resource plan. If the CDB resource plan has no configured CPU directives, that is, the `SHARES` and `UTILIZATION_LIMIT` directives are unset, then Resource Manager uses the `CPU_COUNT` and `CPU_MIN_COUNT` settings for the PDB to manage CPU utilization.



Note:

Setting this parameter to a very low value can result in insufficient CPU allocation and poor performance.



See Also:

"`CPU_COUNT`"

2.62 CREATE_BITMAP_AREA_SIZE

`CREATE_BITMAP_AREA_SIZE` specifies the amount of memory (in bytes) allocated for bitmap creation.

Property	Description
Parameter type	Integer
Default value	0

Property	Description
Modifiable	No
Modifiable in a PDB	Yes
Range of values	Operating system-dependent
Basic	No

This parameter is relevant only for systems containing bitmap indexes.

**Note:**

Oracle does not recommend using the `CREATE_BITMAP_AREA_SIZE` parameter unless the instance is configured with the shared server option. Oracle recommends that you enable automatic sizing of SQL working areas by setting `PGA_AGGREGATE_TARGET` instead. `CREATE_BITMAP_AREA_SIZE` is retained for backward compatibility.

A larger value may speed up index creation.

Cardinality is the number of unique values in a column in relation to the number of rows in the table. If cardinality is very small, you can set a small value for this parameter. For example, if cardinality is only 2, then the value can be in kilobytes rather than megabytes. As a general rule, the higher the cardinality, the more memory is needed for optimal performance.

**See Also:**

Oracle Database SQL Tuning Guide for more information on using bitmap indexes

2.63 CREATE_STORED_OUTLINES

`CREATE_STORED_OUTLINES` determines whether Oracle automatically creates and stores an outline for each query submitted during the session.

Property	Description
Parameter type	String
Syntax	<code>CREATE_STORED_OUTLINES = { true false category_name } [NOOVERRIDE]</code>
Default value	There is no default value.
Modifiable	<code>ALTER SESSION, ALTER SYSTEM</code>
Modifiable in a PDB	Yes
Basic	No

Values

- `true`

Enables automatic outline creation for subsequent queries in the same session. These outlines receive a unique system-generated name and are stored in the `DEFAULT` category. If a particular query already has an outline defined for it in the `DEFAULT` category, then that outline will remain and a new outline will not be created.

- `false`

Disables automatic outline creation during the session. This is the default.

- `category_name`

Enables the same behavior as `true` except that any outline created during the session is stored in the `category_name` category.

- `NOOVERRIDE`

`NOOVERRIDE` specifies that this system setting will not override the setting for any session in which this parameter was explicitly set. If you do not specify `NOOVERRIDE`, then this setting takes effect in all sessions.



See Also:

Oracle Database SQL Tuning Guide for more information on setting this parameter

2.64 CURSOR_BIND_CAPTURE_DESTINATION

`CURSOR_BIND_CAPTURE_DESTINATION` determines the location at which bind variables that are captured from SQL cursors are available.

Property	Description
Parameter type	String
Syntax	<code>CURSOR_BIND_CAPTURE_DESTINATION = { off memory memory+disk }</code>
Default value	<code>memory+disk</code>
Modifiable	<code>ALTER SESSION, ALTER SYSTEM</code>
Modifiable in a PDB	Yes
Basic	No

Values

- `off`

Bind variables are not captured from SQL cursors.

- `memory`

Bind variables are captured from SQL cursors, and are available only in memory (`v$` views).

- `memory+disk`

Bind variables are captured from SQL cursors, and are available in memory (`v$` views) and disk (Automatic Workload Repository tables, SQL Tuning Set tables, and so on).

When you specify this value with a SQL `ALTER SESSION` or `ALTER SYSTEM` statement, enclose the value in single quotes or double quotes. For example:

```
ALTER SESSION SET CURSOR_BIND_CAPTURE_DESTINATION = 'memory+disk';  
ALTER SYSTEM SET CURSOR_BIND_CAPTURE_DESTINATION = "memory+disk";
```

2.65 CURSOR_INVALIDATION

`CURSOR_INVALIDATION` controls whether deferred cursor invalidation or immediate cursor invalidation is used for DDL statements by default.

Property	Description
Parameter type	String
Syntax	<code>CURSOR_INVALIDATION = { DEFERRED IMMEDIATE }</code>
Default value	<code>IMMEDIATE</code>
Modifiable	<code>ALTER SESSION, ALTER SYSTEM</code>
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	Different instances can have different values.

Deferred invalidation reduces the number of cursor invalidations and spreads the recompilation workload over time. Note that when the recompilation workload is spread over time, a cursor may run with a sub-optimal plan until it is recompiled, and may incur small execution-time overhead.

Prior to Oracle Database 12c Release 2 (12.2.0.1), immediate cursor invalidation was used.

This parameter provides system or session level default for the `DEFERRED` or `IMMEDIATE` option for the `INVALIDATION` clause in DDL statements.

When this parameter is set to `DEFERRED`, an application can take advantage of reduced cursor invalidation without making any other application changes.

When this parameter is set to `IMMEDIATE`, the application will experience the same cursor invalidation behavior as in Oracle Database 12c Release 1 (12.1).

2.66 CURSOR_SHARING

`CURSOR_SHARING` determines what kind of SQL statements can share the same cursors.

Property	Description
Parameter type	String
Syntax	<code>CURSOR_SHARING = { EXACT FORCE }</code>
Default value	<code>EXACT</code>
Modifiable	<code>ALTER SESSION, ALTER SYSTEM</code>
Modifiable in a PDB	Yes
Basic	No

Values

- `FORCE`

Allows the creation of a new cursor if sharing an existing cursor, or if the cursor plan is not optimal.

- `EXACT`

Only allows statements with identical text to share the same cursor.



See Also:

Oracle Database SQL Tuning Guide before setting the `CURSOR_SHARING` parameter to learn about the performance implications

2.67 CURSOR_SPACE_FOR_TIME

`CURSOR_SPACE_FOR_TIME` lets you use more space for cursors to save time.

Property	Description
Parameter type	Boolean
Default value	<code>false</code>
Modifiable	No
Modifiable in a PDB	No
Range of values	<code>true</code> <code>false</code>
Basic	No



Note:

The `CURSOR_SPACE_FOR_TIME` parameter is deprecated. It is retained for backward compatibility only.

This parameter affects both the shared SQL area and the client's private SQL area.

Most users will not need to set this parameter because of the significantly enhanced concurrency modifications introduced in Oracle Database 10g Release 2 (10.2.0.2) and later.

Values

- `true`

Shared SQL areas are kept pinned in the shared pool. As a result, shared SQL areas are not aged out of the pool as long as an open cursor references them. Because each active cursor's SQL area is present in memory, execution is faster. However, the shared SQL areas never leave memory while they are in use. Therefore, you should set this parameter to `true` only when the shared pool is large enough to hold all open cursors simultaneously.

In addition, a setting of `true` retains the private SQL area allocated for each cursor between executions instead of discarding it after cursor execution, saving cursor allocation and initialization time.

- `false`

Shared SQL areas can be deallocated from the library cache to make room for new SQL statements.

**Note:**

If this parameter is set to `true`, then the `SERIAL_REUSE` parameter is disabled.

**See Also:**

- ["SERIAL_REUSE"](#)

2.68 DATA_GUARD_MAX_IO_TIME

`DATA_GUARD_MAX_IO_TIME` sets the maximum number of seconds that can elapse before a process is considered hung while performing a regular I/O operation in an Oracle Data Guard environment. Regular I/O operations include read, write, and status operations.

**See Also:**

["DATA_GUARD_MAX_LONGIO_TIME"](#), which enables you to set the timeout for long I/O operations, such as open and close operations, in an Oracle Data Guard environment

Property	Description
Parameter type	Integer
Default value	240
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	10 to 7200
Basic	No
Oracle RAC	Different instances can use different values.

2.69 DATA_GUARD_MAX_LONGIO_TIME

`DATA_GUARD_MAX_LONGIO_TIME` sets the maximum number of seconds that can elapse before a process is considered hung while performing a long I/O operation in an Oracle Data Guard environment. Long I/O operations include open and close operations.

Property	Description
Parameter type	Integer
Default value	240
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	10 to 7200
Basic	No
Oracle RAC	Different instances can use different values.



See Also:

["DATA_GUARD_MAX_IO_TIME"](#)

2.70 DATA_GUARD_SYNC_LATENCY

`DATA_GUARD_SYNC_LATENCY` controls how many seconds the Log Writer (LGWR) process waits beyond the response of the first in a series of Oracle Data Guard SYNC redo transport mode connections.

Property	Description
Parameter type	Integer
Default value	0
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	0 to the number of seconds specified by the <code>NET_TIMEOUT</code> attribute for the <code>LOG_ARCHIVE_DEST_n</code> parameter
Basic	No
Oracle RAC	The same value must be used on all instances.

The default value is 0, which means that the LGWR will wait up to the number of seconds specified by the `NET_TIMEOUT` attribute of the `LOG_ARCHIVE_DEST_n` parameter for each SYNC standby destination.

For example, in an Oracle Data Guard configuration that has two standbys which receive redo in SYNC mode, you would define `LOG_ARCHIVE_DEST_2` and `LOG_ARCHIVE_DEST_3` to use SYNC transport with `DATA_GUARD_SYNC_LATENCY` set to a value of 2 seconds. When redo needs to be sent to the standbys, it is sent to both the `LOG_ARCHIVE_DEST_2` and `LOG_ARCHIVE_DEST_3` connections in parallel and the LGWR will wait for acknowledgement. If `LOG_ARCHIVE_DEST_2`

responds with its message acknowledging that the redo has been received first, the LGWR will not wait for LOG_ARCHIVE_DEST_3 to respond for more than 2 extra seconds (DATA_GUARD_SYNC_LATENCY). If LOG_ARCHIVE_DEST_3 does not respond within those 2 seconds the LGWR disconnects from LOG_ARCHIVE_DEST_3, putting it into the error state. Redo continues to be sent to LOG_ARCHIVE_DEST_2 as usual. After the duration of the REOPEN attribute for LOG_ARCHIVE_DEST_3 has elapsed, the LGWR reconnects to LOG_ARCHIVE_DEST_3 and redo transfer continues. In this manner, the maximum impact of having the second SYNC standby would be restricted to 2 seconds more than having only one SYNC standby, while allowing the Oracle Data Guard configuration to maintain the desired protection level.

LGWR will never wait longer than the value of the NET_TIMEOUT attribute of the LOG_ARCHIVE_DEST_n parameter, regardless of the value of DATA_GUARD_SYNC_LATENCY.



See Also:

"LOG_ARCHIVE_DEST_n"

2.71 DATA_TRANSFER_CACHE_SIZE

DATA_TRANSFER_CACHE_SIZE sets the size of the data transfer cache (in bytes) used to receive data blocks (typically from a primary database in an Oracle Data Guard environment) for consumption by an instance during execution of an RMAN RECOVER ... NONLOGGED BLOCK command.

Property	Description
Parameter type	Big integer
Syntax	DATA_TRANSFER_CACHE_SIZE = <i>integer</i> [K M G]
Default value	If SGA_TARGET is set, then if DATA_TRANSFER_CACHE_SIZE is not specified, the default size of the data transfer cache is 0 (internally determined by Oracle Database). If SGA_TARGET is set and DATA_TRANSFER_CACHE_SIZE is specified, then the user-specified value indicates the minimum value for the data transfer cache. If SGA_TARGET is not set, the data transfer cache will not be available.
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	0 – 512M, rounded up to the next granule size
Basic	No
Oracle RAC	Multiple instances can have different values.

This initialization parameter needs to be set only for databases that do not use Automatic Memory Management and that use the RMAN RECOVER ... NONLOGGED BLOCK command.

2.72 DB_nK_CACHE_SIZE

DB_nK_CACHE_SIZE (where *n* = 2, 4, 8, 16, 32) specifies the size of the cache for the *nK* buffers.

Property	Description
Parameter type	Big integer
Syntax	DB_[2 4 8 16 32]K_CACHE_SIZE = <i>integer</i> [K M G]
Default value	0 (additional block size caches are not configured by default)
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	Minimum: 0 (values greater than zero are automatically modified to be either the granule size * number of processor groups, or 4 MB * number of CPUs, whichever is greater) Maximum: operating system-dependent
Basic	No

You can set this parameter only when `DB_BLOCK_SIZE` has a value other than *nK*. For example, if `DB_BLOCK_SIZE=4096`, then you cannot specify the parameter `DB_4K_CACHE_SIZE` (because the size for the 4 KB block cache is already specified by `DB_CACHE_SIZE`).

Do not set this parameter to zero if there are any online tablespaces with an *nK* block size.

Operating system-specific block size restrictions apply. For example, you cannot set `DB_32K_CACHE_SIZE` if the operating system's maximum block size is less than 32 KB. Also, you cannot set `DB_2K_CACHE_SIZE` if the minimum block size is greater than 2 KB.



See Also:

Your operating system-specific Oracle documentation for more information on block size restrictions

2.73 DB_BIG_TABLE_CACHE_PERCENT_TARGET

`DB_BIG_TABLE_CACHE_PERCENT_TARGET` specifies the cache section target size for automatic big table caching, as a percentage of the buffer cache.

Property	Description
Parameter type	String
Syntax	DB_BIG_TABLE_CACHE_PERCENT_TARGET = <i>string</i>
Default value	0
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Basic	No
Oracle RAC	Multiple instances can have different values, but it is recommended to keep the big table cache section size uniform.

Automatic big table caching enables parallel queries and serial queries to use the buffer cache, which enhances the in-memory query capabilities of Oracle Database. Automatic big table

caching is designed primarily to enhance performance for data warehouse workloads, but it also improves performance in mixed workloads.

Starting in Oracle Database 12c Release 1 (12.1.0.2), table scans can use a different algorithm in the following scenarios:

- Parallel queries:

In single-instance and Oracle Real Application Clusters (Oracle RAC) databases, parallel queries can use the automatic big table cache when the

`DB_BIG_TABLE_CACHE_PERCENT_TARGET` initialization parameter is set to a nonzero value, and the `PARALLEL_DEGREE_POLICY` initialization parameter is set to `AUTO` or `ADAPTIVE`.

- Serial queries:

In a single-instance configuration only, serial queries can use the automatic big table cache when the `DB_BIG_TABLE_CACHE_PERCENT_TARGET` initialization parameter is set to a nonzero value.

When a nonzero value is specified for the `DB_BIG_TABLE_CACHE_PERCENT_TARGET` parameter, the value indicates the percentage of the buffer cache to reserve for the big table cache. The largest value that can be specified with the `DB_BIG_TABLE_CACHE_PERCENT_TARGET` parameter is 90, which reserves 10% of the buffer cache for usage besides table scans.

The default value of this parameter is 0. Therefore, automatic big table caching is not enabled by default. When automatic big table caching is not enabled, queries might run using the least recently used (LRU) mechanism for cached reads, or might decide to use direct reads for the table scan.

If a large table is about the size of the combined size of the big table cache of all instances, the table will be partitioned and cached or mostly cached on all instances. With in-memory parallel query, this could eliminate most disk reads for queries on the table, or the database could intelligently read from disk only for the portion of the table that does not fit in the big table cache. If the big table cache cannot cache all the tables to be scanned, only the most frequently accessed tables will be cached, and the rest will be read via direct read automatically.

Use these guidelines when setting the parameter:

- If you do not enable automatic degree of parallelism (DOP) in your Oracle RAC environment, do not set this parameter because the big table cache is not used in that situation.
- When setting this parameter, consider the workload mix: how much of the workload is for OLTP; insert, update, and random access; and how much of the workload involves table scans. Because data warehouse workloads often perform large table scans, you may consider giving the big table cache section a higher percentage of buffer cache space for data warehouses.
- This parameter can be dynamically changed if the workload changes. The change could take some time to reach the target (depending on the current workload) because buffer cache memory might be actively used at that time.

**Note:**

Automatic big table caching uses temperature and object-based algorithms to track medium and big tables. Oracle will cache very small tables, but they will not be tracked by automatic big table caching.

 See Also:

- "PARALLEL_DEGREE_POLICY"
- See "V\$BT_SCAN_CACHE" and "V\$BT_SCAN_OBJ_TEMPS" for more information about the big table cache
- *Oracle Database VLDB and Partitioning Guide* for more information about this parameter and about automatic big table caching

2.74 DB_BLOCK_BUFFERS

DB_BLOCK_BUFFERS specifies the number of database buffers in the buffer cache.

Property	Description
Parameter type	Integer
Default value	0
Modifiable	No
Modifiable in a PDB	No
Range of values	50 to an operating system-specific maximum
Basic	No
Oracle RAC	Multiple instances can have different values, and you can change the values as needed.

 Note:

DB_BLOCK_BUFFERS cannot be combined with the dynamic DB_CACHE_SIZE parameter; combining these parameters in the same parameter file will produce an error.

DB_BLOCK_BUFFERS is one of several parameters that contribute to the total memory requirements of the SGA of an instance.

This parameter, together with DB_BLOCK_SIZE, determines the total size of the buffer cache. Effective use of the buffer cache can greatly reduce the I/O load on the database. DB_BLOCK_SIZE can be specified only when the database is first created, so you use DB_BLOCK_BUFFERS to control the size of the buffer cache.

 Note:

The DB_BLOCK_BUFFERS initialization parameter is deprecated. It is maintained for backward compatibility.

Oracle recommends that you use DB_CACHE_SIZE instead.

**See Also:**`"DB_CACHE_SIZE"`

2.75 DB_BLOCK_CHECKING

`DB_BLOCK_CHECKING` specifies whether Oracle Database performs block checking for database blocks.

Property	Description
Parameter type	String
Syntax	<code>DB_BLOCK_CHECKING = { FALSE OFF LOW MEDIUM TRUE FULL }</code>
Default value	FALSE
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes, with the following restriction: If block checking is enabled for a CDB, then you cannot subsequently disable block checking in any of its PDBs. That is, if the value of <code>DB_BLOCK_CHECKING</code> in a CDB is <code>LOW</code> , <code>MEDIUM</code> , <code>TRUE</code> , or <code>FULL</code> , and you then attempt to set the value of <code>DB_BLOCK_CHECKING</code> in one of its PDBs to <code>FALSE</code> or <code>OFF</code> , an error will occur.
Basic	No

Values

- `OFF` or `FALSE`

No block checking is performed for blocks in user tablespaces. However, semantic block checking for `SYSTEM` tablespace blocks is always turned on.

- `LOW`

Basic block header checks are performed after block contents change in memory (for example, after `UPDATE`, `INSERT` or `DELETE` statements, or after inter-instance block transfers in Oracle RAC).

- `MEDIUM`

All `LOW` checks and full semantic checks are performed for all objects except indexes (whose contents can be reconstructed by a drop+rebuild on encountering a corruption).

- `FULL` or `TRUE`

All `LOW` and `MEDIUM` checks and full semantic checks are performed for all objects.

Oracle checks a block by going through the data in the block, making sure it is logically self-consistent. Block checking can often prevent memory and data corruption. Block checking typically causes 1% to 10% overhead in most applications, depending on workload and the parameter value. Specific DML overhead may be higher. The more updates or inserts in a workload, the more expensive it is to turn on block checking. You should set `DB_BLOCK_CHECKING` to `FULL` if the performance overhead is acceptable.

For backward compatibility, the use of `FALSE` (implying `OFF`) and `TRUE` (implying `FULL`) is preserved.

 Caution:

Before enabling block checking with this parameter, Oracle recommends that you detect and repair any logical corruptions in the database. Otherwise, a block that contains logical corruption will be marked as "soft corrupt" after block checking is enabled and the block is modified by a DML statement. This will result in `ORA-1578` errors and the block will be unreadable. For more information about detecting and repairing logical corruptions, see *Oracle Database Backup and Recovery User's Guide*.

 See Also:

Oracle Database Administrator's Guide for more information about this parameter

2.76 DB_BLOCK_CHECKSUM

`DB_BLOCK_CHECKSUM` determines whether `DBWn` and the direct loader will calculate a checksum (a number calculated from all the bytes stored in the block) and store it in the cache header of every data block when writing it to disk.

Property	Description
Parameter type	String
Syntax	<code>DB_BLOCK_CHECKSUM = { OFF FALSE TYPICAL TRUE FULL }</code>
Default value	<code>TYPICAL</code>
Modifiable	<code>ALTER SYSTEM</code>
Modifiable in a PDB	No
Basic	No

Checksums are verified when a block is read - only if this parameter is `TYPICAL` or `FULL` and the last write of the block stored a checksum. In `FULL` mode, Oracle also verifies the checksum before a change application from update/delete statements and recomputes it after the change is applied. In addition, Oracle gives every log block a checksum before writing it to the current log.

Most of the log block checksum is done by the generating foreground processes, while the LGWR or the LGWR worker processes (`LGnn` processes) perform the rest of the work, for better CPU and cache efficiency.

If this parameter is set to `OFF`, `DBWn` calculates checksums only for the `SYSTEM` tablespace, but not for user tablespaces. In addition, no log checksum is performed when this parameter is set to `OFF`.

Checksums allow Oracle to detect corruption caused by underlying disks, storage systems, or I/O systems. If set to `FULL`, `DB_BLOCK_CHECKSUM` also catches in-memory corruptions and stops

them from making it to the disk. Turning on this feature in `TYPICAL` mode causes only an additional 1% to 2% overhead. In the `FULL` mode it causes 4% to 5% overhead. Oracle recommends that you set `DB_BLOCK_CHECKSUM` to `TYPICAL`.

For backward compatibility the use of `TRUE` (implying `TYPICAL`) and `FALSE` (implying `OFF`) values is preserved.

**See Also:**

Oracle Database Backup and Recovery Reference for more information about this parameter

2.77 DB_BLOCK_SIZE

`DB_BLOCK_SIZE` specifies (in bytes) the size of Oracle database blocks.

Property	Description
Parameter type	Integer
Default value	8192
Modifiable	No
Modifiable in a PDB	No
Range of values	2048 to 32768, but your operating system may have a narrower range
Basic	Yes
Oracle RAC	You must set this parameter for every instance, and multiple instances must have the same value.

**Note:**

Set this parameter at the time of database creation. Do not alter it afterward.

Typical values for `DB_BLOCK_SIZE` are 4096 and 8192. The value of this parameter must be a multiple of the physical block size at the device level.

The value for `DB_BLOCK_SIZE` in effect at the time you create the database determines the size of the blocks. The value must remain set to its initial value.

For Oracle Real Application Clusters (Oracle RAC), this parameter affects the maximum value of the `FREELISTS` storage parameter for tables and indexes. Oracle uses one database block for each freelist group. Decision support system (DSS) and data warehouse database environments tend to benefit from larger block size values.

**Note:**

64-bit operating systems support a maximum `DB_BLOCK_SIZE` value of 32768

 See Also:

- *Oracle Database Administrator's Guide* for information on setting this parameter
- *Oracle Database SQL Language Reference* for information on freelist groups

2.78 DB_CACHE_ADVICE

DB_CACHE_ADVICE enables or disables statistics gathering used for predicting behavior with different cache sizes through the V\$DB_CACHE_ADVICE performance view.

Property	Description
Parameter type	String
Syntax	DB_CACHE_ADVICE = { ON READY OFF }
Default value	If STATISTICS_LEVEL is set to TYPICAL or ALL, then ON If STATISTICS_LEVEL is set to BASIC, then OFF
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Basic	No

Values

- OFF
Advisory is turned off and the memory for the advisory is not allocated.
- READY
Advisory is turned off but the memory for the advisory remains allocated. Allocating the memory before the advisory is actually turned on avoids the risk of an error when you switch the parameter to ON.

If the parameter is switched to this state from ON, the contents of the view are preserved and the memory for the advisory is retained.

If the parameter is switched to this state from OFF, you may get an error.
- ON
Advisory is turned on. CPU and memory overheads are incurred. Attempting to set the parameter to this state when it is already in the OFF state may result in an error. Otherwise, the view (V\$DB_CACHE_ADVICE) is reset and statistics are gathered to the newly refreshed view.

If the parameter is in the READY state, you can set it to ON without any errors because the memory is already allocated. The view is reset and statistics are displayed in the newly refreshed view.

 See Also:

"V\$DB_CACHE_ADVICE"

2.79 DB_CACHE_SIZE

DB_CACHE_SIZE specifies the size of the DEFAULT buffer pool for buffers with the primary block size (the block size defined by the DB_BLOCK_SIZE initialization parameter).

Property	Description
Parameter type	Big integer
Syntax	DB_CACHE_SIZE = <i>integer</i> [K M G]
Default value	If SGA_TARGET is set: If the parameter is not specified, then the default is 0 (internally determined by the Oracle Database). If the parameter is specified, then the user-specified value indicates a minimum value for the memory pool. If SGA_TARGET is not set, then the default is either 48 MB or 4 MB * number of CPUs, whichever is greater
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No

The value must be at least 4M * number of cpus (smaller values are automatically rounded up to this value). A user-specified value larger than this is rounded up to the nearest granule size. A value of zero is invalid because it is needed for the DEFAULT memory pool of the primary block size, which is the block size for the SYSTEM tablespace.

 Note:

This parameter is optional for pluggable databases (PDBs). When this parameter is set for a PDB, it indicates a possible minimum value for the PDB usage of the memory pool.

To be able to use Resource Manager in a CDB to control the amount of memory each PDB can use:

- The `NONCDB_COMPATIBLE` initialization parameter must be set to `FALSE` at the CDB level (in the root of the CDB).
- The `MEMORY_TARGET` initialization parameter must not be set at the CDB level.
- If the `SGA_TARGET` initialization parameter is set at the CDB level, then the following requirement must be met:
 - The value of `DB_CACHE_SIZE` set in a PDB must be less than or equal to 50% of the `SGA_TARGET` value at the CDB level.
- If the `SGA_TARGET` initialization parameter is set at the PDB level, then the following requirement must be met:
 - The value of `DB_CACHE_SIZE` set in a PDB must be less than or equal to 50% of the `SGA_TARGET` value at the PDB level.
- If the `SGA_TARGET` initialization parameter is not set, but the `DB_CACHE_SIZE` initialization parameter is set at the CDB level, then the following requirement must be met:
 - The value of `DB_CACHE_SIZE` set in a PDB must be less than or equal to 50% of the `DB_CACHE_SIZE` value at the CDB level.

When you set `DB_CACHE_SIZE` in a PDB to a value that does not meet these requirements, you receive an error.

 See Also:

- *Oracle Database Performance Tuning Guide* and *Oracle Database Administrator's Guide* for more information on setting this parameter
- *Oracle Multitenant Administrator's Guide* for more information about the initialization parameters that control the memory usage of PDBs

2.80 DB_CREATE_FILE_DEST

`DB_CREATE_FILE_DEST` specifies the default location for Oracle-managed datafiles.

Property	Description
Parameter type	String
Syntax	<code>DB_CREATE_FILE_DEST = directory disk group</code>
Default value	There is no default value.

Property	Description
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	Yes

This location is also used as the default location for Oracle-managed control files and online redo logs if none of the `DB_CREATE_ONLINE_LOG_DEST_n` initialization parameters are specified.

If a file system directory is specified as the default location, then the directory must already exist; Oracle does not create it. The directory must have appropriate permissions that allow Oracle to create files in it. Oracle generates unique names for the files, and a file thus created is an Oracle Managed File.

 See Also:

Oracle Database Administrator's Guide for more information on setting this parameter and on Oracle Managed Files

2.81 DB_CREATE_ONLINE_LOG_DEST_n

`DB_CREATE_ONLINE_LOG_DEST_n` (where $n = 1, 2, 3, \dots 5$) specifies the default location for Oracle-managed control files and online redo logs.

Property	Description
Parameter type	String
Syntax	<code>DB_CREATE_ONLINE_LOG_DEST_[1 2 3 4 5] = directory disk group</code>
Default value	There is no default value.
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	Yes

If more than one `DB_CREATE_ONLINE_LOG_DEST_n` parameter is specified, then the control file or online redo log is multiplexed across the locations of the other `DB_CREATE_ONLINE_LOG_DEST_n` parameters. One member of each online redo log is created in each location, and one control file is created in each location.

Specifying at least two parameters provides greater fault tolerance for the control files and online redo logs if one of the locations should fail.

If a file system directory is specified as the default location, then the directory must already exist; Oracle does not create it. The directory must have appropriate permissions that allow Oracle to create files in it. Oracle generates unique names for the files, and a file thus created is an Oracle Managed File.

**See Also:**

Oracle Database Administrator's Guide for more information on setting this parameter and on Oracle Managed Files

2.82 DB_DOMAIN

In a distributed database system, `DB_DOMAIN` specifies the logical location of the database within the network structure.

Property	Description
Parameter type	String
Syntax	<code>DB_DOMAIN = domain_name</code>
Default value	There is no default value.
Modifiable	No
Modifiable in a PDB	Yes
Range of values	Any legal string of name components, separated by periods and up to 128 characters long (including the periods).
Basic	Yes
Oracle RAC	You must set this parameter for every instance, and multiple instances must have the same value.

You should set this parameter if this database is or ever will be part of a distributed system. The value consists of the extension components of a global database name, consisting of valid identifiers (any alphanumeric ASCII characters), separated by periods.

**Note:**

Oracle recommends that you specify `DB_DOMAIN` as a unique string for all databases in a domain.

This parameter allows one department to create a database without worrying that it might have the same name as a database created by another department. If one sales department's `DB_DOMAIN` is `JAPAN.EXAMPLE.COM`, then their `SALES` database (`SALES.JAPAN.EXAMPLE.COM`) is uniquely distinguished from another database with `DB_NAME = SALES` but with `DB_DOMAIN = US.EXAMPLE.COM`.

If you omit the domains from the name of a database link, Oracle expands the name by qualifying the database with the domain of your local database as it currently exists in the data dictionary, and then stores the link name in the data dictionary. `DB_DOMAIN` should start with an alphabetic character and exclude these characters:

```
"!@%^&*()+=\\|`~[{}];:'\",<>/?"
```

**See Also:**

- *Oracle Database Administrator's Guide* for more information on setting this parameter
- The data dictionary view "[GLOBAL_NAME](#)"

2.83 DB_FILE_MULTIBLOCK_READ_COUNT

`DB_FILE_MULTIBLOCK_READ_COUNT` specifies the maximum number of blocks read in one I/O operation during a sequential scan.

Property	Description
Parameter type	Integer
Default value	The default value corresponds to the maximum I/O size that can be efficiently performed and is platform-dependent
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	Operating system-dependent
Basic	No

`DB_FILE_MULTIBLOCK_READ_COUNT` is one of the parameters you can use to minimize I/O during table scans. The total number of I/Os needed to perform a full table scan depends on such factors as the size of the table, the multiblock read count, and whether parallel execution is being utilized for the operation.

The default value of this parameter is a value that corresponds to the maximum I/O size that can be performed efficiently. This value is platform-dependent and is 1MB for most platforms.

Because the parameter is expressed in blocks, it will be set to a value that is equal to the maximum I/O size that can be performed efficiently divided by the standard block size. Note that if the number of sessions is extremely large the multiblock read count value is decreased to avoid the buffer cache getting flooded with too many table scan buffers.

Even though the default value may be a large value, the optimizer will not favor large I/Os if you do not set this parameter. It will favor large I/Os only if you explicitly set this parameter to a large value.

Online transaction processing (OLTP) and batch environments typically have values in the range of 4 to 16 for this parameter. DSS and data warehouse environments tend to benefit most from maximizing the value of this parameter. The optimizer is more likely to choose a full table scan over an index if the value of this parameter is high.

The maximum value is the operating system's maximum I/O size expressed as Oracle blocks $((\text{max I/O size})/\text{DB\_BLOCK\_SIZE})$. If you set this parameter to a value greater than the maximum, then Oracle uses the maximum.

**See Also:**

Oracle Database Performance Tuning Guide for information about how setting this parameter incorrectly can cause excessive I/O waits for some execution plans

2.84 DB_FILE_NAME_CONVERT

DB_FILE_NAME_CONVERT is useful for creating a duplicate database for recovery purposes. It converts the filename of a new datafile on the primary database to a filename on the standby database.

Property	Description
Parameter type	String
Syntax	<pre>DB_FILE_NAME_CONVERT = 'string1' , 'string2' , 'string3' , 'string4' , ...</pre> Where: • <i>string1</i> is the pattern of the primary database filename • <i>string2</i> is the pattern of the standby database filename • <i>string3</i> is the pattern of the primary database filename • <i>string4</i> is the pattern of the standby database filename You can enclose each string in single or double quotation marks. You can specify as many pairs of primary and standby replacement strings as required. However, starting with Oracle Database 12c Release 2 (12.2), Oracle recommends that you limit the number of pairs to 99. Example: <pre>DB_FILE_NAME_CONVERT = '/dbs/t1/', '/dbs/t1/s', 'dbs/t2/', 'dbs/t2/s'</pre>
Default value	There is no default value.
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	No
Basic	No

If you add a datafile to the primary database, you must add a corresponding file to the standby database. When the standby database is updated, this parameter converts the datafile name on the primary database to the datafile name on the standby database. The file on the standby database must exist and be writable, or the recovery process will halt with an error.

Set the value of this parameter to one or more pairs of strings. The first string in a pair is the pattern found in the datafile names on the primary database. The second string in a pair is the pattern found in the datafile names on the standby database.

If you specify an odd number of strings (the last string has no corresponding replacement string), an error is returned during startup. If the filename being converted matches more than one pattern in the pattern/replace string list, the first matched pattern takes effect. There is no limit on the number of pairs that you can specify in this parameter (other than the hard limit of the maximum length of multivalue parameters). However, starting with Oracle Database 12c Release 2 (12.2), Oracle recommends that you limit the number of pairs to 99.

You can also use DB_FILE_NAME_CONVERT to rename the datafiles in the clone control file when setting up a clone database during tablespace point-in-time recovery.

 See Also:

- *Oracle Database Backup and Recovery User's Guide* for more information about database backup and recovery
- *Oracle Data Guard Concepts and Administration* for more information about Oracle Data Guard

2.85 DB_FILES

`DB_FILES` specifies the maximum number of database files that can be opened for this database.

Property	Description
Parameter type	Integer
Default value	200
Modifiable	No
Modifiable in a PDB	Yes
Range of values	Minimum: the largest among the absolute file numbers of the datafiles in the database Maximum: operating system-dependent
Basic	No
Oracle RAC	Multiple instances must have the same value.

The maximum valid value is the maximum number of files, subject to operating system constraint, that will ever be specified for the database, including files to be added by `ADD DATAFILE` statements.

If you increase the value of `DB_FILES`, then you must shut down and restart all instances accessing the database before the new value can take effect. If you have a primary and standby database, then they should have the same value for this parameter.

 See Also:

- *Oracle Real Application Clusters Administration and Deployment Guide* for information on setting this parameter in an Oracle RAC environment
- Your operating system-specific Oracle documentation for the default value of this parameter

2.86 DB_FLASH_CACHE_FILE

`DB_FLASH_CACHE_FILE` specifies file name(s) for the flash memory or disk group representing a collection of flash memory, for use with Database Smart Flash Cache.

Property	Description
Parameter type	String
Syntax	<code>DB_FLASH_CACHE_FILE = filename [,filename]... disk group</code>
Default value	There is no default value.
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Basic	No

You can specify up to 16 file names for flash memory devices. For example, if there are three flash raw devices:

```
db_flash_cache_file = /dev/raw/sda, /dev/raw/sdb, /dev/raw/sdc
```

Specifying this parameter without also specifying the `DB_FLASH_CACHE_SIZE` initialization parameter is not allowed.



See Also:

["DB_FLASH_CACHE_SIZE"](#)

2.87 DB_FLASH_CACHE_SIZE

`DB_FLASH_CACHE_SIZE` specifies the size of the Database Smart Flash Cache (flash cache). This parameter may only be specified at instance startup.

Property	Description
Parameter type	Big integer
Syntax	<code>DB_FLASH_CACHE_SIZE = integer [K M G T] [, integer [K M G T]]...</code>
Default value	0
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	0 to (DB_BLOCK_SIZE * 256 MB) • If <code>DB_BLOCK_SIZE</code>=2 KB, then 0 - 512 GB • If <code>DB_BLOCK_SIZE</code>=4 KB, then 0 - 1 TB • If <code>DB_BLOCK_SIZE</code>=8 KB, then 0 - 2 TB • If <code>DB_BLOCK_SIZE</code>=16 KB, then 0 - 4 TB • If <code>DB_BLOCK_SIZE</code>=32 KB, then 0 - 8 TB
Basic	No

You can specify up to 16 file sizes, for each of the flash memory devices specified with `DB_FLASH_CACHE_FILE`. For example, if there are three flash raw devices, you can specify the sizes of each device as follows:

```
db_flash_cache_file = /dev/raw/sda, /dev/raw/sdb, /dev/raw/sdc
db_flash_cache_size = 32G, 32G, 64G
```

If your flash cache consists of one flash cache device, you can dynamically change this parameter to 0 for that flash cache device (disabling the flash cache) after the database is started. You can then reenable the flash cache by setting this parameter for the device back to the original value when the database was started. Dynamic resizing of `DB_FLASH_CACHE_SIZE` or reenabling flash cache to a different size is not supported.

If your flash cache includes multiple flash cache devices, you can dynamically change the parameter to 0 for a particular flash cache device (turning it off) after the database is started. You can then reenable that flash cache device by setting this parameter for the device back to the original value it had when the database was started (turning it back on).

For example, to turn off the `/dev/raw/sdb` flash cache device:

```
db_flash_cache_file = /dev/raw/sda, /dev/raw/sdb, /dev/raw/sdc
db_flash_cache_size = 32G, 0, 64G
```

And, to turn the `/dev/raw/sdb` flash cache device back on again:

```
db_flash_cache_file = /dev/raw/sda, /dev/raw/sdb, /dev/raw/sdc
db_flash_cache_size = 32G, 32G, 64G
```



See Also:

["DB_FLASH_CACHE_FILE"](#)

2.88 DB_FLASHBACK_LOG_DEST

`DB_FLASHBACK_LOG_DEST` specifies the location for flashback database log storage.

Property	Description
Parameter type	String
Syntax	<code>DB_FLASHBACK_LOG_DEST = <i>directory</i> <i>disk group</i></code>
Default value	There is no default value.
Modifiable	<code>ALTER SYSTEM ... SID='*'</code> See "Modifying DB_FLASHBACK_LOG_DEST with ALTER SYSTEM"
Modifiable in a PDB	No
Basic	No
Oracle RAC	You must set this parameter for every instance, and multiple instances must have the same value.

This parameter allows you to specify a location for flashback database logs that is separate from the fast recovery area used by backups. For example, you could place flashback database logs in high-performance storage.

Before assigning a value to this parameter, you must set the `DB_FLASHBACK_LOG_DEST_SIZE` parameter to a nonzero value.

Modifying `DB_FLASHBACK_LOG_DEST` with `ALTER SYSTEM`

When modifying the `DB_FLASHBACK_LOG_DEST` parameter with the `ALTER SYSTEM` statement, you must disable and reenable flashback logging. For example:

```
SQL> alter database flashback off;
```

Database altered.

```
SQL> alter system set db_flashback_log_dest='/u01/oracle/dbs/ofba2';
```

System altered.

```
SQL> alter database flashback on;
```

Database altered.

**Note:**

This parameter is available starting with Oracle Database 23ai.

**See Also:**

- ["DB_FLASHBACK_LOG_DEST_SIZE"](#)
- ["\\$FLASHBACK_LOG_DEST"](#)
- *Oracle Database Backup and Recovery User's Guide* for more information about this parameter

2.89 DB_FLASHBACK_LOG_DEST_SIZE

`DB_FLASHBACK_LOG_DEST_SIZE` specifies the hard limit (in bytes) on the total space to be used by flashback database log files stored in `DB_FLASHBACK_LOG_DEST`.

Property	Description
Parameter type	Big integer
Syntax	<code>DB_FLASHBACK_LOG_DEST_SIZE = integer [K M G]</code>
Default value	0
Modifiable	<code>ALTER SYSTEM ... SID='*'</code>
Modifiable in a PDB	No
Range of values	0 to operating system dependent
Basic	No
Oracle RAC	You must set this parameter for every instance, and multiple instances must have the same value.

**Note:**

This parameter is available starting with Oracle Database 23ai.

**See Also:**

- "DB_FLASHBACK_LOG_DEST"
- "V\$FLASHBACK_LOG_DEST"
- *Oracle Database Backup and Recovery User's Guide* for more information about this parameter

2.90 DB_FLASHBACK_RETENTION_TARGET

DB_FLASHBACK_RETENTION_TARGET specifies the upper limit (in minutes) on how far back in time the database may be flashed back.

Property	Description
Parameter type	Integer
Default value	1440 (minutes)
Modifiable	ALTER SYSTEM ... SID='*'
Modifiable in a PDB	No
Range of values	0 to $2^{31} - 1$
Basic	No

How far back one can flashback a database depends on how much flashback data Oracle has kept in the fast recovery area.

**See Also:**

Oracle Data Guard Broker for enabling Flashback Database on Oracle Data Guard primary and target standby databases

2.91 DB_INDEX_COMPRESSION_INHERITANCE

DB_INDEX_COMPRESSION_INHERITANCE dictates how index creation inherits compression attributes.

Property	Description
Parameter type	String

Property	Description
Syntax	DB_INDEX_COMPRESSION_INHERITANCE = { TABLESPACE TABLE ALL NONE }
Default value	NONE
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	You must set this parameter for every instance, and multiple instances must have the same value.

Values:

- **TABLESPACE**
Index inheritance is based on tablespace attributes.
- **TABLE**
Index inheritance is based on table attributes.
- **ALL**
Index inheritance is based on table settings. However, if the table does not have default compression attributes, then index inheritance is based on tablespace attributes.
- **NONE**
There is no index inheritance from the table or tablespace.

If the `CREATE INDEX` statement specifies compression attributes, then the value of `DB_INDEX_COMPRESSION_INHERITANCE` is ignored, and there is no inheritance from the table or tablespace. When there is table inheritance or tablespace inheritance (and the tablespace does not have an explicit index compression clause), then the following matrix is used:

Table/Tablespace Level Compression	Inherited Compression for Index
OLTP	ADVANCED LOW
QUERY LOW, QUERY HIGH	ADVANCED HIGH
ARCHIVE LOW, ARCHIVE HIGH	ADVANCED HIGH

**Note:**

The value of `DB_INDEX_COMPRESSION_INHERITANCE` is ignored when creating an index owned by `SYS`. Such indexes do not inherit index compression attributes from tables or tablespaces. If you want to compress an index owned by `SYS`, you must explicitly specify the index compression attributes in the `CREATE INDEX` or `ALTER INDEX` statement.

**See Also:**

Oracle Database Administrator's Guide for more information about index compression

2.92 DB_KEEP_CACHE_SIZE

DB_KEEP_CACHE_SIZE specifies the size of the KEEP buffer pool.

Property	Description
Parameter type	Big integer
Syntax	DB_KEEP_CACHE_SIZE = <i>integer</i> [K M G]
Default value	0 (DB_KEEP_CACHE_SIZE is not configured by default)
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	Minimum: 0 (values greater than zero are automatically modified to be either the granule size * number of processor groups, or 4 MB * number of CPUs, whichever is greater) Maximum: operating system-dependent
Basic	No

The size of the buffers in the KEEP buffer pool is the primary block size (the block size defined by the DB_BLOCK_SIZE initialization parameter).

**See Also:**

- "DB_RECYCLE_CACHE_SIZE"
- *Oracle Database Performance Tuning Guide* for information on setting these parameters and on using multiple buffer pools

2.93 DB_LOST_WRITE_PROTECT

DB_LOST_WRITE_PROTECT enables or disables lost write detection.

Property	Description
Parameter type	String
Syntax	DB_LOST_WRITE_PROTECT = { AUTO TYPICAL FULL NONE }
Default value	AUTO
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Basic	No

Property	Description
Oracle RAC	In Oracle RAC instances, this parameter value is system-wide.

A data block lost write occurs when an I/O subsystem acknowledges the completion of the block write, while in fact the write did not occur in the persistent storage.

Values:

- `AUTO`

When this parameter is set to `AUTO` on a primary database, the instance automatically decides whether it logs buffer cache reads in the redo log or not, depending on the status of the standby databases. Specifically, the primary database only logs buffer cache reads if physical standby databases with real time redo apply exist.

When this parameter is set to `AUTO` on a standby database, the instance will automatically decide whether it incurs additional performance overhead to perform lost write detection or not, depending on whether apply is keeping up. If apply lag is beyond the reasonable threshold, the standby database will skip lost write protection temporarily until redo apply catches up with primary again, to ensure the lowest Data Guard role transition timings.

The reasonable threshold is determined as follows:

- If Fast Start Failover (FSFO) is configured through Data Guard Broker, based on apply lag threshold, then the threshold is the lesser of 60 seconds and two-thirds of the FSFO apply lag threshold.
- Otherwise, the threshold is 60 seconds.

- `TYPICAL`

When this parameter is set to `TYPICAL` on a primary database, the instance logs buffer cache reads for read/write tablespaces in the redo log, which is necessary for detection of lost writes.

When this parameter is set to `TYPICAL` on a standby database, or on a primary database during media recovery, the instance performs lost write detection, regardless of higher redo apply lags that may impact Data Guard role transition timings.

- `FULL`

When this parameter is set to `FULL` on a primary database, the instance logs reads for read-only tablespaces and read/write tablespaces.

When this parameter is set to `FULL` on a standby database, or on a primary database during media recovery, the instance performs lost write detection.

- `NONE`

When this parameter is set to `NONE` on either a primary database or a standby database, no lost write detection functionality is enabled.

2.94 DB_NAME

`DB_NAME` specifies a database identifier of up to 8 characters.

Property	Description
Parameter type	String

Property	Description
Syntax	<code>DB_NAME = database_name</code>
Default value	There is no default value.
Modifiable	No
Modifiable in a PDB	No
Basic	Yes
Oracle RAC	You must set this parameter for every instance. Multiple instances must have the same value.

This parameter must be specified and must correspond to the name specified in the `CREATE DATABASE` statement.

If you have multiple databases, the value of this parameter should match the Oracle instance identifier of each one to avoid confusion with other databases running on the system. The value of `DB_NAME` must be the same in both the standby and production initialization parameter files.

The database name specified in either the `STARTUP` command or the `ALTER DATABASE ... MOUNT` statement for each instance of the cluster database must correspond to the `DB_NAME` initialization parameter setting.

The following characters are valid in a database name: alphanumeric characters, underscore (`_`), number sign (`#`), and dollar sign (`$`). No other characters are valid. The database name must start with an alphabetic character. Oracle removes double quotation marks before processing the database name. Therefore you cannot use double quotation marks to embed other characters in the name. The database name is case insensitive.



See Also:

Oracle Database Administrator's Guide and Oracle Real Application Clusters Administration and Deployment Guide for more information on setting this parameter

2.95 DB_PERFORMANCE_PROFILE

`DB_PERFORMANCE_PROFILE` specifies the performance profile for a database or a pluggable database (PDB).

Property	Description
Parameter type	String
Syntax	<code>DB_PERFORMANCE_PROFILE = string</code>
Default value	There is no default value.
Modifiable	<code>ALTER SYSTEM</code>
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	The same value should be set on all instances.

A performance profile supports easier management for hundreds of databases or PDBs.

On Oracle Exadata, the performance profile for the regular database or CDB is pushed down to the Exadata storage cells. The performance profile is used for the management of Exadata I/O Resource Manager.

A CDB resource plan can specify different resource controls for a performance profile using the `DBMS_RESOURCE_MANAGER.CREATE_CDB_PROFILE_DIRECTIVE` procedure. A PDB with a matching performance profile will use the specified controls.

The value of `DB_PERFORMANCE_PROFILE` can be up to 30 characters and is not case sensitive.



See Also:

Oracle Database PL/SQL Packages and Types Reference for information about the `DBMS_RESOURCE_MANAGER.CREATE_CDB_PROFILE_DIRECTIVE` procedure.

2.96 DB_RECOVERY_AUTO_REKEY

Use `DB_RECOVERY_AUTO_REKEY` to enable or disable automatic tablespace rekey recovery on Oracle Data Guard standby instances.

Property	Description
Parameter type	String
Syntax	<code>DB_RECOVERY_AUTO_REKEY = { ON OFF }</code>
Default value	ON
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Basic	No
Oracle RAC	Multiple instances should use the same value.

This parameter is effective when Oracle Data Guard standby recovery encounters a redo that indicates that the primary database performed a tablespace rekey. If the value of this parameter is `ON`, then standby recovery automatically performs the corresponding tablespace rekey. If the value of this parameter is `OFF`, then standby recovery does not perform a tablespace rekey.



Note:

This parameter is available starting with Oracle Database 23ai.

2.97 DB_RECOVERY_FILE_DEST

`DB_RECOVERY_FILE_DEST` specifies the default location for the fast recovery area.

Property	Description
Parameter type	String
Syntax	<code>DB_RECOVERY_FILE_DEST = directory disk group</code>
Default value	There is no default value.
Modifiable	<code>ALTER SYSTEM ... SID='*'</code>
Modifiable in a PDB	No
Basic	Yes
Oracle RAC	You must set this parameter for every instance, and multiple instances must have the same value.

The fast recovery area contains multiplexed copies of current control files and online redo logs, as well as archived redo logs, flashback logs, and RMAN backups.

Specifying this parameter without also specifying the `DB_RECOVERY_FILE_DEST_SIZE` initialization parameter is not allowed.



See Also:

- *Oracle Database Backup and Recovery User's Guide* for information on setting up and configuring the fast recovery area
- ["DB_RECOVERY_FILE_DEST_SIZE"](#)

2.98 DB_RECOVERY_FILE_DEST_SIZE

`DB_RECOVERY_FILE_DEST_SIZE` specifies (in bytes) the hard limit on the total space to be used by target database recovery files created in the fast recovery area.

Property	Description
Parameter type	Big integer
Syntax	<code>DB_RECOVERY_FILE_DEST_SIZE = integer [K M G]</code>
Default value	0
Modifiable	<code>ALTER SYSTEM ... SID='*'</code>
Modifiable in a PDB	No
Basic	Yes
Oracle RAC	You must set this parameter for every instance, and multiple instances must have the same value.

Note that neither block 0 nor the OS block header of each Oracle file is included in this size. Allow an extra 10% for this data when computing the actual disk usage required for the fast recovery area.

 See Also:

- *Oracle Database Backup and Recovery User's Guide* for information on setting up and configuring the fast recovery area
- ["DB_RECOVERY_FILE_DEST"](#)

2.99 DB_RECYCLE_CACHE_SIZE

DB_RECYCLE_CACHE_SIZE specifies the size of the RECYCLE buffer pool.

Property	Description
Parameter type	Big integer
Syntax	DB_RECYCLE_CACHE_SIZE = <i>integer</i> [K M G]
Default value	0 (DB_RECYCLE_CACHE_SIZE is not configured by default)
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	Minimum: 0 (values greater than zero are automatically modified to be either the granule size * number of processor groups, or 4 MB * number of CPUs, whichever is greater) Maximum: operating system-dependent
Basic	No

The size of the buffers in the RECYCLE pool is the primary block size (the block size defined by the DB_BLOCK_SIZE initialization parameter).

 See Also:

- ["DB_KEEP_CACHE_SIZE"](#)
- *Oracle Database Performance Tuning Guide* for information on setting these parameters and on using multiple buffer pools

2.100 DB_SECUREFILE

DB_SECUREFILE specifies whether to treat LOB files as SecureFiles.

Property	Description
Parameter type	String
Syntax	DB_SECUREFILE = { NEVER PERMITTED PREFERRED ALWAYS IGNORE }

Property	Description
Default value	PERMITTED if the COMPATIBLE initialization parameter is set to 11.2.0.1, 11.2.0.2, or 11.2.0.3, or PREFERRED if the COMPATIBLE initialization parameter is set to 12.0.0.0 or higher
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No

Values

- NEVER

Any LOBs that are specified as SecureFiles are created as BasicFiles LOBs. All SecureFiles-specific storage options and features (for example, compress, encrypt, deduplicate) will cause an exception. The BasicFiles LOB defaults will be used for storage options not specified.

- PERMITTED

LOBs are allowed to be created as SecureFiles.

- PREFERRED

All LOBs are created as SecureFiles unless BASICFILE is explicitly specified in the LOB storage clause or the tablespace is a Manual Segment Space Management tablespace. When PREFERRED is set, cases where BASICFILE would otherwise be inherited from the partition or column level LOB storage are ignored; the LOBs will be created as SecureFiles instead.

- ALWAYS

Attempts to create all LOBs as SecureFiles LOBs but creates any LOBs not in an Automatic Segment Space Managed (ASSM) tablespace as BasicFiles LOBs, unless SECUREFILE is explicitly specified. Any BasicFiles LOB storage options that are specified will be ignored and the SecureFiles LOB defaults will be used for all storage options not specified.

- IGNORE

The SECUREFILE keyword and all SecureFiles options are ignored.

If the COMPATIBLE initialization parameter is not set to 11.1.0 or higher, then LOBs are not treated as SecureFiles.

If there is a LOB column with two partitions (one that has a tablespace for which ASSM is enabled and one that has a tablespace for which ASSM is not enabled), then LOBs in the partition with the ASSM-enabled tablespace will be treated as SecureFiles and LOBs in the other partition will be treated as BasicFiles.

If an application is not certified with SecureFiles, the value of the DB_SECUREFILE initialization parameter can be set to PERMITTED to get the default behavior of Oracle Database 11g.

**See Also:**

Oracle Database SecureFiles and Large Objects Developer's Guide for an example of setting this parameter using the `ALTER SYSTEM` statement

2.101 DB_ULTRA_SAFE

DB_ULTRA_SAFE sets the default values for other parameters that control protection levels.

Property	Description
Parameter type	String
Syntax	DB_ULTRA_SAFE = { OFF DATA_ONLY DATA_AND_INDEX }
Default value	OFF
Modifiable	No
Modifiable in a PDB	No
Basic	No

Values

- OFF

When any of DB_BLOCK_CHECKING, DB_BLOCK_CHECKSUM, or DB_LOST_WRITE_PROTECT are explicitly set, no changes are made.

- DATA_ONLY
 - DB_BLOCK_CHECKING will be set to MEDIUM.
 - DB_LOST_WRITE_PROTECT will be set to TYPICAL.
 - DB_BLOCK_CHECKSUM will be set to FULL.
- DATA_AND_INDEX
 - DB_BLOCK_CHECKING will be set to FULL.
 - DB_LOST_WRITE_PROTECT will be set to TYPICAL.
 - DB_BLOCK_CHECKSUM will be set to FULL.

**See Also:**

- "DB_BLOCK_CHECKING"
- "DB_BLOCK_CHECKSUM"
- "DB_LOST_WRITE_PROTECT"

2.102 DB_UNIQUE_NAME

DB_UNIQUE_NAME specifies a globally unique name for the database.

Property	Description
Parameter type	String
Syntax	DB_UNIQUE_NAME = <i>database_unique_name</i>
Default value	Database instances: the value of DB_NAME Oracle Automatic Storage Management instances: +ASM
Modifiable	No
Modifiable in a PDB	No
Basic	Yes
Oracle RAC	Multiple instances must have the same value.

Databases with the same DB_NAME within the same DB_DOMAIN (for example, copies of a database created for reporting or a physical standby) must have a unique DB_UNIQUE_NAME. Every database's DB_UNIQUE_NAME must be unique within the enterprise.

The value of DB_UNIQUE_NAME can be up to 30 characters and is case insensitive. The following characters are valid in a database name: alphanumeric characters, underscore (_), number sign (#), and dollar sign (\$).



Note:

DB_UNIQUE_NAME is used by several components within an Oracle instance to default file names or file paths, such as the default for the DG_BROKER_CONFIG_FILE*n* initialization parameter. In these cases, on UNIX platforms, the dollar sign (\$) character will be removed from the path or file name, because the character is used by Oracle to define the start of an environment variable substitution within a path or file name.



Note:

As part of their operations, some database tools or utilities create a string that uniquely identifies a database. The string may include the DB_UNIQUE_NAME for a database, and other identifying information for the database, such as the database SID. Oracle Database restricts some identifiers to 30 characters, so using a short DB_UNIQUE_NAME can help prevent ORA-00972 "identifier is too long" messages from database tools and utilities that create a string that includes the DB_UNIQUE_NAME.

**See Also:**

Oracle Data Guard Concepts and Administration and *Oracle Database Administrator's Guide* for more information on setting this parameter

2.103 DB_UNRECOVERABLE_SCN_TRACKING

DB_UNRECOVERABLE_SCN_TRACKING enables or disables the tracking of unrecoverable (NOLOGGING) direct-path INSERT and direct-path load operations.

Property	Description
Parameter type	Boolean
Default value	true
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	true false
Basic	No
Oracle RAC	Multiple instances must have the same value

When the value is set to `true`, updates are made to the controlfile that maintains the V\$DATAFILE.UNRECOVERABLE_CHANGE# and V\$DATAFILE.UNRECOVERABLE_TIME columns. When the value is set to `false`, updates are not made to the controlfile. Setting this parameter to `false` may improve performance of direct-path NOLOGGING operations.

2.104 DB_WRITER_PROCESSES

DB_WRITER_PROCESSES specifies the initial number of Database Writer Processes for an instance. This parameter is useful for systems that modify data heavily.

Property	Description
Parameter type	Integer
Default value	1 or CPU_COUNT / 8, whichever is greater. If the number of processor groups is less than 100 but greater than the number of Database Writer Processes, then the number of Database Writer Processes is adjusted to be a multiple of the number of processor groups. If the number of Database Writer Processes is greater than or equal to the number of processor groups, then there is no adjustment. For Oracle Solaris on SPARC systems, the default value of this parameter is calculated using an internal algorithm.
Modifiable	No
Modifiable in a PDB	No
Range of values	1 to 100
Basic	No

There can be 1 to 100 Database Writer Processes. The names of the first 36 Database Writer Processes are DBW0-DBW9 and DBWa-DBWz. The names of the 37th through 100th Database Writer Processes are BW36-BW99.

 See Also:

- [Background Processes](#) for additional information about the Database Writer Process
- *Oracle Database Concepts* for information on when the Database Writer Process writes dirty buffers to disk

2.105 DBFIPS_140

DBFIPS_140 enables Transparent Data Encryption (TDE) and DBMS_CRYPTO PL/SQL package program units to run in a mode compliant to the Federal Information Processing Standard (subsequently known as "FIPS mode").

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	No
Modifiable in a PDB	No
Range of values	true false
Basic	No
Oracle RAC	All instances must use the same value.

Set this parameter to `true` to use TDE and DBMS_CRYPTO in FIPS mode. This means that only FIPS-compliant algorithms may be used. By default, this parameter is set to `false`. When this parameter is set to `false`, all algorithms (FIPS-compliant or not) may be used.

 See Also:

- *Oracle Database Security Guide* for information about configuring Oracle Database FIPS 140 settings
- *Oracle Database Security Guide* for a table that describes the effect of setting the value of DBFIPS_140 to `true` or `false` on different platforms

2.106 DBNEST_ENABLE

DBNEST_ENABLE allows you to enable or disable dbNest.



Note:

This parameter is applicable only on Linux systems.

Property	Description
Parameter type	String
Syntax	DBNEST_ENABLE = { NONE CDB_RESOURCE_PDB_ALL }
Default value	NONE
Modifiable	No
Modifiable in a PDB	No
Basic	No
Oracle RAC	All instances should use the same value.

DbNest provides operating system resource isolation and management, file system isolation, and secure computing for PDBs. The infrastructure is implemented as a Linux-specific package that provides hierarchical containers, called nests. A CDB resides within a single parent nest, while PDBs reside within the individual child nests created within the parent. The isolation and resource management properties of a nest are separate. A full nest includes both isolation and resource management. Alternatively, you can configure a partial nest that includes only resource management.

You can set the following values for this parameter:

- **NONE:** Disables dbNest. This is the default value.
- **CDB_RESOURCE_PDB_ALL:** Enables a resource management-only nest for the CDB and a full nest for each PDB.



See Also:

Oracle Multitenant Administrator's Guide for information on securing and isolating resources using dbNest

2.107 DBNEST_PDB_FS_CONF

DBNEST_PDB_FS_CONF specifies the dbNest file system configuration file for a PDB.



Note:

This parameter is applicable only on Linux systems.

Property	Description
Parameter type	String
Syntax	<code>DBNEST_PDB_FS_CONF = 'pathname'</code>
Default value	None
Modifiable	No
Modifiable in a PDB	No
Basic	No
Oracle RAC	Multiple instances can have different values.

A dbNest file system configuration file specifies directories to be mounted inside the nest for a PDB. These directories are mounted in addition to the default directories.

For *pathname*, specify the full operating system path for the file.

If you do not set this parameter, then only the default directories are mounted.



See Also:

Oracle Multitenant Administrator's Guide for information on dbNest file system configuration files

2.108 DBWR_IO_SLAVES

`DBWR_IO_SLAVES` specifies the number of I/O server processes used by the `DBW0` process.

Property	Description
Parameter type	Integer
Default value	0
Modifiable	No
Modifiable in a PDB	No
Range of values	0 to operating system-dependent
Basic	No

`DBWR_IO_SLAVES` is relevant only on systems with only one database writer process (`DBW0`). The `DBW0` process and its server processes always write to disk. By default, the value is 0 and I/O server processes are not used.

If you set `DBWR_IO_SLAVES` to a nonzero value, the number of I/O server processes used by the `ARCH` and `LGWR` processes is set to 4. However, the number of I/O server processes used by Recovery Manager is set to 4 only if asynchronous I/O is disabled (either your platform does not support asynchronous I/O or `disk_asynch_io` is set to `false`).

Typically, I/O server processes are used to simulate asynchronous I/O on platforms that do not support asynchronous I/O or that implement it inefficiently. However, you can use I/O server processes even when asynchronous I/O is being used. In that case the I/O server processes will use asynchronous I/O.

I/O server processes are also useful in database environments with very large I/O throughput, even if asynchronous I/O is enabled.

 See Also:

- ["BACKUP_TAPE_IO_SLAVES"](#)
- *Oracle Database Performance Tuning Guide* for more information about this parameter

2.109 DDL_LOCK_TIMEOUT

DDL_LOCK_TIMEOUT specifies a time limit for how long DDL statements will wait in a DML lock queue.

Property	Description
Parameter type	Integer
Default value	0
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	0 to 1,000,000 (in seconds)
Basic	No

A value of zero indicates a status of `NOWAIT`. The maximum value of 1,000,000 seconds will result in the DDL statement waiting forever to acquire a DML lock.

If a lock is not acquired before the timeout period expires, then an error is returned.

 See Also:

- *Oracle Database Administrator's Guide* for more information about the DDL_LOCK_TIMEOUT parameter
- *Oracle Database Development Guide* for information about nonblocking and blocking DDL

2.110 DEFAULT_SHARING

DEFAULT_SHARING sets the value of the sharing clause in statements creating objects in an application root.

Property	Description
Parameter type	String
Syntax	DEFAULT_SHARING = { NONE METADATA DATA EXTENDED DATA }

Property	Description
Default value	For types of objects that support sharing, <code>METADATA</code> is the default. For types of objects that do not support sharing, <code>NONE</code> is the default.
Modifiable	<code>ALTER SESSION</code> , <code>ALTER SYSTEM</code>
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	All instances must have the same value

Specifying `SHARING=` in the create DDL overrides the value of the `DEFAULT_SHARING` parameter.

Example

Issuing the following `ALTER SYSTEM` statement in an application root sets the default value of the sharing clause to `NONE` in the server parameter file for the application root:

```
ALTER SYSTEM SET DEFAULT_SHARING = NONE SCOPE = SPFILE;
```

2.111 DEFERRED_SEGMENT_CREATION

`DEFERRED_SEGMENT_CREATION` specifies the semantics of deferred segment creation.

Property	Description
Parameter type	Boolean
Default value	<code>true</code>
Modifiable	<code>ALTER SESSION</code> , <code>ALTER SYSTEM</code>
Modifiable in a PDB	Yes
Range of values	<code>true</code> <code>false</code>
Basic	No

If set to `true`, then segments for tables and their dependent objects (LOBs, indexes) will not be created until the first row is inserted into the table.

Before creating a set of tables, if it is known that a significant number of them will not be populated, then consider setting this parameter to `true`. This saves disk space and minimizes install time.

2.112 DG_BROKER_CONFIG_FILEn

`DG_BROKER_CONFIG_FILEn` (where $n = 1, 2$) specifies the names for the Data Guard broker configuration files.

Property	Description
Parameter type	String
Syntax	<code>DG_BROKER_CONFIG_FILE[1 2] = filename</code>
Default value	Operating system-dependent
Modifiable	<code>ALTER SYSTEM</code>

Property	Description
Modifiable in a PDB	No
Range of values	One filename
Basic	No

Every database that is part of a Data Guard broker configuration has two broker configuration files, which contain entries that describe the state and properties of the configuration (such as the sites and databases that are part of the configuration, the roles and properties of each of the databases, and the state of each of the elements of the configuration). Two files are provided to always maintain the last known good state of the configuration.

If `DG_BROKER_CONFIG_FILEn` is not explicitly defined, then it is set to an operating system-specific default value at instance startup. This parameter can be altered only when the Data Guard broker is not running. See ["DG_BROKER_START"](#) for information on how to stop and start the broker.



See Also:

Oracle Data Guard Broker for more information about setting this parameter

2.113 DG_BROKER_START

`DG_BROKER_START` enables Oracle to determine whether the Oracle Data Guard broker should be started.

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	ALTER SYSTEM...SID='*'
Modifiable in a PDB	No
Range of values	true false
Basic	No

The Oracle Data Guard broker consists of background processes, foreground processes, and the system global area (SGA). The background and foreground processes exist as long as the instance exists, whenever this parameter is set to `true`.

If the database is never going to be configured in an Oracle Data Guard broker configuration, then you can leave this parameter unspecified and accept the default value of `false`. If the database is part of an Oracle Data Guard broker configuration, then you can simplify automatic startup of the broker by setting this parameter to `true` in the initialization parameter file.

**See Also:**

Oracle Data Guard Broker for examples of using this parameter to start the Oracle Data Guard broker

2.114 DIAGNOSTIC_DEST

As of Oracle Database 11g Release 1 (11.1), the diagnostics for each database instance are located in a dedicated directory that is specified by the `DIAGNOSTIC_DEST` initialization parameter.

Property	Description
Parameter type	String
Syntax	<code>DIAGNOSTIC_DEST = { pathname directory }</code>
Default value	Derived from the value of the <code>\$ORACLE_BASE</code> environment variable. If <code>\$ORACLE_BASE</code> is not set, then derived from <code>ORACLE_BASE</code> as set by the Oracle Universal Installer. If <code>ORACLE_BASE</code> is not set, then <code>\$ORACLE_HOME/rdbms/log</code> is used.
Modifiable	<code>ALTER SYSTEM</code>
Modifiable in a PDB	No
Basic	No
Oracle RAC	This parameter can be set on each instance. Oracle recommends that each instance in a cluster specify a <code>DIAGNOSTIC_DEST</code> directory location that is located on shared disk and that the same value for <code>DIAGNOSTIC_DEST</code> be specified for each instance.

The structure of the directory specified by `DIAGNOSTIC_DEST` is as follows:

```
<diagnostic_dest>/diag/rdbms/<dbname>/<instname>
```

This location is known as the Automatic Diagnostic Repository (ADR) Home. For example, if the database name is `proddb` and the instance name is `proddb1`, the ADR home directory would be `<diagnostic_dest>/diag/rdbms/proddb/proddb1`.

The following files are located under the ADR home directory:

- Trace files - located in subdirectory `<adr-home>/trace`
- Alert logs - located in subdirectory `<adr-home>/alert`. In addition, the `alert.log` file is now in XML format, which conforms to the Oracle ARB logging standard.
- Core files - located in the subdirectory `<adr-home>/cdump`
- Incident files - the occurrence of each serious error (for example, ORA-600, ORA-1578, ORA-7445) causes an incident to be created. Each incident is assigned an ID and dumping for each incident (error stack, call stack, block dumps, and so on) is stored in its own file, separated from process trace files. Incident dump files are located in `<adr-home>/incident/<incdir#>`. You can find the incident dump file location inside the process trace file.

**See Also:**

Oracle Automatic Storage Management Administrator's Guide for an example of the diagnostic directory for an Oracle ASM instance

2.115 DIAGNOSTICS_CONTROL

`DIAGNOSTICS_CONTROL` enables you to control and monitor the users who perform potentially unsafe database diagnostic operations.

Property	Description
Parameter type	String
Syntax	<code>DIAGNOSTICS_CONTROL = { ERROR WARNING IGNORE }</code>
Default value	IGNORE
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Basic	No
Oracle RAC	The same value must be used on all instances.

When diagnosing Oracle database issues, an Oracle Support Service staff member might instruct you to perform diagnostic operations. Some diagnostic operations are harmless. However, others could have adverse effects if not performed properly with the guidance of an Oracle Support Service staff member. In order to control and monitor who performs such diagnostic operations, Oracle Database 20 introduces the following security controls:

- Potentially unsafe diagnostic operations are internally identified in the database. These operations include setting certain debug events and debug actions with the `ALTER SESSION` or `ALTER SYSTEM` statement. For example:

```
ALTER SESSION SET EVENTS '1357 trace name context forever, level 2';
ALTER SYSTEM SET EVENTS 'trace[vos]';
```

- A user can be authorized to perform potentially unsafe diagnostic operations, either by being granted the `ENABLE DIAGNOSTICS` system privilege, or by being granted the `DBA` role, or by authenticating as `SYSDBA`.
- The `DIAGNOSTICS_CONTROL` initialization parameter enables you to specify how the database responds when an *unauthorized* user attempts to perform these diagnostic operations. The possible values are:
 - **ERROR:** When an unauthorized user attempts to perform a potentially unsafe diagnostic operation, the attempt fails with error `ORA-01031: insufficient privileges`.
 - **WARNING:** When an unauthorized user attempts to perform a potentially unsafe diagnostic operation, the attempt succeeds, but a warning is written to the alert log.
 - **IGNORE:** When an unauthorized user attempts to perform a potentially unsafe diagnostic operation, the attempt succeeds and no error messages or warnings occur. This is the default.

**Note:**

When altering the `DIAGNOSTICS_CONTROL` initialization parameter, be aware of the following guidelines:

- To modify this parameter with the `ALTER SYSTEM` command, you must be authenticated `AS SYSDBA`.
- In Oracle RAC environments, it is currently not possible to modify this parameter on remote instances by specifying the `SID` clause in the `ALTER SYSTEM SET` statement.

2.116 DISK_ASYNC_IO

`DISK_ASYNC_IO` controls whether I/O to datafiles, control files, and logfiles is asynchronous (that is, whether parallel server processes can overlap I/O requests with CPU processing during table scans).

Property	Description
Parameter type	Boolean
Default value	<code>true</code>
Modifiable	No
Modifiable in a PDB	No
Range of values	<code>true</code> <code>false</code>
Basic	No

If your platform supports asynchronous I/O to disk, Oracle recommends that you leave this parameter set to its default value. However, if the asynchronous I/O implementation is not stable, you can set this parameter to `false` to disable asynchronous I/O. If your platform does not support asynchronous I/O to disk, this parameter has no effect.

If you set `DISK_ASYNC_IO` to `false`, then you can increase `DB_WRITER_PROCESSES` or use `DBWR_IO_SLAVES` to simulate asynchronous I/O.

**See Also:**

- ["DB_WRITER_PROCESSES"](#)
- ["DBWR_IO_SLAVES"](#)
- *Oracle Database Performance Tuning Guide* for more information

2.117 DISPATCHERS

`DISPATCHERS` configures dispatcher processes in the shared server architecture.

Property	Description
Parameter type	String
Syntax	DISPATCHERS = 'dispatch_clause'
Syntax	dispatch_clause::= (PROTOCOL = protocol) (ADDRESS = address) (DESCRIPTION = description) [options_clause]
Syntax	options_clause::= (DISPATCHERS = integer SESSIONS = integer CONNECTIONS = integer MULTIPLEX = {1 ON YES TRUE 0 OFF NO FALSE BOTH IN OUT} LISTENER = tnsname SERVICE = service INDEX = integer)
Default value	If SHARED_SERVERS is greater than 0, then DISPATCHERS defaults to ' (PROTOCOL=tcp) ', causing 1 TCP/IP dispatcher to be created.
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Basic	No

The parsing software supports a name-value syntax to enable the specification of attributes in a position-independent, case-insensitive manner. For example:

```
DISPATCHERS = ' (PROTOCOL=TCP) (DISPATCHERS=3) '
```

Attributes may be specified using the full attribute name or any substring beginning with the first 3 characters. For example, SESSIONS can be specified as SES, SESS, SESSI, and so on.

Specify only one of the following attributes: PROTOCOL, ADDRESS, or DESCRIPTION. If you specify either ADDRESS or DESCRIPTION, then you can specify additional network attributes. Doing so supports multi-homed hosts.

dispatch_clause

- PROTOCOL
The network protocol for which the dispatcher generates a listening endpoint.
- ADDRESS
The network protocol address of the endpoint on which the dispatchers listen.
- DESCRIPTION
The network description of the endpoint on which the dispatchers listen, including the protocol address.

options_clause

- DISPATCHERS

The initial number of dispatchers to start. The default is 1.

- SESSIONS

The maximum number of network sessions to allow for each dispatcher. The default is operating system-specific. Most operating systems have a default of 16 KB.

- CONNECTIONS

The maximum number of network connections to allow for each dispatcher. The default is operating system-specific.

- MULTIPLY

Enables the Oracle Connection Manager session multiplexing feature.

- The values 1, ON, YES, TRUE, and BOTH indicate that Network Session Multiplex is enabled for both incoming and outgoing network connections.
- The value IN indicates that Network Session Multiplex is enabled for incoming network connections.
- The value OUT indicates that Network Session Multiplexing is enabled for outgoing network connections.
- The values 0, NO, OFF, and FALSE indicate that Network Session Multiplexing is disabled for both incoming and outgoing network connections. This is the default.

- LISTENER

Specifies the network name of an address or address list of the Oracle Net listeners with which the dispatchers will register.

The LISTENER attribute facilitates administration of multi-homed hosts. This attribute specifies the appropriate listeners with which the dispatchers will register. The LISTENER attribute takes precedence over the LOCAL_LISTENER and REMOTE_LISTENER parameters. See "LOCAL_LISTENER" and "REMOTE_LISTENER".

- SERVICE

Specifies one or more names by which clients can connect to the dispatchers. The SERVICE attribute takes precedence over any settings configured by using the SRVCTL command-line utility, the GDSCTL command-line utility, or the DBMS_SERVICE PL/SQL package.

- INDEX

Use this attribute in an ALTER SYSTEM SET DISPATCHERS statement to indicate which dispatcher configuration you want to modify. (If you specify INDEX in the initialization parameter file, the Oracle Database ignores it.) In an ALTER SYSTEM statement, INDEX specifies the order in which the parameter's values were initialized. The value ranges from 0 (for the first dispatcher configuration) to one less than the total number of dispatcher configurations you define.

For example, if you specify 3 dispatcher configurations in the initialization parameter file, you would modify the third dispatcher configuration by specifying INDEX=2 in the ALTER SYSTEM statement. You could also add another dispatcher configuration in the ALTER SYSTEM statement by specifying INDEX=3.

If `INDEX` is not specified in the `ALTER SYSTEM` statement, then the `PROTOCOL`, `ADDRESS`, or `DESCRIPTION` attributes must be specified, and if a dispatcher configuration matching this `PROTOCOL`, `ADDRESS`, or `DESCRIPTION` exists, then that configuration will be modified. Otherwise, a new configuration will be added.

 See Also:

- ["SHARED_SERVERS"](#)
- *Oracle Database Net Services Administrator's Guide* and *Oracle Database Administrator's Guide* for more information on setting this parameter

2.118 DISTRIBUTED_LOCK_TIMEOUT

`DISTRIBUTED_LOCK_TIMEOUT` specifies the amount of time (in seconds) for distributed transactions to wait for locked resources.

Property	Description
Parameter type	Integer
Default value	60
Modifiable	<code>ALTER SYSTEM</code>
Modifiable in a PDB	Yes
Range of values	1 to $2^{31} - 1$
Basic	No

 See Also:

Oracle Database Concepts for more information on data concurrency

2.119 DML_LOCKS

`DML_LOCKS` specifies the maximum number of DML locks—one for each table modified in a transaction.

Property	Description
Parameter type	Integer
Default value	Derived: $4 * \text{TRANSACTIONS}$
Modifiable	No
Modifiable in a PDB	No
Range of values	20 to unlimited; a setting of 0 disables enqueues
Basic	No

Property	Description
Oracle RAC	You must set this parameter for every instance, and all instances must have positive values or all must be 0.

A **DML lock** is a lock obtained on a table that is undergoing a DML operation (insert, update, delete). The `DML_LOCKS` value should equal the grand total of locks on tables currently referenced by all users. For example, if three users are modifying data in one table, then three entries would be required. If three users are modifying data in two tables, then six entries would be required.

The default value assumes an average of four tables referenced for each transaction. For some systems, this value may not be enough.

Enqueues are shared memory structures that serialize access to database resources. If you set the value of `DML_LOCKS` to 0, enqueues are disabled and performance is slightly increased. However, you should be aware of the following restrictions when you set `DML_LOCKS` to 0:

- You cannot use `DROP TABLE`, `CREATE INDEX` statements
- You cannot use explicit lock statements such as `LOCK TABLE IN EXCLUSIVE MODE`
- Enterprise Manager cannot run on any instances for which `DML_LOCKS` is set to 0

Oracle holds more locks during parallel DML than during serial execution. Therefore, if your database supports a lot of parallel DML, you may need to increase the value of this parameter.



See Also:

- *Oracle Database Concepts* for a discussion of lock and enqueue resources needed for parallel DML
- *Oracle Database Concepts* for more information on data concurrency

2.120 DNFS_BATCH_SIZE

`DNFS_BATCH_SIZE` controls the number of asynchronous I/O's that can be queued by an Oracle process when Direct NFS Client is enabled.

Property	Description
Parameter type	Integer
Default value	4096
Modifiable	No
Modifiable in a PDB	No
Range of values	0 - 4096
Basic	No

In environments where the NFS server cannot handle a large number of outstanding asynchronous I/O requests, use this parameter to limit the number of I/O's issued by an Oracle foreground process. The recommended setting for this parameter is to start at 128 and increase or decrease it based on NFS server performance.

**See Also:**

Oracle Database Performance Tuning Guide for additional information about the DNFS_BATCH_SIZE initialization parameter

2.121 DRCP_CONNECTION_LIMIT

DRCP_CONNECTION_LIMIT specifies the maximum number of Database Resident Connection Pooling (DRCP) connections for a PDB.

Property	Description
Parameter type	Integer
Default value	In CDB\$ROOT: 0 (unlimited) In a PDB: - If a persistent value for SESSIONS was explicitly set for the PDB (ALTER SYSTEM SET SESSIONS = <i>n</i> SCOPE={ SPFILE BOTH}), and the PDB was subsequently restarted, then the default value is (10 * SESSIONS). - Otherwise, the PDB inherits the value for this parameter from CDB\$ROOT.
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	0 to operating system-dependent A value of 0 specifies that there is no limit on the number of DRCP connections.
Basic	No
Oracle RAC	Different instances can use different values.

DRCP_CONNECTION_LIMIT is a PDB-inherited parameter. The value of this parameter in CDB\$ROOT is not a CDB-wide limit. It is the default value for each PDB.

2.122 DRCP_DEDICATED_OPT

Use DRCP_DEDICATED_OPT to enable or disable the use of dedicated optimization with Database Resident Connection Pooling (DRCP).

Dedicated optimization causes DRCP to behave like a dedicated server when the number of connections to the DRCP broker is less than the DRCP maximum size.

Property	Description
Parameter type	String
Syntax	DRCP_DEDICATED_OPT = { YES NO }
Default value	NO
Modifiable	ALTER SYSTEM

Property	Description
Modifiable in a PDB	Yes, according to the following guidelines: • When the <code>ENABLE_PER_PDB_DRCP</code> initialization parameter is set to <code>true</code>, <code>DRCP_DEDICATED_OPT</code> can be modified only at the PDB level; it cannot be modified for the CDB root. • When the <code>ENABLE_PER_PDB_DRCP</code> initialization parameter is set to <code>false</code>, <code>DRCP_DEDICATED_OPT</code> can be modified only for the CDB root; it cannot be modified at the PDB level.
Basic	No
Oracle RAC	Different instances can use different values.

When the value of this parameter is set to `YES`, the use of dedicated optimization with DRCP is enabled. When it is set to `NO`, the use of dedicated optimization with DRCP is disabled.

See Also:

- *Oracle Database Administrator's Guide* for more information about setting this parameter
- ["ENABLE_PER_PDB_DRCP"](#)

2.123 DST_UPGRADE_INSERT_CONV

`DST_UPGRADE_INSERT_CONV` specifies whether internal operators will be allocated on top of `TIMESTAMP WITH TIME ZONE (TSTZ)` columns of tables which have not been upgraded during the upgrade window of daylight saving time patching for `TIMESTAMP WITH TIME ZONE` data.

Property	Description
Parameter type	Boolean
Default value	<code>true</code>
Modifiable	<code>ALTER SESSION</code> , <code>ALTER SYSTEM</code>
Modifiable in a PDB	Yes
Range of values	<code>true</code> <code>false</code>
Basic	No

Values

- `true`
Internal operators will be allocated on top of TSTZ columns of tables which have not been upgraded. This is the default.
- `false`
Internal operators will not be allocated on top of TSTZ columns of tables which have not been upgraded.

When `DST_UPGRADE_INSERT_CONV` is set to `true` during the upgrade window of the daylight saving time patching process:

- `SELECT` queries on tables with TSTZ data which have not been upgraded will use internal operators on top of TSTZ columns to present TSTZ data as if they were recorded using the new time zone translation rules.
- DML on tables with TSTZ data which have not been upgraded will use internal operators on top of TSTZ columns to ensure that the TSTZ data is recorded using the old time zone translation rules in order to be consistent with the existing TSTZ data in the same tables.

 Note:

Oracle strongly recommends that this parameter is set to `true` throughout the upgrade window of the daylight saving time patching process. This parameter reduces the performance impact since indexes on TSTZ columns will be disabled whenever internal operators are allocated. If the parameter is set to `false`, then indexes will be used and this may affect performance of queries against TSTZ data during the DST upgrade window. Turning off this parameter during the upgrade window may corrupt data on disk when DMLs occur for tables with TSTZ data which have not yet been upgraded.

 See Also:

Oracle Database Globalization Support Guide for more information about this parameter

2.124 ENABLE_AUTOMATIC_MAINTENANCE_PDB

ENABLE_AUTOMATIC_MAINTENANCE_PDB can be used to enable or disable the running of automated maintenance tasks for all the PDBs in a CDB or for individual PDBs in a CDB.

Property	Description
Parameter type	Boolean
Default value	<code>true</code>
Modifiable	<code>ALTER SYSTEM</code>
Modifiable in a PDB	Yes
Range of values	<code>true</code> <code>false</code>
Basic	No
Oracle RAC	The same value should be used for all instances.

 Note:

The value of this parameter in CDB\$ROOT (the root of a CDB) has no effect in the root. Automated maintenance tasks are always run in the root, regardless of the setting of this parameter.

By default, the value of `ENABLE_AUTOMATIC_MAINTENANCE_PDB` is `true` in `CDB$ROOT` (the root container in the CDB) and in the individual PDBs in a CDB. This means that by default, automated maintenance tasks are run for the CDB root and all the PDBs in the CDB.

When you change the value of `ENABLE_AUTOMATIC_MAINTENANCE_PDB` in the CDB root, the new value takes effect in the root and in all the PDBs in the CDB.

Therefore, if you change the value of `ENABLE_AUTOMATIC_MAINTENANCE_PDB` in the CDB root to `false`, the value of `ENABLE_AUTOMATIC_MAINTENANCE_PDB` is also changed to `false` in all of the PDBs in the CDB.

You can also change the value of `ENABLE_AUTOMATIC_MAINTENANCE_PDB` in any of the individual PDBs in a CDB, and the value that is set for each individual PDB will be honored. This enables you to enable or disable automated maintenance tasks for individual PDBs.

See Also:

- "[AUTOTASK_MAX_ACTIVE_PDBS](#)" for information about specifying the maximum number of PDBs that can schedule automated maintenance tasks at the same time
- *Oracle Database Administrator's Guide* for more information about managing automated database maintenance tasks

2.125 ENABLE_DDL_LOGGING

`ENABLE_DDL_LOGGING` enables or disables the writing of a subset of data definition language (DDL) statements to a DDL log.

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	true false
Basic	No

The DDL log is a file that has the same format and basic behavior as the alert log, but it only contains the DDL statements issued by the database. The DDL log is created only for the RDBMS component and only if the `ENABLE_DDL_LOGGING` initialization parameter is set to `true`. When this parameter is set to `false`, DDL statements are not included in the DDL log, but they are included in the alert log.

The DDL log contains one log record for each DDL statement issued by the database. The DDL log is included in IPS incident packages.

There are two DDL logs that contain the same information. One is an XML file, and the other is a text file. The DDL log is stored in the `log/ddl` subdirectory of the ADR home.

When `ENABLE_DDL_LOGGING` is set to `true`, the following DDL statements are written to the log:

- ALTER/CREATE/DROP/TRUNCATE CLUSTER
- ALTER/CREATE/DROP FUNCTION
- GRANT
- ALTER/CREATE/DROP INDEX
- ALTER/CREATE/DROP OUTLINE
- ALTER/CREATE/DROP PACKAGE
- ALTER/CREATE/DROP PACKAGE BODY
- ALTER/CREATE/DROP PROCEDURE
- ALTER/CREATE/DROP PROFILE
- REVOKE
- ALTER/CREATE/DROP SEQUENCE
- CREATE/DROP SYNONYM
- ALTER/CREATE/DROP/RENAME/TRUNCATE TABLE
- ALTER/CREATE/DROP TRIGGER
- ALTER/CREATE/DROP TYPE
- ALTER/CREATE/DROP TYPE BODY
- DROP USER
- ALTER/CREATE/DROP VIEW

**Note:**

The DDL statement written to the log may be truncated. You can use DDL triggers to view the entire DDL statement. See *Oracle Database PL/SQL Language Reference* for more information about DDL triggers.

**See Also:**

Oracle Database Licensing Information User Manual for licensing information for the `ENABLE_DDL_LOGGING` initialization parameter.

2.126 ENABLE_DNFS_DISPATCHER

`ENABLE_DNFS_DISPATCHER` enables dispatcher support for the Oracle Direct NFS client.

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	No

Property	Description
Modifiable in a PDB	No
Range of values	true false
Basic	No
Oracle RAC	All instances should use the same value.

When this parameter is set to `true` in the initialization parameter file, dispatcher processes will be spawned for the Oracle Direct NFS client.

The number of dispatcher processes spawned is calculated as one-eighth of the value of the `CPU_COUNT` parameter.



See Also:

"CPU_COUNT"

2.127 ENABLE_GOLDENGATE_REPLICATION

`ENABLE_GOLDENGATE_REPLICATION` controls services provided by the RDBMS for Oracle GoldenGate (both capture and apply services).

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	true false
Basic	No
Oracle RAC	All instances must have the same setting

Set this parameter to `true` to enable RDBMS services used by Oracle GoldenGate.

This parameter primarily controls supplemental logging required to support logical replication of new data types and operations. The redo log file is designed to be applied physically to a database, therefore the default contents of the redo log file often do not contain sufficient information to allow logged changes to be converted into SQL statements. Supplemental logging adds extra information into the redo log files so that replication can convert logged changes into SQL statements without having to access the database for each change. Previously these extra changes were controlled by the supplemental logging DDL. Now the `ENABLE_GOLDENGATE_REPLICATION` parameter must also be set to enable the required supplemental logging for any new data types or operations.

All enhancements to supplemental logging required to support logical replication are also controlled by this parameter.

The RDBMS services controlled by this parameter also include (but are not limited to):

- Transparent Data Encryption (including Tablespace Encryption) utilities used by GoldenGate Extract
- Service to read redo logs used by GoldenGate Extract
- Service to suppress triggers used by GoldenGate Replicat
- Service to handle transient duplicate handling used by GoldenGate Replicat
- Service to bypass referential integrity checking used by GoldenGate Replicat
- Services required to run Oracle GoldenGate in Integrated Extract and Integrated Replicat

**Note:**

You must purchase a license in order to use Oracle GoldenGate. Refer to *Oracle GoldenGate Licensing Information* and ensure that you have obtained the appropriate licensing before setting this parameter to `true`.

2.128 ENABLE_IMC_WITH_MIRA

ENABLE_IMC_WITH_MIRA enables or disables the In-Memory Column Store and Oracle Data Guard Multi-Instance Redo Apply, at the same time, on an Active Data Guard standby database.

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	true false
Basic	No
Oracle RAC	Different instances can use different values.

The value of this parameter is relevant only on the instance where MRP0 is spawned at the start of Redo Apply on a standby database.

2.129 ENABLE_PER_PDB_DRCP

ENABLE_PER_PDB_DRCP controls whether Database Resident Connection Pooling (DRCP) configures one connection pool for the entire CDB or one isolated connection pool for each PDB.

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	No
Modifiable in a PDB	No

Property	Description
Range of values	true false
Basic	No
Oracle RAC	Multiple instances must have the same value.

Possible values:

- true

DRCP creates one isolated connection pool for each PDB. You can connect to a particular PDB and configure, manage, and monitor its connection pool according to the specific requirements for that PDB. For example, you can set values for the `MIN_AUTH_SERVERS`, `MAX_AUTH_SERVERS`, and `DRCP_DEDICATED_OPT` initialization parameters for a PDB, and you can use the `DBMS_CONNECTION_POOL` package to manage the connection pool for a PDB.

When `ENABLE_PER_PDB_DRCP` is set to `true`, there is no connection pool for the entire CDB. The values of the `MIN_AUTH_SERVERS`, `MAX_AUTH_SERVERS`, and `DRCP_DEDICATED_OPT` initialization parameters have no meaning in the CDB root and you cannot alter them, nor can you use the `DBMS_CONNECTION_POOL` package while connected to the CDB root.

- false

DRCP creates one connection pool for the entire CDB. This connection pool is shared by all PDBs. You can set the `MIN_AUTH_SERVERS`, `MAX_AUTH_SERVERS`, and `DRCP_DEDICATED_OPT` initialization parameters only in the CDB root, and you can use the `DBMS_CONNECTION_POOL` only while connected to the CDB root.

 See Also:

- "MIN_AUTH_SERVERS"
- "MAX_AUTH_SERVERS"
- "DRCP_DEDICATED_OPT"
- *Oracle Database PL/SQL Packages and Types Reference* for more information on the `DBMS_CONNECTION_POOL` package

2.130 ENABLE_PLUGGABLE_DATABASE

`ENABLE_PLUGGABLE_DATABASE` is a bootstrap initialization parameter to create a CDB.

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	No
Modifiable in a PDB	No
Range of values	true false
Basic	No

This parameter enables a database in `NOMOUNT` startup mode to know that it is a CDB.

**Note:**

See *Oracle Multitenant Administrator's Guide* for more information about CDBs and PDBs.

2.131 ENABLED_PDBS_ON_STANDBY

`ENABLED_PDBS_ON_STANDBY` specifies which pluggable databases (PDBs) to replicate on an Oracle Data Guard standby database.

Property	Description
Parameter type	String
Syntax	<code>ENABLED_PDBS_ON_STANDBY = PDB-list</code>
Default value	* if no value is specified for this parameter in the <code>init.ora</code> file
Modifiable	<code>ALTER SYSTEM</code>
Modifiable in a PDB	No
Basic	No
Oracle RAC	All instances should use the same value.

**Note:**

This parameter is meaningful only on standby databases. Its settings are ignored on a primary database.

`PDB-list` accepts a list of PDB names represented by glob patterns such as “PDB?” or “PDB*a”, “PDB2”. The glob pattern rules are like those of UNIX shells. The asterisk (*) and question mark (?) wildcard characters are supported. The ? wildcard character matches exactly one unknown character, and the * wildcard character matches any number of unknown characters. Also, the minus sign (-) character can be used as the first character in a PDB name to indicate that the PDB should be excluded on the standby database.

The following characters are valid in a PDB name: alphanumeric characters, underscore (_), number sign (#), and dollar sign (\$). No other characters are valid. Oracle removes double quotation before processing the PDB name. Therefore you cannot use double quotation marks to embed other characters in the name. The PDB name is case insensitive. These are the same naming conventions as for a database name (as described in the `DB_NAME` initialization parameter description).

These rules apply for the `ENABLED_PDBS_ON_STANDBY` parameter:

- Any PDB names that match glob patterns starting with minus sign (-) will not be part of the standby database.
- If a PDB name matches several patterns in the `PDB-list` at the same time, the rightmost matched pattern has the highest precedence.

- If this parameter is not specified in the `init.ora` file, it is assumed that `"*"` is specified by default.
- If one or more patterns are specified in this parameter, it is assumed that `"_*"` is implicitly specified in the leftmost position. For example, `ENABLED_PDBS_ON_STANDBY="PDB1"`, `"PDB2"` is equivalent to `ENABLED_PDBS_ON_STANDBY="-*", "PDB1", "PDB2"`. It means that a PDB name that does not match any patterns is not allowed to be part of the standby.

Examples

These examples assumes that nine new PDBs named PDB1A, PDB1B, PDB1C, PDB2A, PDB2B, PDB2C, PDB3A, PDB3B, and PDB3C are being added to the primary database.

1. If STANDBY1 sets `ENABLED_PDBS_ON_STANDBY="*"` on STANDBY1, then all nine PDBs will be created on STANDBY1.
2. If STANDBY1 sets `ENABLED_PDBS_ON_STANDBY="PDB1*"` on STANDBY1, then PDB1A, PDB1B, and PDB1C will be created on STANDBY1.
3. If STANDBY1 sets `ENABLED_PDBS_ON_STANDBY="PDB*A"` on STANDBY1, then PDB1A, PDB2A, and PDB3A will be created on STANDBY1.
4. If STANDBY1 sets `ENABLED_PDBS_ON_STANDBY="PDB1*", "-PDB*A"` on STANDBY1, then PDB1B and PDB1C will be created on STANDBY1.
5. If STANDBY1 sets `ENABLED_PDBS_ON_STANDBY="*", "-PDB*A", "-PDB*B"` on STANDBY1, then PDB1C, PDB2C and PDB3C will be created on STANDBY1. All other PDBs match `"*"`, and the rightmost pattern has the higher precedence, so they are excluded on the standby.
6. If STANDBY1 sets `ENABLED_PDBS_ON_STANDBY="*", "-PDB*A", "PDB2A"` on STANDBY1, then PDB1A and PDB3A are excluded, but all other PDBs including PDB2A will be created.

2.132 ENCRYPT_NEW_TABLESPACES

`ENCRYPT_NEW_TABLESPACES` specifies whether to encrypt newly created user tablespaces.

Property	Description
Parameter type	String
Syntax	<code>ENCRYPT_NEW_TABLESPACES = { CLOUD_ONLY ALWAYS DDL }</code>
Default value	<code>CLOUD_ONLY</code>
Modifiable	<code>ALTER SYSTEM</code>
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	The same value should be specified for all instances.

The values that can be specified for the `ENCRYPT_NEW_TABLESPACES` parameter have the following meanings:

- `CLOUD_ONLY`:
When a user tablespace is created in the Oracle Cloud, it will be transparently encrypted if the `ENCRYPTION ... ENCRYPT` clause for the `SQL CREATE TABLESPACE` statement is not specified. The encryption algorithm is determined by the value of the `TABLESPACE_ENCRYPTION_DEFAULT_ALGORITHM` initialization parameter. When a user

tablespace is created in an on-premises database, the `ENCRYPTION` clause of the `CREATE TABLESPACE` statement determines if the tablespace is encrypted.

`CLOUD_ONLY` is the default value.

- **ALWAYS:**

Whether the user tablespace is created in the Oracle Cloud or in an on-premises database, the tablespace will be transparently encrypted if the `ENCRYPTION ... ENCRYPT` clause is not specified in the `CREATE TABLESPACE` statement. The encryption algorithm is determined by the value of the `TABLESPACE_ENCRYPTION_DEFAULT_ALGORITHM` initialization parameter.

- **DDL:**

Whether the user tablespace is created in the Oracle Cloud or in an on-premises database, the `CREATE TABLESPACE` statement follows the specified DDL. If no `ENCRYPTION` clause is specified, then the tablespace will not be encrypted. If the `ENCRYPTION USING ... ENCRYPT` clause is specified, then the specified algorithm will be used to encrypt the tablespace. If `ENCRYPTION ENCRYPT` is specified, but no algorithm is specified, then the encryption algorithm is determined by the value of the `TABLESPACE_ENCRYPTION_DEFAULT_ALGORITHM` initialization parameter.

 Note:

`ENCRYPT_NEW_TABLESPACES` is deprecated in Oracle Database 23ai and may be removed in a future release. Oracle recommends that you use the `TABLESPACE_ENCRYPTION` initialization parameter instead.

 See Also:

- [TABLESPACE_ENCRYPTION](#)
- [TABLESPACE_ENCRYPTION_DEFAULT_ALGORITHM](#)
- *Oracle Database Transparent Data Encryption Guide* for more information about tablespace encryption
- *Oracle Database SQL Language Reference* for more information about the `CREATE TABLESPACE` statement

2.133 ERROR_MESSAGE_DETAILS

Use `ERROR_MESSAGE_DETAILS` to control whether the database raises an additional stacked error message, with further details about the data values encountering the error, when displaying error messages.

Property	Description
Parameter type	String
Syntax	<code>ERROR_MESSAGE_DETAILS = { ON OFF DISALLOWED }</code>
Default value	ON

Property	Description
Modifiable	<code>ALTER SESSION</code> can be used to set this parameter to <code>ON</code> or <code>OFF</code> . <code>ALTER SYSTEM</code> can be used to set this parameter to <code>ON</code> , <code>OFF</code> , or <code>DISALLOWED</code> .
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	Different instances can use different values.

This parameter allows you to instruct the database to show or omit explanatory details about data values causing an error. Providing this information usually makes it easier for the user to understand why the error occurred. If this is not desired, this parameter can be used to omit these additional details.

The detailed error message is being raised as a stacked error, meaning that applications will see the root cause error as the main error and will have to further traverse the stack to gain insights into the details. SQL command line tools will automatically traverse the entire stack and print the entire error message stack.

You can set this parameter for the database instance or PDB with the `ALTER SYSTEM` statement, or for the current session with the `ALTER SESSION` statement, using these values:

- `ON`: The database will provide additional explanatory details when displaying error messages. This is the default.
- `OFF`: The database will not provide additional explanatory details. This is the behavior prior to Oracle Database 23ai.

Additionally, you can set the following value only at the database instance or PDB level with the `ALTER SYSTEM` statement:

- `DISALLOWED`: The database will not provide additional explanatory details, and users cannot override this behavior for the current session with the `ALTER SESSION` statement.



Note:

This parameter is available starting with Oracle Database 23ai.

2.134 EVENT

`EVENT` is a parameter used only to debug the system.

Property	Description
Parameter type	String
Default value	There is no default value.
Modifiable	No
Modifiable in a PDB	No
Basic	No

Do not alter the value of this parameter except under the supervision of Oracle Support Services staff.

2.135 EXTERNAL_KEYSTORE_CREDENTIAL_LOCATION

`EXTERNAL_KEYSTORE_CREDENTIAL_LOCATION` specifies the location of the secure external keystore.

Property	Description
Parameter type	String
Syntax	<code>EXTERNAL_KEYSTORE_CREDENTIAL_LOCATION = file-location</code>
Default value	No default value
Modifiable	No
Modifiable in a PDB	No
Basic	No
Oracle RAC	This parameter can be set on each instance. Oracle recommends that if the instances have a shared location, then use a directory on the shared location for this parameter and set the same value on all Oracle RAC instances. If the database does not have a shared location, then each instance of the database will have its own directory and the value should be set per-instance.

TDE keystore credentials can be stored in a secure external keystore to automate Transparent Data Encryption (TDE) operations.

To automate the setting of the Master Key in a newly-provisioned PDB, set `EXTERNAL_KEYSTORE_CREDENTIAL_LOCATION` so that the CDB knows the location of the secure external keystore.

When a file specification is set with this parameter, the secure external keystore is looked for in that location. If the secure external keystore is not found in that location, then this parameter is ignored.



See Also:

Oracle Database Transparent Data Encryption Guide for more information about using TDE

2.136 FAL_CLIENT

`FAL_CLIENT` specifies the FAL (fetch archive log) client name that is used by the FAL service, configured through the `FAL_SERVER` initialization parameter, to refer to the FAL client.

Property	Description
Parameter type	String
Syntax	<code>FAL_CLIENT = string</code>
Default value	There is no default value.
Modifiable	ALTER SYSTEM

Property	Description
Modifiable in a PDB	No
Basic	No

The value is an Oracle Net service name, which is assumed to be configured properly on the FAL server system to point to the FAL client (standby database).

**See Also:**

Oracle Data Guard Concepts and Administration for more information about FAL server

2.137 FAL_SERVER

FAL_SERVER specifies the FAL (fetch archive log) server for a standby database.

Property	Description
Parameter type	String
Syntax	FAL_SERVER = <i>string</i>
Default value	There is no default value.
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Basic	No

The value is an Oracle Net service name, which is assumed to be configured properly on the standby database system to point to the desired FAL server.

**See Also:**

Oracle Data Guard Concepts and Administration for more information about FAL server

2.138 FAST_START_MTTR_TARGET

FAST_START_MTTR_TARGET enables you to specify the number of seconds the database takes to perform crash recovery of a single instance.

Property	Description
Parameter type	Integer
Default value	0
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No

Property	Description
Range of values	0 to 3600 seconds
Basic	No
Oracle RAC	Multiple instances can have different values, and you can change the values at run time.

When specified, `FAST_START_MTTR_TARGET` is overridden by `LOG_CHECKPOINT_INTERVAL`.

 See Also:

- *Oracle Database Performance Tuning Guide* for an example of setting the lower bound for this parameter
- *Oracle Database Performance Tuning Guide* for an example of setting the upper bound for this parameter
- *Oracle Database Performance Tuning Guide* for an example of selecting a preliminary value for this parameter

2.139 FAST_START_PARALLEL_ROLLBACK

`FAST_START_PARALLEL_ROLLBACK` specifies the degree of parallelism used when recovering terminated transactions.

Property	Description
Parameter type	String
Syntax	<code>FAST_START_PARALLEL_ROLLBACK = { HIGH LOW FALSE }</code>
Default value	LOW
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No

Terminated transactions are transactions that are active before a system failure. If a system fails when there are uncommitted parallel DML or DDL transactions, then you can speed up transaction recovery during startup by using this parameter.

Values

- FALSE
Parallel rollback is disabled
- LOW
Limits the maximum degree of parallelism to $2 * \text{CPU\_COUNT}$
- HIGH
Limits the maximum degree of parallelism to $4 * \text{CPU\_COUNT}$

If you change the value of this parameter, then transaction recovery will be stopped and restarted with the new implied degree of parallelism.

**See Also:**

Oracle Database VLDB and Partitioning Guide for more information about this parameter

2.140 FILE_MAPPING

FILE_MAPPING specifies whether file mapping is enabled.

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	true false
Basic	No

**Note:**

The FILE_MAPPING initialization parameter is deprecated. It is still supported for backward compatibility.

The FMON background process is started to manage the mapping information when file mapping is enabled.

**See Also:**

Oracle Database Administrator's Guide for more information about the file mapping feature

2.141 FILEIO_NETWORK_ADAPTERS

FILEIO_NETWORK_ADAPTERS specifies a list of network adapters that can be used to access the disk storage.

Property	Description
Parameter type	String
Syntax	FILEIO_NETWORK_ADAPTERS = <i>adapter_name</i> [, <i>adapter_name</i>] ...

Property	Description
Default value	There is no default value.
Modifiable	No
Modifiable in a PDB	No
Range of values	One or more network adapter names, separated by commas
Basic	No

On platforms where the database files reside in network attached storage, this parameter provides the storage access library the list of network adapters that can be used to access the storage.

The network adapter name is a fully qualified address name of the network card that can be accessed through the host name database or using the Network Information Service. The components of the adapter name are separated by periods. For example, the following is a fully qualified adapter name:

```
ib1.oracle.com
```

2.142 FILESYSTEMIO_OPTIONS

FILESYSTEMIO_OPTIONS specifies I/O operations for file system files.

Property	Description
Parameter type	String
Syntax	FILESYSTEMIO_OPTIONS = { none setall directIO asynch }
Default value	Varies by database version and operating system.
Modifiable	No
Modifiable in a PDB	No
Basic	No



See Also:

Oracle Database Performance Tuning Guide for information about setting this parameter before running I/O calibration

2.143 FIXED_DATE

FIXED_DATE enables you to set a constant date that SYSDATE will always return instead of the current date.

Property	Description
Parameter type	String
Syntax	FIXED_DATE = [YYYY-MM-DD-HH24:MI:SS (or the default Oracle date format) NONE]

Property	Description
Default value	There is no default value.
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No

To undo a fixed date setting, specify `FIXED_DATE=NONE`. This parameter is useful primarily for testing. The value can be in the format shown above or in the default Oracle date format, without a time.

2.144 FORWARD_LISTENER

`FORWARD_LISTENER` specifies the name of a listener to which a connection must be forwarded by an existing set of remote listeners.

Property	Description
Parameter type	String
Syntax	<code>FORWARD_LISTENER = listener-name</code>
Default value	NULL
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	A different value can be set on different instances.

The parameter is useful when it is difficult to change an existing client connect string, for example, after an offsite database has been moved into the Oracle Cloud. With the `FORWARD_LISTENER` parameter, clients can continue to connect to their offsite listener, and the offsite listener forwards the connection to the Oracle Cloud listener.

Once a forward listener has been configured through the `FORWARD_LISTENER` parameter, the `LOCAL_LISTENER` parameter can be cleared by setting its value to `-oracle-none-` so that all the connections coming to an existing set of remote listeners configured through the `REMOTE_LISTENER` parameter are forwarded only to listeners configured through `FORWARD_LISTENER`.

The `FORWARD_LISTENER` parameter can also be specified in the `LISTENER_NETWORKS` parameter.

Examples

The following setup can be used to forward all the database connections coming to an existing customer SCAN listener to the Oracle Cloud SCAN listener.

```
REMOTE_LISTENER=customer-scan  
FORWARD_LISTENER=oracle-cloud-scan  
LOCAL_LISTENER=oracle-none-
```

**See Also:**

- "LOCAL_LISTENER"
- "REMOTE_LISTENER"
- "LISTENER_NETWORKS"
- *Oracle Clusterware Administration and Deployment Guide* for information about SCAN listeners

2.145 GCS_SERVER_PROCESSES

`GCS_SERVER_PROCESSES` specifies the number of background GCS server processes (LMS n and LM nn) to serve the inter-instance traffic among Oracle RAC instances.

If there is high Cache Fusion congestion on the system, the number of GCS server processes could be increased to reduce Cluster wait time. Additionally, the number of GCS server processes could be increased to reduce the application brownout time associated with Cluster reconfiguration and Dynamic Re-mastering (DRM).

Property	Description
Parameter type	Integer
Default value	Oracle calculates the default value as follows (in order of precedence): 1. If <code>CLUSTER_DATABASE</code> is set to <code>false</code>, then 0 2. If Oracle ASM, then 1 3. If 1 - 3 CPUs, then 1 4. If 4 - 15 CPUs, then 2 5. If 128 or more CPUs and SGA is 100 GB or more, then (CPUs / 6). If the result includes a fraction, then the fraction is disregarded. 6. Otherwise, the value is $2 + (\text{CPUs} / 32)$. If the result includes a fraction, then the fraction is disregarded. For example, if you have 20 CPUs, then $2 + (20 / 32)$ would equal 2 GCS processes. 7. On NUMA-enabled systems with 32 or more CPUs, the value is rounded up to a multiple of the number of NUMA processor groups, with a limit of (CPUs / 4) rounded down to a multiple of the number of NUMA processor groups.
Modifiable	No
Modifiable in a PDB	No
Range of values	0 if Oracle RAC is disabled (<code>CLUSTER_DATABASE</code> is set to <code>false</code>) 1 to 100 if Oracle RAC is enabled (<code>CLUSTER_DATABASE</code> is set to <code>true</code>)
Basic	No
Oracle RAC	Multiple instances can have different values.

GCS server processes are only seen in an Oracle RAC environment.

2.146 GLOBAL_NAMES

GLOBAL_NAMES specifies whether a database link is required to have the same name as the database to which it connects.

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	true false
Basic	No

If the value of GLOBAL_NAMES is false, then no check is performed. If you use or plan to use distributed processing, then Oracle recommends that you set this parameter to true to ensure the use of consistent naming conventions for databases and links in a networked environment.



See Also:

Oracle Database Administrator's Guide for more information on setting this parameter

2.147 GLOBAL_TXN_PROCESSES

GLOBAL_TXN_PROCESSES specifies the initial number of GTX_n background processes (GTX0, ... GTX9 and GTX_a, ... GTX_j) per instance to support global (XA) transactions in an Oracle RAC environment.

Property	Description
Parameter type	Integer
Default value	1
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	0 to 20
Basic	No
Oracle RAC	Multiple instances can have different values.

If you want to disable the GTX_n background processes, then you must set GLOBAL_TXN_PROCESSES to 0 in your parameter file. Setting this parameter to 0 will disable the XA support on an Oracle RAC database. Error ORA-55712 will be returned if you try to run XA transactions on an Oracle RAC database with this parameter set to 0. You can change the setting to a nonzero value at run time to turn on the support for XA.

GLOBAL_TXN_PROCESSES is useful for systems that process global (XA) transactions heavily. You do not need to specify a value for this parameter since Oracle Database automatically

determines the number of processes and autotunes them, as necessary. GTXn background processes are only seen in an Oracle RAC environment.

**See Also:**

Oracle Database Development Guide for more information about this parameter

2.148 GROUP_BY_POSITION_ENABLED

GROUP_BY_POSITION_ENABLED controls whether a positive integer in a GROUP BY clause is treated as the ordinal position of an expression in the select list.

Property	Description
Parameter type	Boolean
Default value	FALSE
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	TRUE FALSE
Basic	No
Oracle RAC	The same value must be used on all instances.

In SQL `SELECT` statements, you can specify the `GROUP BY` clause when you want to group the selected rows that share a common value for an expression and return a single row of summary information for each group.

In previous releases, if you wanted to group rows according to the value of an expression in the select list, you specified the expression as it appeared in the select list. For example:

```
SELECT department_id, COUNT(*)
  FROM employees
 GROUP BY department_id;
```

Starting with Oracle Database 23ai, when `GROUP_BY_POSITION_ENABLED` is set to `TRUE`, you can specify `GROUP BY position`, where *position* is a positive integer that represents the ordinal position of an expression in the select list. For example, the following `SELECT` statement groups the selected rows by the value of `department_id`:

```
SELECT department_id, COUNT(*)
  FROM employees
 GROUP BY 1;
```

The following `SELECT` statement groups the selected rows, first by the value of `manager_id`, and then by the value of `hired_year`:

```
SELECT manager_id, EXTRACT(YEAR FROM hire_date) AS hired_year, COUNT(*)
  FROM employees
 GROUP BY 1, 2;
```

**Note:**

This parameter is available starting with Oracle Database 23ai.

**See Also:**

Oracle Database SQL Language Reference for more information about the `GROUP BY` clause of the `SELECT` statement

2.149 HASH_AREA_SIZE

`HASH_AREA_SIZE` specifies the maximum amount of memory, in bytes, to be used for hash joins.

Property	Description
Parameter type	Integer
Default value	Derived: $2 * \text{SORT\_AREA\_SIZE}$
Modifiable	<code>ALTER SESSION</code>
Modifiable in a PDB	No
Range of values	0 to operating system-dependent
Basic	No

**Note:**

Oracle does not recommend using the `HASH_AREA_SIZE` parameter unless the instance is configured with the shared server option. Oracle recommends that you enable automatic sizing of SQL working areas by setting `PGA_AGGREGATE_TARGET` instead. `HASH_AREA_SIZE` is retained for backward compatibility.

`HASH_AREA_SIZE` is relevant to parallel execution operations and to the query portion of DML or DDL statements.

**See Also:**

- *Oracle Database Concepts* for information on hash joins in general

2.150 HEARTBEAT_BATCH_SIZE

Use `HEARTBEAT_BATCH_SIZE` to configure the heartbeat batch size, which is the number of heartbeats sent during one heartbeat period.

Property	Description
Parameter type	Integer
Default value	5
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	2 to 100
Basic	No
Oracle RAC	Multiple instances must have the same value.

2.151 HEAT_MAP

Use `HEAT_MAP` to enable or disable both the Heat Map and Automatic Data Optimization (ADO) features.

Property	Description
Parameter type	String
Syntax	<code>HEAT_MAP = { ON OFF }</code>
Default value	OFF
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	If specified, use the same value on all instances

Setting the `HEAT_MAP` initialization parameter to `ON` causes the database to track read and write access of all segments, as well as modification of database blocks, due to DMLs and DDLs. These activities are not tracked for objects in the `SYSTEM` and `SYSAUX` tablespaces.



See Also:

- *Oracle Database VLDB and Partitioning Guide* for more information about enabling and disabling the Heat Map feature
- *Oracle Database VLDB and Partitioning Guide* for more information about Heat Map tracking

2.152 HI_SHARED_MEMORY_ADDRESS

HI_SHARED_MEMORY_ADDRESS specifies the starting address at run time of the system global area (SGA).

Property	Description
Parameter type	Integer
Default value	0
Modifiable	No
Modifiable in a PDB	No
Basic	No

This parameter is ignored on platforms that specify the SGA's starting address at linktime.

On 64-bit platforms, use HI_SHARED_MEMORY_ADDRESS to specify the high-order 32 bits of a 64-bit address. Use SHARED_MEMORY_ADDRESS to specify the low-order 32 bits of the address (see "[SHARED_MEMORY_ADDRESS](#)"). If both parameters are 0 or unspecified, the SGA address defaults to a platform-specific location.

2.153 HS_AUTOREGISTER

HS_AUTOREGISTER enables or disables automatic self-registration of Heterogeneous Services (HS) agents.

Property	Description
Parameter type	Boolean
Default value	true
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	true false
Basic	No

When enabled, information is uploaded into the server's data dictionary to describe a previously unknown agent class or a new agent version.

Oracle recommends that you set this parameter to `true`. Oracle incurs less overhead when establishing subsequent connections through the same agent if self-registered information is available in the server's data dictionary.



See Also:

Oracle Database Heterogeneous Connectivity User's Guide for more information about using HS agents

2.154 HYBRID_READ_ONLY

`HYBRID_READ_ONLY` enables or disables hybrid read-only mode for a pluggable database (PDB).

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	true false
Basic	No
Oracle RAC	Different instances can use different values.

Hybrid read-only mode allows a PDB to operate in read/write mode or read-only mode, depending on the type of user that is connected to the PDB. The PDB operates in read/write mode for CDB common users, and read-only mode for application common users and local users. Hybrid read-only mode allows CDB common users to perform patching and maintenance operations on an open PDB, while application common users and local users can use the PDB as if it were open in read-only mode.

- To enable hybrid read-only mode for a PDB, connect to the PDB and set `HYBRID_READ_ONLY` to `true`. The PDB must be in `READ WRITE` mode before you enable hybrid read-only mode.
- To disable hybrid read-only mode for a PDB, connect to the PDB and set `HYBRID_READ_ONLY` to `false`.

You can determine whether a PDB is in hybrid read-only mode by querying the `IS_HYBRID_READ_ONLY` column of the `V$CONTAINER_TOPOLOGY` view.

When a PDB is in hybrid read-only mode, the `OPEN_MODE` column in the `V$CONTAINERS` and `V$PDBS` views reflects the mode for the querying user, that is, the `OPEN_MODE` column returns `READ WRITE` when queried by a CDB common user, and `READ ONLY` when queried by an application common user or a local user.



Note:

This parameter is available starting with Oracle Database 23ai.



See Also:

"`V$CONTAINER_TOPOLOGY`"

2.155 IDENTITY_PROVIDER_CONFIG

Use `IDENTITY_PROVIDER_CONFIG` to configure the database to use Microsoft Azure Active Directory (Azure AD) as an external identity provider.

Property	Description
Parameter type	String
Syntax	<pre>IDENTITY_PROVIDER_CONFIG = '{ "application_id_uri" : "string", "tenant_id" : "string", "app_id" : "string" }'</pre> Where: • The <code>application_id_uri</code> value is obtained from the registered application, to be mapped in the JWT "aud" (audience) claim. It must be domain qualified and start with "https://" to specify the OCI database to access. • The <code>tenant_id</code> value is obtained from the tenant configuration and is also available on the database application registration overview page. • The <code>app_id</code> value is obtained from the registered resource application and is also available on the database application registration overview page.
Default value	None
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	The same value must be used on all instances.

This parameter is effective only when the database is enabled to use Azure AD as an external identity provider, that is, when the `IDENTITY_PROVIDER_TYPE` initialization parameter is set to `AZURE_AD`. You must use this parameter to specify Azure AD configuration settings.

Example:

```
ALTER SYSTEM SET IDENTITY_PROVIDER_CONFIG =  
'{ "application_id_uri" : "https://example.com/pdb1",  
  "tenant_id" : "111a1111-a11a-111a-11111111111a",  
  "app_id" : "11aa1a1-aaaa-1111-1111-1111aa11111" }'  
SCOPE=BOTH;
```

Note:

Setting the value of this parameter is only one step in a series of steps for configuring the database to use Azure AD. Refer to *Oracle Database Security Guide* for the complete steps before you set this parameter.

**Note:**

For additional information about using this parameter with Oracle Autonomous Database, refer to ["Use Azure Active Directory \(Azure AD\) with Autonomous Database"](#).

**Note:**

This parameter is not available to update directly for Oracle Autonomous Database Serverless.

**Note:**

This parameter is available in Oracle Database 19c, starting with version 19.16, and in Oracle Database 23ai. This parameter is not available in Oracle Database 21c.

**See Also:**

["IDENTITY_PROVIDER_TYPE"](#)

2.156 IDENTITY_PROVIDER_TYPE

IDENTITY_PROVIDER_TYPE specifies an external identity provider for the database.

Property	Description
Parameter type	String
Syntax	IDENTITY_PROVIDER_TYPE = { AZURE_AD OCI_IAM NONE }
Default value	NONE
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	The same value must be used on all instances.

Values:

- **AZURE_AD** - Enables the database to use Microsoft Azure Active Directory (Azure AD) as an external identity provider.

When you specify this value, you must also specify configuration settings for Azure AD by setting the `IDENTITY_PROVIDER_CONFIG` initialization parameter.

- **OCI_AM** - Enables the database to use Oracle Cloud Infrastructure Identity and Access Management (OCI IAM) as an external identity provider.

When you specify this value, there is no need to specify configuration settings with the `IDENTITY_PROVIDER_CONFIG` initialization parameter.

- `NONE` - The database will not use Azure AD or OCI IAM as an external identity provider.

**Note:**

Setting the value of this parameter is only one step in a series of steps for configuring an external identity provider for the database. Refer to *Oracle Database Security Guide* for the complete set of steps for configuring Azure AD or OCI IAM before you set this parameter value.

**Note:**

The following resources offer additional information about using this parameter with Oracle Autonomous Database:

- ["Use Azure Active Directory \(Azure AD\) with Autonomous Database"](#)
- ["Use Identity and Access Management \(IAM\) Authentication with Autonomous Database"](#)

**Note:**

This parameter is not available to update directly for Oracle Autonomous Database Serverless.

**Note:**

This parameter is available in Oracle Database 19c, starting with version 19.16, and in Oracle Database 23ai. This parameter is not available in Oracle Database 21c.

**See Also:**

["IDENTITY_PROVIDER_CONFIG"](#)

2.157 IFILE

Use `IFILE` to embed another parameter file within the current parameter file.

Property	Description
Parameter type	Parameter file

Property	Description
Syntax	<code>IFILE = <i>parameter_file_name</i></code>
Default value	There is no default value.
Modifiable	No
Modifiable in a PDB	No
Range of values	Valid parameter filenames
Basic	No
Oracle RAC	Multiple instances can have different values.

For example:

```
IFILE = COMMON.ORA
```

You can have up to three levels of nesting. In this example, the file `COMMON.ORA` could contain a second `IFILE` parameter for the file `COMMON2.ORA`, which could contain a third `IFILE` parameter for the file `GCPARMS.ORA`. You can also include multiple parameter files in one parameter file by listing `IFILE` several times with different values:

```
IFILE = DBPARMS.ORA
IFILE = GCPARMS.ORA
IFILE = LOGPARMS.ORA
```



Note:

You must list multiple entries on contiguous lines of the parameter file.

2.158 IGNORE_SESSION_SET_PARAM_ERRORS

`IGNORE_SESSION_SET_PARAM_ERRORS` controls whether the database ignores errors when clients attempt to modify session parameter values.

Property	Description
Parameter type	String
Syntax	<code>IGNORE_SESSION_SET_PARAM_ERRORS = <i>parameter_name</i> [, <i>parameter_name</i>] ...</code>
Default value	None
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	Multiple instances should use the same value.

The `IGNORE_SESSION_SET_PARAM_ERRORS` parameter allows you to change the outcome of the following scenario:

1. An Oracle database uses PDB lockdown profiles to prevent certain initialization parameters from being modified with the `ALTER SESSION` statement.

2. A database client attempts to modify one of those parameters with the `ALTER SESSION` statement. The client has no knowledge that the parameter is locked down.
3. The database returns an error to the client.

To prevent the database from returning an error in the preceding scenario, set the value of `IGNORE_SESSION_SET_PARAM_ERRORS` to a comma-separated list of locked down initialization parameters. Thereafter, if a client attempts to modify one of those parameters with the `ALTER SESSION` statement, the database will ignore the modification attempt and indicate to the client that the operation was successful.

You can set the `IGNORE_SESSION_SET_PARAM_ERRORS` parameter while connected to a specific PDB, or you can apply it to all PDBs by setting it in the CDB root.

Example

The `CURSOR_INVALIDATION` and `CURSOR_SHARING` parameters are locked down in one of the PDBs in your database. If a client application attempts to modify either of these parameters, you want the database to ignore the request and allow the application to continue running without incurring an error. To achieve this, you can connect to the PDB and set the `IGNORE_SESSION_SET_PARAM_ERRORS` parameter. For example:

```
ALTER SYSTEM SET IGNORE_SESSION_SET_PARAM_ERRORS = CURSOR_INVALIDATION,  
CURSOR_SHARING;
```

2.159 INMEMORY_ADG_ENABLED

`INMEMORY_ADG_ENABLED` indicates whether in-memory for Active Data Guard is enabled in addition to the in-memory cache size.

Property	Description
Parameter type	Boolean
Default value	true
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	true false
Basic	No
Oracle RAC	The same value should be used on all instances. If the value for this parameter is changed on one instance, the parameter's value should be changed to the same value on the other instances.

For Active Data Guard, media recovery needs to retrieve in-memory objects when applying redo and to invalidate the related objects after the query advance. This parameter controls whether media recovery does the retrieving and invalidating.

This parameter should be set on standby databases. The value of this parameter is meaningless on a primary database.

If the standby is an Oracle RAC instance, then all the different standby instances must have this parameter set to the same value.

This parameter is a dynamic system-modifiable parameter whose value can be changed only when Active Data Guard recovery is not running.

If you start multi-instance redo apply (MIRA) Active Data Guard recovery, all instances involved in MIRA must have the parameter set to the same value, otherwise MIRA will signal an error.

Example

If the standby is an Oracle RAC instance, this parameter should be set to the same value on all the Oracle RAC instances:

```
SQL> alter system set inmemory_adg_enabled=true sid='*';
```

See Also:

- "INMEMORY_SIZE"
- *Oracle Database In-Memory Guide* for more information about deploying an In-Memory Column Store (IM column store) in an Active Data Guard environment

2.160 INMEMORY_AUTOMATIC_LEVEL

INMEMORY_AUTOMATIC_LEVEL is used to enable the Automatic In-Memory feature, which automates the management of the In-Memory Column Store (IM column store) to help ensure that the working data set is in the IM column store at all times.

Property	Description
Parameter type	String
Syntax	INMEMORY_AUTOMATIC_LEVEL = { LOW MEDIUM HIGH OFF }
Default value	OFF
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	All instances should use the same value.

Typically, among all the IM enabled segments, only a subset is actively queried at any time. This subset is known as the working data set. The working data set is expected to change over time for many applications.

INMEMORY_AUTOMATIC_LEVEL attempts to keep the working data set in the IM column store at all times by moving segments in and out of the IM column store based on access patterns.

Oracle recommends that you provision enough memory for the working data set to fit in the IM column store.

The following values can be set:

- **LOW:** The database evicts cold segments from the IM column store when it is under memory pressure.
- **MEDIUM:** The database evicts cold segments from the IM column store when it is under memory pressure. This level includes an additional optimization that ensures that any hot segment that was not populated because of memory pressure is populated first.

- **HIGH:** All segments in the database are enabled for the IM column store, except segments belonging to Oracle-maintained users and segments from external tables. Automatic In-Memory manages all segments enabled for the IM column store, keeping hot segments in the IM column store and evicting cold segments. This level includes an additional optimization that ensures that any hot segment that was not populated because of memory pressure is populated first.
- **OFF:** Automatic In-Memory is disabled. This value returns the IM column store to the behavior that existed prior to Oracle Database 18c, when the Automatic In-Memory features was introduced. If you do not expect a stable working data set, set the parameter to **OFF**. This is the default value.

See Also:

- *Oracle Database Licensing Information User Manual* to learn which database offerings support the Automatic In-Memory feature
- *Oracle Database In-Memory Guide* for more information about configuring the Automatic In-Memory feature

2.161 INMEMORY Clause DEFAULT

INMEMORY Clause DEFAULT enables you to specify a default In-Memory Column Store (IM column store) clause for new tables and materialized views.

Note:

The setting of this parameter has no effect on In-Memory external tables or hybrid partitioned tables.

Property	Description
Parameter type	String
Syntax	<code>INMEMORY Clause DEFAULT = '[INMEMORY] [NO INMEMORY] [other-clauses]'</code>
Syntax	other-clauses::= [compression-clause] [priority-clause] [rac-clause]
Syntax	compression-clause::= NO MEMCOMPRESS MEMCOMPRESS FOR { DML QUERY [LOW HIGH] CAPACITY [LOW HIGH] } ¹
Syntax	priority-clause::= PRIORITY { LOW MEDIUM HIGH CRITICAL NONE } ¹
Syntax	rac-clause::= [distribute-clause] [duplicate-clause] ¹
Syntax	distribute-clause::= DISTRIBUTE [AUTO BY ROWID RANGE] ¹

Property	Description
Syntax	duplicate-clause::= NO DUPLICATE DUPLICATE [ALL] ¹
Default value	An empty string
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	All instances should use the same value

¹ See [Table 2-2](#) for more information about this clause.

If the `INMEMORY_CLAUSE_DEFAULT` parameter is unset or set to an empty string (the default), only tables and materialized views explicitly specified as `INMEMORY` will be populated into the IM column store. Setting the value of the `INMEMORY_CLAUSE_DEFAULT` parameter to `NO INMEMORY` has the same effect as setting it to the default value.

If the `INMEMORY_CLAUSE_DEFAULT` parameter is set, then any *newly created* table or materialized view specified as `INMEMORY` will inherit unspecified attributes from this parameter. This can force certain in-memory options by default that are not explicitly specified in the syntax. For example, if the `INMEMORY_CLAUSE_DEFAULT` parameter is set to `MEMCOMPRESS FOR CAPACITY LOW` and a table is created as `INMEMORY PRIORITY HIGH`, then the table is treated as if it was declared as `INMEMORY MEMCOMPRESS FOR CAPACITY LOW PRIORITY HIGH`.

If `INMEMORY` is specified as part of this parameter, then all newly created tables and materialized views will be populated into the IM column store, except tables and materialized views explicitly specified as `NO INMEMORY`. For example, if this parameter is set to `INMEMORY MEMCOMPRESS FOR CAPACITY HIGH`, then all new tables will be created as if this clause were present in the `SQL CREATE TABLE` statement. If there is a default `INMEMORY` value for the tablespace for a given segment, then it will override the value for this parameter.

Table 2-2 Meaning of INMEMORY_CLAUSE_DEFAULT Parameter Values

Syntax	Description
<code>INMEMORY</code>	Specifies that all newly-created tables and materialized views populate the IM column store unless they are specified as <code>NO INMEMORY</code> in the <code>SQL CREATE TABLE</code> or <code>CREATE MATERIALIZED VIEW</code> statement
<code>NO INMEMORY</code>	Specifies that only tables and materialized views explicitly specified as <code>INMEMORY</code> in the <code>SQL CREATE TABLE</code> or <code>CREATE MATERIALIZED VIEW</code> statements populate the IM column store
<code>compression-clause</code>	Specifies that in-memory compression should be used for the instance. Use the <code>MEMCOMPRESS FOR</code> values to specify the in-memory compression level.
<code>NO MEMCOMPRESS</code>	When <code>NO MEMCOMPRESS</code> is specified, no in-memory compression is done in the IM column store.
<code>MEMCOMPRESS FOR</code>	<code>MEMCOMPRESS FOR</code> is used to indicate the in-memory compression level for the IM column store.
<code>DML</code>	When <code>DML</code> is specified, the IM column store is optimized for DML operations, and some lightweight in-memory compression may be done.

Table 2-2 (Cont.) Meaning of INMEMORY Clause DEFAULT Parameter Values

Syntax	Description
QUERY	When QUERY is specified, the in-memory compression level is for high performance. If QUERY is specified without LOW or HIGH, it defaults to QUERY LOW.
QUERY LOW	When QUERY LOW is specified, the in-memory compression level provides the highest performance.
QUERY HIGH	When QUERY HIGH is specified, the in-memory compression level provides a balance between compression and performance, weighted toward performance.
CAPACITY	When CAPACITY is specified without LOW or HIGH, it defaults to CAPACITY LOW.
CAPACITY LOW	When CAPACITY LOW is specified, the in-memory compression level is a balance between compression and performance, weighted toward capacity.
CAPACITY HIGH	When CAPACITY HIGH is specified, the in-memory compression level is for highest capacity.
priority-clause	Specifies the priority to use when populating tables in the IM column store. Use the PRIORITY values to specify the priority. By default, the population of a table in the IM column store can be delayed until the database determines it is useful. On database instance startup, tables are populated in priority order.
PRIORITY NONE	When PRIORITY NONE is specified, the population of a table in the IM column store can be delayed until the database determines it is useful. This is the default value when no priority is specified.
PRIORITY LOW	When PRIORITY LOW is specified for a table or tables, the population of those tables in the IM column store is done before tables that have no priority specified.
PRIORITY MEDIUM	When PRIORITY MEDIUM is specified for a table or tables, the population of those tables in the IM column store is done before tables that have no priority and PRIORITY LOW specified.
PRIORITY HIGH	When PRIORITY HIGH is specified for a table or tables, the population of those tables in the IM column store is done before tables that have no priority, PRIORITY LOW, and PRIORITY MEDIUM specified.
PRIORITY CRITICAL	When PRIORITY CRITICAL is specified for a table or tables, the population of those tables in the IM column store is done before tables that have no priority, PRIORITY LOW, PRIORITY MEDIUM, and PRIORITY HIGH specified.
rac-clause	Specifies how tables in the IM column store will be managed among Oracle Real Application Clusters (Oracle RAC) instances. Use the distribute-clause and duplicate-clause to specify how tables in the IM store will be managed in Oracle RAC instances. For a non-Oracle RAC database, these settings have no effect, because the whole table or partition has to be on the single instance.
distribute-clause	Specifies how a table is distributed among Oracle RAC instances.

Table 2-2 (Cont.) Meaning of INMEMORY Clause DEFAULT Parameter Values

Syntax	Description
DISTRIBUTE AUTO	Specifies that the database will automatically decide how to distribute tables in the IM column store across the Oracle RAC instances based on the type of partitioning and the value of the <code>duplicate_clause</code> . <code>DISTRIBUTE AUTO</code> is the default, and it is also used when <code>DISTRIBUTE</code> is specified by itself.
DISTRIBUTE BY ROWID RANGE	Specifies that the tables in the IM column store will be distributed by rowid range to different Oracle RAC instances.
<code>duplicate_clause</code>	Specifies how many copies of each In-Memory Compression Unit (IMCU) of the tables in the IM column store will be spread across all the Oracle RAC instances. Note: The <code>duplicate_clause</code> is only applicable if you are using Oracle Real Application Clusters (Oracle RAC) on an engineered system. Otherwise, the <code>duplicate_clause</code> is ignored and there is only one copy of each IMCU in memory.
NO DUPLICATE	Data is not duplicated across Oracle RAC instances. This is the default.
DUPLICATE	Data is duplicated on another Oracle RAC instance, resulting in data existing on a total of two Oracle RAC instances.
DUPLICATE ALL	Data is duplicated across all Oracle RAC instances. If you specify <code>DUPLICATE ALL</code> , then the database uses the <code>DISTRIBUTE AUTO</code> setting, regardless of whether or how you specify the <code>distribute_clause</code> .

Examples

The following statement causes no tables to populate the IM column store:

```
alter system set INMEMORY Clause DEFAULT='NO INMEMORY'
scope=both;
```

The following statement causes new tables and materialized views (except those specified as `NO INMEMORY`) to populate the IM column store at the high capacity compression level:

```
alter system set
INMEMORY Clause DEFAULT='INMEMORY MEMCOMPRESS FOR CAPACITY HIGH'
scope=both;
```

The following statement causes new tables (even those specified as `NO INMEMORY`) to populate the IM column store at the highest performance compression level at `LOW` priority:

```
alter system set
INMEMORY Clause DEFAULT='INMEMORY MEMCOMPRESS FOR QUERY LOW PRIORITY LOW'
scope=both;
```

The following statement causes new tables (even those specified as `NO INMEMORY`) to populate the IM column store without any in-memory compression:

```
alter system set
INMEMORY Clause DEFAULT='INMEMORY NO MEMCOMPRESS'
scope=both;
```

The following statement causes tables in the IM column store to be duplicated on every Oracle RAC instance, unless on a non-engineered system. For a non-engineered system, the

duplicate-clause (DUPLICATE ALL) will be ignored and tables in the column store will be automatically distributed across the Oracle RAC instance, with only one copy of each IMCU in the tables in the IM column store:

```
alter system set
INMEMORY Clause_DEFAULT='INMEMORY MEMCOMPRESS FOR QUERY
DISTRIBUTE AUTO DUPLICATE ALL'
scope=both;
```

The following statement sets the value of the `INMEMORY Clause_DEFAULT` parameter back to its default value, the empty string:

```
alter system set
INMEMORY Clause_DEFAULT=''
scope=both;
```

See Also:

- `"INMEMORY_FORCE"`
- `"INMEMORY_QUERY"`
- `"INMEMORY_SIZE"`
- `"V$IM_SEGMENTS"`
- `"V$IM_USER_SEGMENTS"`
- `"QUERY_REWRITE_INTEGRITY"`
- *Oracle Database In-Memory Guide* for an introduction to the IM column store
- *Oracle Database In-Memory Guide* for more information about the IM column store
- *Oracle Database In-Memory Guide* for more information on IM column store compression methods
- *Oracle Database In-Memory Guide* for more information on priority levels for populating a database object in the IM column store
- *Oracle Database SQL Language Reference* for more information on the CREATE TABLE statement
- *Oracle Database SQL Language Reference* for more information on the CREATE MATERIALIZED VIEW statement

2.162 INMEMORY_DEEP_VECTORIZATION

`INMEMORY_DEEP_VECTORIZATION` enables or disables the deep vectorization framework.

Property	Description
Parameter type	Boolean
Default value	TRUE
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes

Property	Description
Range of values	TRUE FALSE
Basic	No

Deep vectorization can optimize complex SQL operations (such as joins) by pipelining physical operators inside each SQL operator and vectorizing them.



See Also:

Oracle Database In-Memory Guide for information about deep vectorization

2.163 INMEMORY_EXPRESSIONS_USAGE

INMEMORY_EXPRESSIONS_USAGE controls which In-Memory Expressions (IM expressions) are populated into the In-Memory Column Store (IM column store) and are available for queries.

Property	Description
Parameter type	String
Syntax	INMEMORY_EXPRESSIONS_USAGE = { STATIC_ONLY DYNAMIC_ONLY ENABLE DISABLE }
Default value	ENABLE
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	The same value must be used on all instances.

The four values for this parameter are:

- **STATIC_ONLY:** Tables enabled for in-memory and containing certain data types such as Oracle numbers or JSON will have these columns populated in the IM column store using a more efficient representation. Note that this setting will increase the in-memory footprint for some tables. A static configuration enables the IM column store to cache OSON (binary JSON) columns, which are marked with an IS_JSON check constraint. Internally, an OSON column is a hidden virtual column named SYS_IME_OSON. In contrast, a dynamic configuration automatically creates and populates frequently used expressions.
- **DYNAMIC_ONLY:** IM expressions will be automatically created and populated into the IM column store, if used in conjunction with PL/SQL procedure `DBMS_INMEMORY.IME_CAPTURE_EXPRESSIONS`. Note that setting this value will increase the in-memory footprint for some tables.
- **ENABLE:** Both static and dynamic IM expressions will be populated into the IM column store and available to be used by queries. Note that setting this value will increase the in-memory footprint for some tables. This is the default value.
- **DISABLE:** No IM expressions of any kind will be populated into the IM column store.

Changing the mode of a parameter does not have an immediate effect on existing in-memory data. For example, if the `inmemory_expressions_usage` clause is changed from `DYNAMIC_ONLY`

to `DISABLE`, the stored IM expressions are not immediately removed. The next repopulation will not bring back the expressions in memory, thereby effectively removing the expressions.

 See Also:

- ["INMEMORY_VIRTUAL_COLUMNS"](#)
- *Oracle Database In-Memory Guide* for more information about IM expressions
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_INMEMORY` PL/SQL package

2.164 INMEMORY_FORCE

`INMEMORY_FORCE` allows you to specify whether objects, such as tables, materialized views, and partitions, that are specified as `INMEMORY` are populated into the In-Memory Column Store (IM column store) or not.

Property	Description
Parameter type	String
Syntax	<code>INMEMORY_FORCE = { DEFAULT OFF BASE_LEVEL CELLMEMORY_LEVEL }</code>
Default value	DEFAULT
Modifiable	You can use <code>ALTER SYSTEM</code> to dynamically modify this parameter setting as follows: • From <code>DEFAULT</code> to <code>OFF</code> • From <code>OFF</code> to <code>DEFAULT</code> • From <code>BASE_LEVEL</code> to <code>DEFAULT</code> • From <code>CELLMEMORY_LEVEL</code> to <code>DEFAULT</code> • From <code>CELLMEMORY_LEVEL</code> to <code>OFF</code> All other modifications of this parameter require you to update the initialization file and restart the instance.
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	All instances should use the same value.

The following values can be set:

- `DEFAULT`
The IM column store is populated with objects that are specified as `INMEMORY`.
- `OFF`
Even if the IM column store is configured on this instance, no objects are populated in memory.
- `BASE_LEVEL`

Enables Database In-Memory Base Level. The Base Level lets you to experiment with Oracle Database In-Memory features without purchasing the Oracle Database In-Memory option.

When the Base Level is enabled, the value of the `INMEMORY_SIZE` initialization parameter is limited to 16 GB for a CDB. In an Oracle RAC environment, the value of `INMEMORY_SIZE` is limited to 16 GB for each instance. The compression level for all objects and columns is automatically and transparently set to `QUERY LOW`. Automatic In-Memory is disabled, and In-Memory Column Store feature tracking is tracked for "In-Memory Base Level" rather than "In-Memory Column Store." The CellMemory feature is disabled for Oracle Exadata.

- `CELLMEMORY_LEVEL`

CellMemory is an Exadata feature that allows you to use Exadata Smart Flash Cache to populate data in in-memory columnar format. In older releases of Oracle Database, in order to use the CellMemory feature, you were required to enable the IM column store (by setting `INMEMORY_SIZE` to a value greater than 0), even if you had no intention of using the IM column store. This incurred the overhead of enabling the IM column store without any benefit. Starting with Oracle Database release 19c, version 19.8, you can use the CellMemory feature without enabling the IM column store by setting `INMEMORY_FORCE=CELLMEMORY_LEVEL` and `INMEMORY_SIZE=0`. With these settings, the IM column store is not enabled and queries can use CellMemory to scan objects.

Note that if the value of `INMEMORY_SIZE` is greater than 0, then setting `INMEMORY_FORCE=CELLMEMORY_LEVEL` is equivalent to setting `INMEMORY_FORCE=DEFAULT`. The IM column store is enabled, even if you only use CellMemory.

 See Also:

- `"INMEMORY_CLAUSE_DEFAULT"`
- `"INMEMORY_MAX_POPULATE_SERVERS"`
- `"INMEMORY_QUERY"`
- `"INMEMORY_SIZE"`
- *Oracle Database In-Memory Guide* for an introduction to the IM column store
- *Oracle Database In-Memory Guide* for more information about the IM column store
- *Oracle Database Licensing Information User Manual* to learn which database offerings support the Database In-Memory Base Level feature

2.165 INMEMORY_MAX_POPULATE_SERVERS

`INMEMORY_MAX_POPULATE_SERVERS` specifies the maximum number of background populate servers to use for In-Memory Column Store (IM column store) population, so that these servers do not overload the rest of the system.

Property	Description
Parameter type	Integer

Property	Description
Default value	Half of the value of <code>CPU_COUNT</code> or the <code>PGA_AGGREGATE_TARGET</code> value divided by 512M, whichever is less. See the " CPU_COUNT " description for information about how <code>CPU_COUNT</code> is calculated.
Modifiable	<code>ALTER SYSTEM</code>
Modifiable in a PDB	No
Range of values	0 to a value based on the number of cores in the system.
Basic	No
Oracle RAC	All instances should use the same value.

This parameter has meaning only if the `INMEMORY_SIZE` parameter is also set to a positive value.

The value to use for this parameter depends on the number of cores in the system. A certain percentage of CPU should be allocated for in-memory background population, and this parameter should be set accordingly. You can also set this parameter to 0 to temporarily disable populate tasks on the system from executing.

**Note:**

Be careful not to set the value of this parameter too high. If it is set close to the number of cores or higher, no CPU could be left for the rest of the system to run.

**Note:**

The IM column store is not populated if this parameter is set to 0.

**See Also:**

- "[INMEMORY_CLAUSE_DEFAULT](#)"
- "[INMEMORY_FORCE](#)"
- "[INMEMORY_QUERY](#)"
- "[INMEMORY_SIZE](#)"
- *Oracle Database In-Memory Guide* for an introduction to the IM column store
- *Oracle Database In-Memory Guide* for more information about the IM column store

2.166 INMEMORY_OPTIMIZED_ARITHMETIC

INMEMORY_OPTIMIZED_ARITHMETIC encodes the NUMBER data type in in-memory tables compressed with QUERY LOW as a fixed-width native integer scaled by a common exponent.

Property	Description
Parameter type	String
Syntax	INMEMORY_OPTIMIZED_ARITHMETIC = { ENABLE DISABLE }
Default value	DISABLE
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	Different values can be specified on different instances.

The Oracle Database NUMBER format can incur a significant performance overhead when executing queries because arithmetic operations cannot be performed natively in hardware.

When INMEMORY_OPTIMIZED_ARITHMETIC is set to ENABLE, for tables compressed with QUERY LOW, NUMBER columns are encoded as a fixed-width native integer scaled by a common exponent. This In-Memory optimized number format enables fast calculations using SIMD hardware. By using SIMD vector processing, arithmetic operations, simple aggregations, and group-by aggregations can benefit significantly.

Not all row sources in the query processing engine have support for the In-Memory optimized number format. Therefore, the IM column store must store both the traditional Oracle Database NUMBER data type and the In-Memory optimized number type. This means that the acceleration in analytic query performance comes at a cost of increased space overhead.

When INMEMORY_OPTIMIZED_ARITHMETIC is set to DISABLE (the default), the database does not use the optimized encoding.

If INMEMORY_OPTIMIZED_ARITHMETIC is set to ENABLE and then to DISABLE, the optimized number format for existing IMCUs is not dropped immediately. Instead, as the IM column store repopulates IMCUs, the new IMCUs do not use the optimized encoding.



See Also:

Oracle Database In-Memory Guide for details about the improved performance and increased space overhead when INMEMORY_OPTIMIZED_ARITHMETIC is enabled

2.167 INMEMORY_OPTIMIZED_DATE

Use INMEMORY_OPTIMIZED_DATE to enable or disable the In-Memory Optimized Dates feature.

Property	Description
Parameter type	String
Syntax	INMEMORY_OPTIMIZED_DATE = { ENABLE DISABLE }

Property	Description
Default value	DISABLE
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	Different instances can use different values.

When this parameter is set to `ENABLE`, In-Memory can run date-based analytic queries much faster by leveraging the In-Memory Expressions framework.

**Note:**

This parameter is available starting with Oracle Database 23ai.

**See Also:**

Oracle Database In-Memory Guide for more information about the In-Memory Optimized Dates feature

2.168 INMEMORY_QUERY

`INMEMORY_QUERY` is used to enable or disable in-memory queries for the entire database at the session or system level.

Property	Description
Parameter type	String
Syntax	<code>INMEMORY_QUERY = { ENABLE DISABLE }</code>
Default value	ENABLE
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	All instances should use the same value.

This parameter is helpful when you want to test workloads with and without the use of the In-Memory Column Store (IM column store).

This parameter enables in-memory queries for the entire database by default when the `INMEMORY_SIZE` parameter is specified.

Set this parameter to `DISABLE` if you want to disable in-memory queries.

**See Also:**

- ["INMEMORY_CLAUSE_DEFAULT"](#)
- ["INMEMORY_FORCE"](#)
- ["INMEMORY_MAX_POPULATE_SERVERS"](#)
- ["INMEMORY_SIZE"](#)
- *Oracle Database In-Memory Guide* for an introduction to the IM column store
- *Oracle Database In-Memory Guide* for more information about the IM column store

2.169 INMEMORY_SIZE

`INMEMORY_SIZE` sets the size of the In-Memory Area, which contains the IM Column Store (IM column store) on a database instance.

Property	Description
Parameter type	Big integer
Syntax	<code>INMEMORY_SIZE = integer [K M G]</code>
Default value	0
Modifiable	You can use <code>ALTER SYSTEM</code> to increase or decrease the value of this parameter. However, the value of this parameter must always be greater than or equal to its value at instance startup.
Modifiable in a PDB	Yes
Range of values	0 to the amount of memory left in the SGA after other allocations A value of 0 specifies that the IM column store is not allocated and no In-Memory features are enabled. A value greater than 0 and less than 100M specifies that the IM column store is enabled for future growth, but no memory is currently provisioned to the In-Memory Area.
Basic	No
Oracle RAC	All instances should use the same value.

The database must be restarted after setting this parameter to enable the IM column store.

Typically this parameter should be set to at least the size needed to accommodate all the tables that will use the IM column store. It can be set higher to allow for growth of those tables or to accommodate other tables that will use the IM column store in the future.

This parameter can also be set per PDB to limit the maximum size of the IM column store for that PDB. Note that the sum of the PDB values do not have to equal the CDB value, and the sum of the PDB values may even be greater than the CDB value.

Unless this parameter is specifically set on a PDB, each PDB inherits the CDB value, which means they can use all of the available IM column store.

The value specified for this parameter counts toward `SGA_TARGET`. For example, if you set `SGA_TARGET` to 10 GB and you set `INMEMORY_SIZE` to 2 GB, then 20% of the `SGA_TARGET` setting is allocated to the In-Memory Area.

Starting with Oracle Database 23ai, Automatic In-Memory Sizing can automatically grow or shrink the In-Memory Area based on the benefits of the column store if the following conditions are true:

- `SGA_TARGET > 0`
- `INMEMORY_AUTOMATIC_LEVEL = MEDIUM` or `HIGH`
- `VECTOR_MEMORY_SIZE` is set to 0 or not specified

In-Memory Dynamic Scans require the Resource Manager. Therefore, the Resource Manager is automatically enabled when you change the value of `INMEMORY_SIZE` from 0 to a non-zero value. No specific resource plan is required.

Database In-Memory Base Level allows a maximum of 16 GB for the size of the In-Memory Area. Therefore, if Database In-Memory Base Level is enabled (the value of the `INMEMORY_FORCE` initialization parameter is set to `BASE_LEVEL`), then the value of `INMEMORY_SIZE` cannot exceed 16 GB for a CDB. In an Oracle RAC environment, the value of `INMEMORY_SIZE` is limited to 16 GB for each instance.

See Also:

- `"INMEMORY_CLAUSE_DEFAULT"`
- `"INMEMORY_FORCE"`
- `"INMEMORY_MAX_POPULATE_SERVERS"`
- `"INMEMORY_QUERY"`
- *Oracle Database In-Memory Guide* for an introduction to the IM column store
- *Oracle Database In-Memory Guide* for more information about the IM column store
- *Oracle Database In-Memory Guide* for an example of using the `INMEMORY_SIZE` parameter

2.170

INMEMORY_TRICKLE_REPOPULATE_SERVERS_PERCENT

`INMEMORY_TRICKLE_REPOPULATE_SERVERS_PERCENT` limits the maximum number of background populate servers used for In-Memory Column Store (IM column store) repopulation, as trickle repopulation is designed to use only a small percentage of the populate servers.

Property	Description
Parameter type	Integer
Default value	1
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No

Property	Description
Range of values	0 to 50
Basic	No
Oracle RAC	All instances should use the same value.

The value for this parameter is a percentage of the `INMEMORY_MAX_POPULATE_SERVERS` initialization parameter value.

For example, if this parameter is set to 5 and `INMEMORY_MAX_POPULATE_SERVERS` is set to 10, then on average half of a core is used for trickle repopulation.

The default value of 1 is good in most cases. In some cases, if you want to disable trickle repopulate, this parameter can be set to 0. If you want to keep the system more aggressively up to date (at the expense of more background CPU), you can set the parameter to higher values such as 5 or 10.

A value of greater than 50 is not allowed, so that at least half of the populate servers are available for other (re)populate tasks. On some systems, a value of less than 50 can be problematic, depending on other workload.

This parameter has meaning only if the `INMEMORY_SIZE` parameter is also set to a positive value.

2.171 INMEMORY_VIRTUAL_COLUMNS

`INMEMORY_VIRTUAL_COLUMNS` controls which user-defined virtual columns are stored as In-Memory virtual columns (IM columns).

Property	Description
Parameter type	String
Syntax	<code>INMEMORY_VIRTUAL_COLUMNS = { ENABLE MANUAL DISABLE }</code>
Default value	MANUAL
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	The same value must be used on all instances.

IM virtual columns improve query performance by avoiding the necessity of repeated calculations. Also, the database can scan and filter IM virtual columns using techniques such as SIMD vector processing.

These values can be set for the parameter:

- **ENABLE:** For a table or partition that has been enabled for in-memory storage, all virtual columns will be stored in-memory at the default table or partition memcompress level unless:
 - They have been explicitly excluded using the no inmemory syntax.
 - They have been altered to have a different memcompress level than the base table or partition, in which case they will be stored at the specified memcompress level.

- **MANUAL:** This is the default value for the parameter. For a table or partition that has been enabled for in-memory storage, no virtual columns will be stored in-memory unless:
 - They have been explicitly marked for inmemory, in which case they will be stored in-memory at the table or partition memcompress level.
 - They have been marked for inmemory with a different memcompress level than the base table or partition, in which case they will be stored at the specified memcompress level.
- **DISABLE:** For a table or partition that has been enabled for in-memory storage, no virtual columns will ever be stored in-memory. Any changes to the inmemory_column_clause for a virtual column including changes in memcompress level will be recorded, but not acted upon with regards to population of virtual columns.

 See Also:

- ["INMEMORY_EXPRESSIONS_USAGE"](#)
- *Oracle Database In-Memory Guide* for more information about IM virtual columns

2.172 INSTANCE_ABORT_DELAY_TIME

`INSTANCE_ABORT_DELAY_TIME` specifies how much time to delay an internal initiated instance termination (in seconds), such as when an irrecoverable process dies or an irrecoverable instance error occurs.

Property	Description
Parameter type	Integer
Default value	0
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	0 and higher
Basic	No
Oracle RAC	Different instances should use the same value.

This parameter does not apply to a `SHUTDOWN ABORT` operation or any instance termination necessary to implement a user command.

Setting this parameter to a value greater than 0 enables a DBA to take some actions before a termination occurs due to an irrecoverable error. Note that since the instance is in an irrecoverable state, the DBA should not be too ambitious with the actions taken because some processes and/ or resources may be corrupted or unavailable, making complex actions impossible. Oracle does not guarantee what it is possible when an instance is in this state. A message is written to the alert log when the delayed termination is initiated. The value will not apply in the case of PMON death.

The larger the specified value, the longer the instance stays up, and the potential increases for other problems to occur. If you set this parameter, Oracle recommends setting it to a value between 0 and 60.

2.173 INSTANCE_GROUPS

Used with the `PARALLEL_INSTANCE_GROUP` parameter, `INSTANCE_GROUPS` lets you restrict parallel query operations to a limited number of instances.

Property	Description
Parameter type	String
Syntax	<code>INSTANCE_GROUPS = group_name [, group_name] ...</code>
Default value	There is no default value.
Modifiable	No
Modifiable in a PDB	No
Range of values	One or more instance group names, separated by commas
Basic	No
Oracle RAC	Multiple instances can have different values.



Note:

The `INSTANCE_GROUPS` parameter is deprecated. It is retained for backward compatibility only.

`INSTANCE_GROUPS` is an Oracle RAC parameter that you can specify only in parallel mode.

This parameter specifies one or more instance groups and assigns the current instance to those groups. If one of the specified groups is also specified in the `PARALLEL_INSTANCE_GROUP` parameter, then Oracle allocates query processes for a parallel operation from this instance.



See Also:

- *Oracle Real Application Clusters Administration and Deployment Guide* for more information on parallel query execution in a Real Application Clusters environment
- ["PARALLEL_INSTANCE_GROUP"](#)

2.174 INSTANCE_MODE

`INSTANCE_MODE` indicates whether the instance is read-write, read-only, or read-mostly.

Property	Description
Parameter type	String
Syntax	<code>INSTANCE_MODE = { READ-WRITE READ-ONLY READ-MOSTLY }</code>
Default value	<code>READ-WRITE</code>
Modifiable	No

Property	Description
Basic	No
Oracle RAC	See the Oracle RAC restrictions in the initialization parameter description below.

A `READ-WRITE` instance is a regular Oracle instance.

A `READ-ONLY` instance is an Oracle instance that can only be opened in read-only mode.

A `READ-MOSTLY` instance is an Oracle instance that performs very few database writes.

These restrictions apply when setting the parameter on different Oracle Real Application Clusters (Oracle RAC) instances:

1. There must be at least one running instance with `INSTANCE_MODE` set to `READ-WRITE` at any given time. If the only instance with `INSTANCE_MODE` set to `READ-WRITE` goes down, all other instances will be brought down by Oracle automatically.
2. An instance with `INSTANCE_MODE` set to `READ-ONLY` cannot be the first instance to open a database or any pluggable database (PDB) among all instances in an Oracle RAC cluster.
3. Oracle does not support co-existence of an instance with `INSTANCE_MODE` set to `READ-ONLY` and an instance with `INSTANCE_MODE` set to `READ-MOSTLY` in the same Oracle RAC cluster.

2.175 INSTANCE_NAME

In an Oracle Real Application Clusters environment, multiple instances can be associated with a single database service. Clients can override Oracle's connection load balancing by specifying a particular instance by which to connect to the database. `INSTANCE_NAME` specifies the unique name of this instance.

Property	Description
Parameter type	String
Syntax	<code>INSTANCE_NAME = instance_id</code>
Default value	The instance's SID Note: The SID identifies the instance's shared memory on a host, but may not uniquely distinguish this instance from other instances.
Modifiable	No
Modifiable in a PDB	No
Range of values	Alphanumeric ASCII characters and the underscore (<code>_</code>) character, up to a maximum of 255 characters
Basic	No

In a single-instance database system, the instance name is usually the same as the database name.

**See Also:**

Oracle Real Application Clusters Administration and Deployment Guide and *Oracle Database Net Services Administrator's Guide* for more information

2.176 INSTANCE_NUMBER

INSTANCE_NUMBER specifies a unique number that maps the instance to one free list group for each database object created with storage parameter FREELIST GROUPS.

Property	Description
Parameter type	Integer
Default value	0 (zero)
Modifiable	No
Modifiable in a PDB	No
Range of values	1 to maximum number of instances specified when the database was created
Basic	Yes
Oracle RAC	You must set this parameter for every instance, and all instances must have different values.

INSTANCE_NUMBER is an Oracle RAC parameter that can be specified in parallel mode or exclusive mode.

The INSTANCE parameter of the ALTER TABLE ... ALLOCATE EXTENT statement assigns an extent to a particular free list group. If you set INSTANCE_NUMBER to the value specified for the INSTANCE parameter, the instance uses that extent for inserts and for updates that expand rows.

The practical maximum value of this parameter is the maximum number of instances specified in the CREATE DATABASE statement. The absolute maximum is operating system-dependent.

**See Also:**

Oracle Real Application Clusters Administration and Deployment Guide for more information

2.177 INSTANCE_TYPE

INSTANCE_TYPE specifies whether the instance is a database instance, an Oracle Automatic Storage Management (Oracle ASM) instance, or an Oracle ASM Proxy instance.

Property	Description
Parameter type	String
Syntax	INSTANCE_TYPE = { RDBMS ASM ASMPROXY }

Property	Description
Default value	RDBMS
Modifiable	No
Modifiable in a PDB	No
Basic	No
Oracle RAC	Multiple instances must have the same value.

Values

- RDBMS
The instance is a database instance.
- ASM
The instance is an Oracle ASM instance.
- ASMPROXY
The instance is an Oracle ASM proxy instance.



See Also:

Oracle Automatic Storage Management Administrator's Guide for information about managing Oracle Flex ASM

2.178 IORM_LIMIT_POLICY

IORM_LIMIT_POLICY specifies the policy for computing the Exadata I/O Resource Management (IORM) share and limit values for pluggable databases.

Property	Description
Parameter type	String
Syntax	IORM_LIMIT_POLICY = { RM_PLAN CPU_COUNT_RATIO }
Default value	RM_PLAN
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Basic	No
Oracle RAC	Multiple instances should use the same value.

Values:

- RM_PLAN
 - If a CDB resource plan is not specified by the user, that is, the CDB resource plan is set to DEFAULT_CDB_PLAN, then this setting gives equal IORM shares to all PDBs and specifies no utilization limits. If the CPU_MIN_COUNT initialization parameter is set, the IORM share values are determined by using the RAC-wide PDB value of

CPU_MIN_COUNT. Otherwise, the IORM share values for each PDB are determined using the RAC-wide PDB value of CPU_COUNT.

- If a user-defined CDB resource plan has been specified by setting the RESOURCE_MANAGER_PLAN initialization parameter, then the IORM share and utilization limit values for the PDBs are obtained from that resource plan.
- CPU_COUNT_RATIO
If the CPU_MIN_COUNT initialization parameter is set, the IORM share values are determined by using the RAC-wide PDB value of CPU_MIN_COUNT. Otherwise, the IORM share values for each PDB are determined using the RAC-wide PDB value of CPU_COUNT. In either case, IORM utilization limit values for each PDB are computed as a ratio of the RAC-wide PDB CPU_COUNT to the RAC-wide CDB CPU_COUNT.

The IORM utilization limit applies only to flash devices. It is not applicable for hard disks or XRMEM devices. The utilization limit is used for managing flash IOPS and throughput, and is not used to manage PDB flash cache space usage.

**Note:**

This parameter allows a third setting, CPU_COUNT_BASED. However, this setting is not supported.

**Note:**

This parameter is available starting with Oracle Database 23ai.

2.179 JAVA_JIT_ENABLED

JAVA_JIT_ENABLED enables or disables the Just-in-Time (JIT) compiler for the Oracle Java Virtual Machine (OracleJVM) environment.

Property	Description
Parameter type	Boolean
Default value	Operating system-dependent
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	true false
Basic	No

For platforms that support the JIT compiler, the default value of this parameter is `true`; otherwise the default value is `false`. Attempting to set this parameter to `true` on unsupported platforms will result in an error.

**See Also:**

Oracle Database Java Developer's Guide for more information about setting this parameter

2.180 JAVA_MAX_SESSIONSPACE_SIZE

`JAVA_MAX_SESSIONSPACE_SIZE` specifies (in bytes) the maximum amount of session space made available to a Java program executing in the server.

Property	Description
Parameter type	Integer
Default value	0
Modifiable	No
Modifiable in a PDB	No
Range of values	0 to 2 GB - 1
Basic	No

Java session space is the memory that holds Java state from one database call to another. When a user's session-duration Java state attempts to exceed the amount specified by `JAVA_MAX_SESSIONSPACE_SIZE`, the Java virtual machine terminates the session with an out-of-memory failure.

**See Also:**

- *Oracle Database Java Developer's Guide* for more information about this parameter
- ["JAVA_SOFT_SESSIONSPACE_LIMIT"](#)

2.181 JAVA_POOL_SIZE

`JAVA_POOL_SIZE` specifies (in bytes) the size of the Java pool, from which the Java memory manager allocates most Java state during run-time execution. This memory includes the shared in-memory representation of Java method and class definitions, as well as the Java objects that are migrated to the Java session space at end-of-call.

Property	Description
Parameter type	Big integer
Syntax	<code>JAVA_POOL_SIZE = integer [K M G]</code>
Default value	If <code>SGA_TARGET</code> is set: If the parameter is not specified, then the default is 0 (internally determined by the Oracle Database). If the parameter is specified, then the user-specified value indicates a minimum value for the memory pool. If <code>SGA_TARGET</code> is not set: 24 MB, rounded up to the nearest granule size

Property	Description
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	Minimum: 0 (values greater than zero are rounded up to the nearest granule size) Maximum: operating system-dependent
Basic	No

**See Also:**

Oracle Database Java Developer's Guide for more information about this parameter

2.182 JAVA_SOFT_SESSIONSPACE_LIMIT

JAVA_SOFT_SESSIONSPACE_LIMIT specifies (in bytes) a **soft limit** on Java memory usage in a session, as a means to warn you if a user's session-duration Java state is using too much memory.

Property	Description
Parameter type	Integer
Default value	0
Modifiable	No
Modifiable in a PDB	No
Range of values	0 to 2 GB - 1
Basic	No

Java session space is the memory that holds Java state from one database call to another. When a user's session-duration Java state exceeds the size specified by JAVA_SOFT_SESSIONSPACE_LIMIT, Oracle generates a warning that goes into the trace files.

**See Also:**

- *Oracle Database Java Developer's Guide* for more information on this parameter
- ["JAVA_MAX_SESSIONSPACE_SIZE"](#)

2.183 JOB_QUEUE_PROCESSES

JOB_QUEUE_PROCESSES specifies the maximum number of job workers per CDB or PDB that can be created for the execution of DBMS_JOB jobs and Oracle Scheduler (DBMS_SCHEDULER) jobs.

Property	Description
Parameter type	Integer
Default value	Derived. The lesser value of: • CPU_COUNT * 20 • SESSIONS / 4 If the result of the above derivation is less than twice the number of open containers in the CDB, then the value of this parameter is adjusted to equal twice the number of open containers in the CDB. Containers include CDB\$ROOT, PDB\$SEED, PDBs, application roots, application seeds, and application PDBs. You can obtain the number of open containers in a CDB with the following query: <pre>SELECT COUNT(*) FROM V\$CONTAINERS WHERE open_mode != 'MOUNTED';</pre>
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	0 to 4000
Basic	No
Oracle RAC	Multiple instances can have different values.

DBMS_JOB and Oracle Scheduler share the same job coordinator and job workers, and they are both controlled by the JOB_QUEUE_PROCESSES parameter. The actual number of job workers created for Oracle Scheduler jobs is auto-tuned by the Scheduler depending on several factors, including available resources, Resource Manager settings, and currently running jobs. However, the combined total number of job workers running DBMS_JOB jobs and Oracle Scheduler jobs in a CDB or PDB can never exceed the value of JOB_QUEUE_PROCESSES for that CDB or PDB.

The default value for JOB_QUEUE_PROCESSES provides a compromise between quality of service for applications and reasonable use of system resources. However, it is possible that the default value does not suit every environment. In such cases, you can use the following guidelines to fine tune this parameter:

- In a CDB root:
Set JOB_QUEUE_PROCESSES to the maximum number of job workers that can be used simultaneously in the entire CDB. Oracle recommends that you set the value of this parameter to at least twice the number of open containers in the CDB, otherwise, there might be severe starvation between PDBs trying to run multiple jobs. If JOB_QUEUE_PROCESSES is set to 0 in a CDB root, then DBMS_JOB and Oracle Scheduler jobs cannot run in the CDB root or in any PDB, regardless of the JOB_QUEUE_PROCESSES setting at the PDB level.
- In a PDB:
Set JOB_QUEUE_PROCESSES to the maximum number of job workers that can be used simultaneously in the PDB. The actual number depends on the resources assigned by Resource Manager and the demand in other containers. When multiple PDBs request jobs, Oracle Scheduler attempts to give all PDBs a fair share of the processes. Oracle recommends that you set the value of this parameter to at least 2 in a PDB. However, if you do not want to run DBMS_JOB and Oracle Scheduler jobs in a PDB, then set JOB_QUEUE_PROCESSES to 0 in the PDB.

Materialized views and AutoTask use Oracle Scheduler for automatic refreshes. Setting `JOB_QUEUE_PROCESS` to 0 will disable these features and any other features that use Oracle Scheduler or `DBMS_JOB`.

**Note:**

`DBMS_JOB` is deprecated in Oracle Database 12c Release 2 (12.2.0.1) and may be removed in a future release. Oracle recommends that you use `DBMS_SCHEDULER` instead.

**See Also:**

- *Oracle Database PL/SQL Packages and Types Reference* for more information on the `DBMS_SCHEDULER` package
- *Oracle Database Data Warehousing Guide* for more information on managing materialized views
- *Oracle Database Advanced Queuing User's Guide* for more information about job queue processes
- *Oracle Database Administrator's Guide* for more information about the maximum number of scheduler job processes

2.184 JSON_BEHAVIOR

`JSON_BEHAVIOR` specifies the default `ON ERROR` behavior for certain SQL functions that operate on JSON data.

Property	Description
Parameter type	String
Syntax	<code>JSON_BEHAVIOR = { ON_ERROR:ERROR ON_ERROR:NULL }</code>
Default value	None
Modifiable	<code>ALTER SESSION</code>
Modifiable in a PDB	No
Basic	No

This parameter is set at the session level and helps you to ensure that JSON queries in a session are valid. This parameter is effective only for SQL functions for which `NULL ON ERROR` is the default behavior: `JSON_QUERY`, `JSON_TABLE` (without the `EXISTS` clause), and `JSON_VALUE`. These functions, by default, return a null value in the event of an error, which makes it difficult to identify invalid queries. Setting the `JSON_BEHAVIOR` parameter to `ON_ERROR:ERROR` for the session causes these functions to return an error for invalid queries.

Values:

- `ON_ERROR:ERROR` - Specifies that `ERROR ON ERROR` behavior is the session default for the affected SQL functions.

- `ON_ERROR:NULL` - Specifies that `NULL ON ERROR` behavior is the session default for the affected SQL functions. This setting is equivalent to having no setting for this parameter.

Example:

The following `JSON_VALUE` query is invalid, because the supplied JSON data contains more than one value for property `a`:

```
SELECT JSON_VALUE('[{a:1},{a:2}]', '$.a');
```

If the `JSON_BEHAVIOR` parameter is not set for the session, then `NULL ON ERROR` is the default behavior for the `JSON_VALUE` function. Therefore, the query returns null:

```
SQL> SHO PARAMETER JSON_BEHAVIOR
```

NAME	TYPE	VALUE
json_behavior	string	

```
SQL> SELECT JSON_VALUE('[{a:1},{a:2}]', '$.a');
```

```
JSON_VALUE('[{A:1},{A:2}]', '$.A')
-----
```

However, if you set the `JSON_BEHAVIOR` parameter to `ON_ERROR:ERROR` for the session, then the query returns an error:

```
SQL> ALTER SESSION SET JSON_BEHAVIOR = 'ON_ERROR:ERROR';
```

Session altered.

```
SQL> SHO PARAMETER JSON_BEHAVIOR
```

NAME	TYPE	VALUE
json_behavior	string	ON_ERROR:ERROR

```
SQL> SELECT JSON_VALUE('[{a:1},{a:2}]', '$.a');
SELECT JSON_VALUE('[{a:1},{a:2}]', '$.a')
*

```

ERROR at line 1:

ORA-40470: JSON query '\$.a' evaluated to multiple values.

**Note:**

This parameter is available starting with Oracle Database 23ai.

2.185 JSON_EXPRESSION_CHECK

Use `JSON_EXPRESSION_CHECK` to enable or disable JSON query statement checking.

Property	Description
Parameter type	String
Syntax	<code>JSON_EXPRESSION_CHECK = { ON OFF }</code>
Default value	OFF
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	Different instances can use different values.

Set this parameter to `ON` to enable JSON query statement checking; set it to `OFF` to disable JSON query statement checking.



Note:

This parameter is available starting with Oracle Database 23ai.



See Also:

JSON-Relational Duality Developer's Guide for more information about `JSON_EXPRESSION_CHECK`

2.186 LARGE_POOL_SIZE

`LARGE_POOL_SIZE` specifies (in bytes) the size of the large pool allocation heap.

Property	Description
Parameter type	Big integer
Syntax	<code>LARGE_POOL_SIZE = integer [K M G]</code>
Default value	If <code>SGA_TARGET</code> is set, but a value is not specified for <code>LARGE_POOL_SIZE</code> , then the default is 0 (internally determined by the Oracle database). If <code>LARGE_POOL_SIZE</code> is specified, then the user-specified value indicates a minimum value for the memory pool. If <code>SGA_TARGET</code> is not set, then the default is 0.
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	Minimum: the granule size Maximum: operating system-dependent

Property	Description
Basic	No

The large pool allocation heap is used in shared server systems for session memory, by parallel execution for message buffers, and by backup processes for disk I/O buffers. Parallel execution allocates buffers out of the large pool only when `SGA_TARGET` is set.

You can specify the value of this parameter using a number, optionally followed by K or M to specify kilobytes or megabytes, respectively. If you do not specify K or M, then the number is taken as bytes.



See Also:

Oracle Database Performance Tuning Guide for more information on setting this parameter

2.187 LDAP_DIRECTORY_ACCESS

`LDAP_DIRECTORY_ACCESS` specifies whether Oracle refers to Oracle Internet Directory for user authentication information.



Note:

Enterprise User Security (EUS) is deprecated with Oracle Database 23ai.

Oracle recommends that you migrate to using Centrally Managed Users (CMU). This feature enables you to directly connect with Microsoft Active Directory without an intervening directory service for enterprise user authentication and authorization to the database. If your Oracle Database is in the cloud, you can also choose to move to one of the newer integrations with a cloud identity provider.

Property	Description
Parameter type	String
Syntax	<code>LDAP_DIRECTORY_ACCESS = { NONE PASSWORD SSL }</code>
Default value	NONE
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No

If directory access is turned on, then this parameter also specifies how users are authenticated.

Values

- NONE

Oracle does not refer to Oracle Internet Directory for Enterprise User Security information.

- PASSWORD

Oracle tries to connect to the enterprise directory service using the database password stored in the database wallet. If that fails, then the Oracle Internet Directory connection fails and the database will not be able to retrieve enterprise roles and schema mappings upon enterprise user login.

- SSL

Oracle tries to connect to Oracle Internet Directory using SSL.



See Also:

Oracle Database Enterprise User Security Administrator's Guide for more information on Enterprise User Security

Using LDAP_DIRECTORY_ACCESS with PDBs

PDBs can use password or SSL authentication with Oracle Internet Directory for EUS, or Microsoft Active Directory for CMU, when the parameter value is set accordingly.

The LDAP_DIRECTORY_ACCESS initialization parameter is PDB-specific and can be set as follows:

- When you use the ALTER SYSTEM command to set the value of LDAP_DIRECTORY_ACCESS while connected to the CDB root:
 - If you specify the CONTAINER=ALL clause, then the setting applies to the CDB root and all PDBs.
 - If you omit the CONTAINER=ALL clause, or specify the CONTAINER=CURRENT clause, then the setting applies only to the CDB root.
- When you use the ALTER SYSTEM command to set the value of LDAP_DIRECTORY_ACCESS while connected to a PDB, the setting applies only to that PDB.
- When you set the value of LDAP_DIRECTORY_ACCESS in an initialization parameter file, the setting applies only to the CDB root; it does not apply to the PDBs.

For a CDB, if the wallet location is not specified in sqlnet.ora, then the default database wallet path is:

ORACLE_BASE/admin/db-unique-name/pdb-GUID/wallet (if ORACLE_BASE is set)

or:

ORACLE_HOME/admin/db-unique-name/pdb-GUID/wallet (if ORACLE_BASE is not set)

The exception is for the root database, which has a default wallet path of:

ORACLE_BASE/admin/db-unique-name/wallet (if ORACLE_BASE is set)

or:

ORACLE_HOME/admin/db-unique-name/wallet (if ORACLE_BASE is not set)

All PDBs in a CDB have the same database unique name. By placing wallets in the default location, each PDB can have its own identity.

Note that because there is only one `sqlnet.ora` file for a CDB, the wallet location in `sqlnet.ora` is only used by the CDB root container. Because each PDB must have its own wallet, a PDB wallet will be specified by the *pdb-GUID* under the wallet location in `sqlnet.ora`.

For the root container of a CDB, the wallet location is:

WALLET_LOCATION_specified_in_sqlnet.ora

For each PDB of the CDB, the wallet location is:

WALLET_LOCATION_specified_in_sqlnet.ora/pdb-GUID/

**Note:**

Oracle databases are registered with Oracle Internet Directory using Database Configuration Assistant (DBCA). For registration with Oracle Internet Directory to work, all the PDBs for a CDB must be registered using DBCA.

Using LDAP_DIRECTORY_ACCESS with Non-CDBs

For non-CDBs, if the wallet location is not specified in `sqlnet.ora`, then the default database wallet path is:

`ORACLE_BASE/admin/db-unique-name/wallet` (if `ORACLE_BASE` is set)

or:

`ORACLE_HOME/admin/db-unique-name/wallet` (if `ORACLE_BASE` is not set)

**See Also:**

Oracle Database Enterprise User Security Administrator's Guide for an example of setting the value of this parameter to `SSL` in the server parameter file using `ALTER SYSTEM`

2.188 LDAP_DIRECTORY_SYSAUTH

`LDAP_DIRECTORY_SYSAUTH` allows or disallows directory-based authorization for users granted administrative privileges, such as `SYSDBA`, `SYSOPER`, `SYSBACKUP`, `SYSDBG`, and `SYSKM`.

Property	Description
Parameter type	String
Syntax	<code>LDAP_DIRECTORY_SYSAUTH = { yes no }</code>
Default value	<code>no</code>
Modifiable	No
Modifiable in a PDB	Yes
Basic	Yes

When `LDAP_DIRECTORY_SYSAUTH` is set to `yes`, directory users are allowed to connect to the database as `SYSDBA`, `SYSOPER`, `SYSBACKUP`, `SYSDG`, or `SYSKM`, if they have mapped database global users that are granted corresponding administrative privileges such as `SYSDBA`, `SYSOPER`, `SYSBACKUP`, `SYSDG`, and `SYSKM`.

When `LDAP_DIRECTORY_SYSAUTH` is set to `no`, directory users are not allowed to connect to the database as `SYSDBA`, `SYSOPER`, `SYSBACKUP`, `SYSDG`, or `SYSKM`, even if they have mapped database global users that are granted corresponding administrative privileges such as `SYSDBA`, `SYSOPER`, `SYSBACKUP`, `SYSDG`, and `SYSKM`.

When modifying this parameter in a PDB, use the `ALTER SYSTEM` command with `SCOPE=SPFILE`.

2.189 LICENSE_MAX_SESSIONS

`LICENSE_MAX_SESSIONS` specifies the maximum number of concurrent user sessions allowed.

Property	Description
Parameter type	Integer
Default value	0
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	0 to number of session licenses
Basic	No
Oracle RAC	Multiple instances can have different values, but the total for all instances mounting a database should be less than or equal to the total number of sessions licensed for that database.



Note:

Oracle no longer offers licensing by the number of concurrent sessions. Therefore the `LICENSE_MAX_SESSIONS` and `LICENSE_SESSIONS_WARNING` initialization parameters have been deprecated.

When the limit specified by `LICENSE_MAX_SESSIONS` is reached, only users with the `RESTRICTED SESSION` privilege can connect to the database. Users who are not able to connect receive a warning message indicating that the system has reached maximum capacity.

A zero value indicates that concurrent usage (session) licensing is not enforced. If you set this parameter to a nonzero number, you might also want to set `LICENSE_SESSIONS_WARNING` (see "[LICENSE_SESSIONS_WARNING](#)").

Do not enable both concurrent usage licensing and user licensing. Set either `LICENSE_MAX_SESSIONS` or `LICENSE_MAX_USERS` to zero.



See Also:

Oracle Database Administrator's Guide for more information about this parameter

2.190 LICENSE_MAX_USERS

`LICENSE_MAX_USERS` specifies the maximum number of users you can create in the database.

Property	Description
Parameter type	Integer
Default value	0
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	0 to number of user licenses
Basic	No
Oracle RAC	Oracle recommends that multiple instances have the same value.

When you reach the limit specified by `LICENSE_MAX_USERS`, you cannot create more users. You can, however, increase the limit.



Note:

Oracle no longer offers licensing by the number of concurrent sessions. Therefore the `LICENSE_MAX_SESSIONS` and `LICENSE_SESSIONS_WARNING` initialization parameters have been deprecated.



See Also:

Oracle Database Administrator's Guide for more information about this parameter

2.191 LICENSE_SESSIONS_WARNING

`LICENSE_SESSIONS_WARNING` specifies a warning limit on the number of concurrent user sessions.

Property	Description
Parameter type	Integer
Default value	0
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	0 to value of <code>LICENSE_MAX_SESSIONS</code> parameter
Basic	No
Oracle RAC	Multiple instances can have different values.

**Note:**

Oracle no longer offers licensing by the number of concurrent sessions. Therefore the `LICENSE_MAX_SESSIONS` and `LICENSE_SESSIONS_WARNING` initialization parameters have been deprecated.

When this limit specified by `LICENSE_SESSIONS_WARNING` is reached, additional users can connect, but Oracle writes a message in the alert log for each new connection. Users with `RESTRICTED SESSION` privilege who connect after the limit is reached receive a warning message stating that the system is nearing its maximum capacity.

If this parameter is set to zero, no warning is given as you approach the concurrent usage (session) limit. If you set this parameter to a nonzero number, you should also set `LICENSE_MAX_SESSIONS` (see "[LICENSE_MAX_SESSIONS](#)").

**See Also:**

- *Oracle Database Administrator's Guide* for more information on setting this parameter

2.192 LISTENER_NETWORKS

`LISTENER_NETWORKS` specifies one or more sets of local, forward, and remote listeners for cross-registration. All listeners within the same *network_name* will cross-register.

Property	Description
Parameter type	String
Syntax	<code>LISTENER_NETWORKS =</code> <code>' ((NAME=<i>network_name</i>)</code> <code> (LOCAL_LISTENER=["]<i>listener_address</i>[,...] [")</code> <code> (FORWARD_LISTENER=["]<i>listener_address</i>[,...] [")</code> <code> [(REMOTE_LISTENER=["]<i>listener_address</i>[,...] [")])</code> <code>[,...]</code>
Default value	There is no default value.
Modifiable	<code>ALTER SYSTEM</code>
Modifiable in a PDB	Yes
Basic	No

If a *network_name* is specified multiple times, then the resulting listener set is the union of each specification. This can be used to specify sets that require more than 255 characters, which is the per element limit.

The *listener_address* specifies a string that is an address, address list, or an alias that resolves to an address or address list of Oracle Net listeners. If an alias, the address or address list is specified in the `TNSNAMES.ORA` file or another address repository as configured for your system.

If a comma is used to specify a *listener_address* list, then the set of addresses must be surrounded by double quotes.

 See Also:

- "LOCAL_LISTENER"
- "FORWARD_LISTENER"
- "REMOTE_LISTENER"
- *Oracle Database Net Services Administrator's Guide* for more information on setting this parameter

2.193 LOB_SIGNATURE_ENABLE

LOB_SIGNATURE_ENABLE is used to enable or disable the LOB locator signature feature.

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	true false
Basic	No
Oracle RAC	Multiple instances must have the same value.

You can secure your LOBs by enabling the LOB locator signature feature. A LOB locator is a pointer to the location of a large object (LOB) value. If the LOB_SIGNATURE_ENABLED initialization parameter is set to `true`, then when you create a LOB, Oracle Database automatically assigns a signature to the LOB locator. When Oracle Database receives a request from a client, it uses the signature to determine if any tampering with the LOB locator has occurred.

When this parameter is set to `true`, you also have the option of further securing your LOBs by encrypting your LOB locator signature keys.

 See Also:

Oracle Database Security Guide for more information on LOB locator signatures and encrypting LOB locator signature keys

2.194 LOCAL_LISTENER

LOCAL_LISTENER specifies a network name that resolves to an address or address list of Oracle Net local listeners (that is, listeners that run on the same system as this instance). The address or address list is specified in the TNSNAMES.ORA file or other address repository as configured for your system.

Property	Description
Parameter type	String
Syntax	<code>LOCAL_LISTENER = network_name</code>
Default value	<code>(ADDRESS = (PROTOCOL=TCP) (HOST=hostname) (PORT=1521))</code> where <i>hostname</i> is the network name of the local host.
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No

 See Also:

- *Oracle Database Concepts* for more information about listener processes and dispatcher processes
- *Oracle Database Net Services Administrator's Guide* and your operating system-specific Oracle documentation for more information about specifying network addresses for the protocols on your system

2.195 LOCK_NAME_SPACE

LOCK_NAME_SPACE specifies the namespace that the distributed lock manager (DLM) uses to generate lock names.

Property	Description
Parameter type	String
Syntax	<code>LOCK_NAME_SPACE = namespace</code>
Default value	There is no default value.
Modifiable	No
Modifiable in a PDB	No
Range of values	Up to 8 alphanumeric characters. No special characters allowed.
Basic	No

 Note:

The LOCK_NAME_SPACE parameter is deprecated. It is retained for backward compatibility only.

Consider setting this parameter if a standby or clone database has the same database name on the same cluster as the primary database.

If the standby database resides on the same file system as the primary database, then set LOCK_NAME_SPACE in the standby parameter file to a distinct value such as the following:

```
LOCK_NAME_SPACE = standby
```

2.196 LOCK_SGA

LOCK_SGA locks the entire SGA into physical memory.

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	No
Modifiable in a PDB	No
Range of values	true false
Basic	No

It is usually advisable to lock the SGA into real (physical) memory, especially if the use of virtual memory would include storing some of the SGA using disk space. This parameter is ignored on platforms that do not support it.



See Also:

Oracle Database Performance Tuning Guide for more information about using this parameter

2.197 LOG_ARCHIVE_CONFIG

LOG_ARCHIVE_CONFIG enables or disables the sending of redo logs to remote destinations and the receipt of remote redo logs, and specifies the unique database names (DB_UNIQUE_NAME) for each database in the Data Guard configuration.

Property	Description
Parameter type	String
Syntax	<pre>LOG_ARCHIVE_CONFIG = { [SEND NOSEND] [RECEIVE NORECEIVE] [DG_CONFIG=(remote_db_unique_name1 [, ... remote_db_unique_name30) NODG_CONFIG] }</pre>
Default value	NULL
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Basic	No

Values

- SEND

- Enables the sending of redo logs to remote destinations
 - NOSEND
 - Disables the sending of redo logs to remote destinations
 - RECEIVE
 - Enables the receipt of remotely archived redo logs
 - NORECEIVE
 - Disables the receipt of remotely archived redo logs
 - DG_CONFIG
 - Specifies a list of up to 30 unique database names (defined with the `DB_UNIQUE_NAME` initialization parameter) for all of the databases in the Data Guard configuration.
 - NODG_CONFIG
 - Eliminates the list of service provider names previously specified with the `DG_CONFIG` option.

When this parameter has not been set, its default value is `NULL`. However, the `NULL` value is treated as if the parameter has been set to `'SEND, RECEIVE, NODG_CONFIG'`.

2.198 LOG_ARCHIVE_DEST

Use `LOG_ARCHIVE_DEST` to specify the destination to which redo log files will be archived.

Property	Description
Parameter type	String
Syntax	<code>LOG_ARCHIVE_DEST = filespec</code>
Default value	Null
Modifiable	<code>ALTER SYSTEM</code>
Modifiable in a PDB	No
Range of values	Any valid path or device name, except raw partitions
Basic	No
Oracle RAC	Multiple instances can have different values.



Note:

For Enterprise Edition users, this parameter has been deprecated in favor of the `LOG_ARCHIVE_DEST_n` parameters. If Oracle Enterprise Edition is not installed or it is installed, but you have not specified any `LOG_ARCHIVE_DEST_n` parameters, this parameter is valid.

`LOG_ARCHIVE_DEST` is applicable only if you are running the database in `ARCHIVELOG` mode or are recovering a database from archived redo logs. `LOG_ARCHIVE_DEST` is incompatible with the `LOG_ARCHIVE_DEST_n` parameters, and must be defined as the null string ("") or (' ') when any `LOG_ARCHIVE_DEST_n` parameter has a value other than a null string. Use a text string to specify the default location and root of the disk file or tape device when archiving redo log files.

(Archiving to tape is not supported on all operating systems.) The value cannot be a raw partition.

If LOG_ARCHIVE_DEST is not explicitly defined and all the LOG_ARCHIVE_DEST_n parameters have null string values, LOG_ARCHIVE_DEST is set to an operating system-specific default value on instance startup.

To override the destination that this parameter specifies, either specify a different destination for manual archiving or use the SQL*Plus statement `ARCHIVE LOG START filespec` for automatic archiving, where *filespec* is the new archive destination. To permanently change the destination, use the statement `ALTER SYSTEM SET LOG_ARCHIVE_DEST = filespec`, where *filespec* is the new archive destination.

Neither LOG_ARCHIVE_DEST nor LOG_ARCHIVE_FORMAT have to be complete file or directory specifiers themselves; they only need to form a valid file path after the variables are substituted into LOG_ARCHIVE_FORMAT and the two parameters are concatenated together.

See Also:

- *Oracle Database Backup and Recovery User's Guide*
- "LOG_ARCHIVE_DUPLEX_DEST", "LOG_ARCHIVE_MIN_SUCCEED_DEST", and "V\$ARCHIVE_DEST" for more information on setting this parameter
- Your Oracle operating system-specific documentation for the default value and for an example of how to specify the destination path or file name using LOG_ARCHIVE_DEST

2.199 LOG_ARCHIVE_DEST_n

The LOG_ARCHIVE_DEST_n initialization parameter defines up to 31 (where $n = 1, 2, 3, \dots 31$) destinations, each of which *must* specify either the LOCATION or the SERVICE attribute to specify where to archive the redo data.

Property	Description
Parameter type	String

Property	Description
Syntax	<pre>LOG_ARCHIVE_DEST_[1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31] = { null_string { LOCATION=path_name SERVICE=service_name } [MANDATORY] [REOPEN[=seconds]] [DELAY[=minutes]] [ENCRYPTION=ENABLED DISABLED] [GROUP=group] [NOREGISTER] [PRIORITY=priority] [TEMPLATE=template] [ALTERNATE=destination] [MAX_FAILURE=count] [SYNC ASYNC] [AFFIRM NOAFFIRM] [NET_TIMEOUT=seconds] [VALID_FOR=(redo_log_type,database_role)] [DB_UNIQUE_NAME] [COMPRESSION={ENABLE DISABLE ZLIB LZO}] }</pre>
Default value	There is no default value.
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	No
Basic	Yes

All other attributes except the `LOCATION` or `SERVICE` attributes are optional. Note that whether you are specifying the `LOCATION` attribute or the `SERVICE` attribute, it must be the first attribute supplied in the list of attributes.

If you choose not to enter any attributes, then you can specify a NULL string by entering the following:

```
LOG_ARCHIVE_DEST_n=' ';
```

You set the attributes for the `LOG_ARCHIVE_DEST_n` initialization parameter to control different aspects of how redo transport services transfer redo data from a production or primary database destination to another (standby) database destination. You can query the `V$ARCHIVE_DEST` view to see the current attribute settings for each destination (n).



Note:

Some of the attributes for this parameter are deprecated, but are being retained for backward compatibility. See "[Deprecated Attributes for LOG_ARCHIVE_DEST_n](#)".

For every `LOG_ARCHIVE_DEST_n` initialization parameter that you define, you must specify a corresponding `LOG_ARCHIVE_DEST_STATE_n` parameter. The `LOG_ARCHIVE_DEST_STATE_n` (where n is an integer from 1 to 31) initialization parameter specifies whether the corresponding destination is currently enabled or disabled.

**See Also:**

"LOG_ARCHIVE_DEST_STATE_1"

Destinations LOG_ARCHIVE_DEST_11 through LOG_ARCHIVE_DEST_31 do not support the SYNC, ARCH, LOCATION, MANDATORY, or ALTERNATE attributes, and cannot be specified as the target of the ALTERNATE attribute.

LOG_ARCHIVE_DEST_11 through LOG_ARCHIVE_DEST_31 can only be used when the COMPATIBLE initialization parameter is set to 11.2.0 or higher.

Values**See Also:**

Oracle Data Guard Concepts and Administration for detailed descriptions of all the values listed in this section

- AFFIRM and NOAFFIRM

Control whether a redo transport destination acknowledges received redo data before or after writing it to the standby redo log. The default is NOAFFIRM.

- ALTERNATE=LOG_ARCHIVE_DEST_1

Specifies an alternate archiving destination to be used when the original destination fails. There is no default value; if an alternate destination is not specified, then archiving does not automatically change to another destination if the original destination fails.

- ASYNC

The redo data generated by a transaction need not have been received at a destination which has this attribute before that transaction can commit. This is the default behavior if neither SYNC nor ASYNC is specified.

- COMPRESSION

Indicates whether network compression is enabled or disabled, or disabled, or whether the ZLIB or LZO algorithm is used. The possible values include:

- DISABLE: Compression is disabled.
- ENABLE: Compression is enabled. The ZLIB compression algorithm is used.
- ZLIB: ZLIB compression is used.
- LZO: LZO compression is used.

The Advanced Compression option is required in order to use the COMPRESSION attribute.

- DB_UNIQUE_NAME=*name*

Specifies a unique name for the database at this destination. You must specify a name; there is no default value.

- DELAY[=*minutes*]

Specifies a minimum time lag between when redo data is archived on a standby site retrieving redo from a primary and when the archived redo log file is applied to the standby database or any standbys cascading from it. If you specify the `DELAY` attribute without a time interval, the default is 30 minutes.

- `ENCRYPTION=DISABLE|ENABLE`

Controls whether encryption of the redo stream sent to Zero Data Loss Recovery Appliance (Recovery Appliance) is enabled or disabled. The default value for the attribute is `DISABLE`.

This attribute cannot be used with the `COMPRESSION`, `LOCATION`, or `SYNC` attributes.

To use the `ENCRYPTION` attribute, you must set the `COMPATIBLE` initialization parameter to 11.2.0.4 or higher on the protected database.

See Also:

Zero Data Loss Recovery Appliance Administrator's Guide for introductory information about Recovery Appliance

- `GROUP=group`

The `GROUP` attribute is used to specify membership in a specific collection of log archive destinations. Groups are numbered 1 through 8. The default group (`GROUP=0`) is special in that it cannot be assigned. The default group is populated with all destinations that are not explicitly assigned to a group. All groups other than the default group must consist of a set of remote destinations. No group (other than the default group) can contain local destinations.

- `LOCATION=local_disk_directory` or `USE_DB_RECOVERY_FILE_DEST`

Specifies either a local file system destination or the directory, file system, or Automatic Storage Management disk group that will serve as the fast recovery area. You must specify this attribute for at least one destination. You can specify either a local disk directory or fast recovery area with the `LOCATION` attribute. You *must* include either the `LOCATION` or the `SERVICE` attribute for each destination to specify where to archive the redo data.

- `MANDATORY`

Specifies that the transmission of redo data to the destination must succeed before the local online redo log file can be made available for reuse. If the `MANDATORY` attribute is not specified, then the destination is optional.

- `MAX_FAILURE`

Controls the consecutive number of times redo transport services attempt to reestablish communication and transmit redo data to a failed destination before the primary database gives up on the destination. See the `MAX_FAILURE` description in *Oracle Data Guard Concepts and Administration* for usage notes about how this attribute is handled differently in Oracle Database 12c Release 2 (12.2.0.1) and in Oracle Database 12c Release 1 (12.1.0.2).

- `NET_TIMEOUT=seconds`

Specifies the number of seconds the log writer process on the primary system waits for status from the `SYNC (NSSn)` process before terminating the network connection. The default is 30 seconds.

- `NOREGISTER`

Indicates that the location of the archived redo log file is not to be recorded at the corresponding destination.

- `PRIORITY=priority`

The `PRIORITY` attribute is used to specify preference within a group of log archive destinations. Priorities are numbered 1 through 8. A lower value represents a higher priority. The lowest priority (`PRIORITY=8`) is special in the sense that if that priority is active then all destinations at that priority will be made active. If any higher priority destination returns to service then that destination will be made active and all low priority destinations will be made inactive because they will be receiving redo from one of the other redo destinations, either through cascading or a Far Sync.

- `REOPEN[=seconds]`

Specifies the minimum number of seconds before the archiver processes (`ARCn`) or the log writer process (`LGWR`) should try again to access a previously failed destination. The default is 300 seconds.

- `SERVICE=net_service_name`

Specifies a valid Oracle Net service name (`SERVICE=net_service_name`) that identifies the remote Oracle database instance to which redo data will be sent. Each destination *must* specify either the `LOCATION` or the `SERVICE` attribute. There is no default net service name.

- `SYNC`

The redo data generated by a transaction must have been received by every enabled destination which has this attribute before that transaction can commit.

- `TEMPLATE=filename_template_%t_%s_%r`

Specifies a path name and a file name template for archived redo log files created at a redo transport destination that contain redo data from the database where this attribute is specified. This attribute overrides the value of the `LOG_ARCHIVE_FORMAT` initialization parameter at a redo transport destination. This attribute does not have a default value.

- `VALID_FOR=(redo_log_type, database_role)`

Identifies when redo transport services can transmit redo data to destinations based on the following factors:

- `redo_log_type`—whether online redo log files, standby redo log files, or both are *currently* being archived on the database at this destination
- `database_role`—whether the database is *currently* running in the primary or the standby role

Deprecated Attributes for LOG_ARCHIVE_DEST_n

The following attributes are deprecated for the `LOG_ARCHIVE_DEST_n` parameter. They are retained for backward compatibility only.

Table 2-3 Depreciated Attributes on the LOG_ARCHIVE_DEST_n Initialization Parameter

Deprecated Attribute	Alternative
ARCH	Specify <code>SYNC</code> or <code>ASYN</code> . <code>ASYN</code> is the default if neither attribute is specified.
LGWR	Specify <code>SYNC</code> or <code>ASYN</code> . <code>ASYN</code> is the default if neither attribute is specified.

Table 2-3 (Cont.) Deprecated Attributes on the LOG_ARCHIVE_DEST_n Initialization Parameter

Deprecated Attribute	Alternative
OPTIONAL	Destinations are optional by default.
VERIFY	None. This attribute is only used with the deprecated ARCH attribute.

In addition, note the following changes to the `ASYNCH` and `SYNCH` attributes:

- The `BLOCKS` keyword on the `ASYNCH` attribute is no longer needed.
It is no longer necessary to set this keyword because Data Guard dynamically adjusts the block count up or down to an appropriate number of blocks, as necessary.
- The `PARALLEL` and `NOPARALLEL` keywords on the `SYNCH` attribute are no longer needed.

2.200 LOG_ARCHIVE_DEST_STATE_n

The `LOG_ARCHIVE_DEST_STATE_n` parameters (where $n = 1, 2, 3, \dots, 31$) specify the availability state of the corresponding destination.

Property	Description
Parameter type	String
Syntax	<code>LOG_ARCHIVE_DEST_STATE_[1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31] = { enable defer alternate reset }</code>
Default value	enable
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	No
Basic	Yes

The parameter suffix (1 through 31) specifies one of the corresponding `LOG_ARCHIVE_DEST_n` destination parameters.

Values

- `enable`
Specifies that a valid log archive destination can be used for a subsequent archiving operation (automatic or manual). This is the default.
- `defer`
Specifies that valid destination information and attributes are preserved, but the destination is excluded from archiving operations until reenabled.
- `alternate`
Specifies that a log archive destination is not enabled but will become enabled if communications to another destination fail.
- `reset`

Functions the same as `defer`, but clears any error messages for the destination if it had previously failed.

The `LOG_ARCHIVE_DEST_STATE_n` parameters have no effect on the `ENABLE` state for the `LOG_ARCHIVE_DEST` or `LOG_ARCHIVE_DUPLEX_DEST` parameters.

The `V$ARCHIVE_DEST` dynamic performance view shows values in use for the current session. The `DEST_ID` column of that view corresponds to the archive destination suffix `n`.

See Also:

- *Oracle Data Guard Concepts and Administration* for more information about this parameter
- "`V$ARCHIVE_DEST`"

2.201 LOG_ARCHIVE_DUPLEX_DEST

`LOG_ARCHIVE_DUPLEX_DEST` is similar to the initialization parameter `LOG_ARCHIVE_DEST`. This parameter specifies a second archive destination: the **duplex** archive destination. This duplex archive destination can be either a must-succeed or a best-effort archive destination, depending on how many archive destinations must succeed (as specified in the `LOG_ARCHIVE_MIN_SUCCEED_DEST` parameter).

Property	Description
Parameter type	String
Syntax	<code>LOG_ARCHIVE_DUPLEX_DEST = filespec</code>
Default value	There is no default value.
Modifiable	<code>ALTER SYSTEM</code>
Modifiable in a PDB	No
Range of values	Either a null string or any valid path or device name, except raw partitions
Basic	No

Note:

If you are using Oracle Enterprise Edition, this parameter is deprecated in favor of the `LOG_ARCHIVE_DEST_n` parameters. If Oracle Enterprise Edition is not installed or it is installed but you have not specified any `LOG_ARCHIVE_DEST_n` parameters, this parameter is valid.

The default setting of a null string ("") or (' ') indicates that a duplex archive destination does not exist.

**See Also:**

- "LOG_ARCHIVE_DEST_*n*"
- "LOG_ARCHIVE_MIN_SUCCEED_DEST"
- "V\$ARCHIVE_DEST"
- *Oracle Database Administrator's Guide* for an example of using this parameter to specify an optional secondary archive destination

2.202 LOG_ARCHIVE_FORMAT

Use LOG_ARCHIVE_FORMAT to specify the default filename format when archiving redo log files.

Property	Description
Parameter type	String
Syntax	LOG_ARCHIVE_FORMAT = <i>filename</i>
Default value	Operating system-dependent
Modifiable	No
Modifiable in a PDB	No
Range of values	Any string that resolves to a valid filename
Basic	No
Oracle RAC	Multiple instances can have different values, but identical values are recommended.

LOG_ARCHIVE_FORMAT is applicable only if you are using the redo log in ARCHIVELOG mode. Use a text string and variables to specify the default filename format when archiving redo log files. The string generated from this format is appended to the string specified in the LOG_ARCHIVE_DEST parameter.

The following variables can be used in the format:

%s log sequence number

%S log sequence number, zero filled

%t thread number

%T thread number, zero filled

%a activation ID

%d database ID

%r resetlogs ID that ensures unique names are constructed for the archived log files across multiple incarnations of the database

Using uppercase letters for the variables (for example, %S) causes the value to be fixed length and padded to the left with zeros. An example of specifying the archive redo log filename format follows:

```
LOG_ARCHIVE_FORMAT = 'log%t_%s_%r.arc'
```

Archive log file names must contain each of the elements %s (sequence), %t (thread), and %r (resetlogs ID) to ensure that all archive log file names are unique. If the LOG_ARCHIVE_FORMAT initialization parameter is set in the parameter file, then make sure the parameter value contains the %s, %t, and %r elements. Otherwise, the following error is displayed at the time of instance startup:

```
ORA-19905: log_archive_format must contain %s, %t and %r
```

Neither LOG_ARCHIVE_DEST nor LOG_ARCHIVE_FORMAT have to be complete file or directory specifiers themselves; they only need to form a valid file path after the variables are substituted into LOG_ARCHIVE_FORMAT and the two parameters are concatenated together.

LOG_ARCHIVE_FORMAT is ignored in these cases:

- For archived log files that go to the fast recovery area
- When LOG_ARCHIVE_DEST[_n] points to the root of an Oracle ASM disk group (for example, +DATA). The directory of a disk group (for example, +DATA/logs) must be specified for the parameter to be honored.

In these cases where LOG_ARCHIVE_FORMAT is ignored, an Oracle ASM file name is used. See *Oracle Automatic Storage Management Administrator's Guide* for more information on Oracle ASM file names.



See Also:

- *Oracle Database Backup and Recovery User's Guide*, *Oracle Data Guard Concepts and Administration*, and *Oracle Real Application Clusters Administration and Deployment Guide* for more information about this parameter
- Your operating system- specific Oracle documentation for the default value and range of values for LOG_ARCHIVE_FORMAT

2.203 LOG_ARCHIVE_MAX_PROCESSES

LOG_ARCHIVE_MAX_PROCESSES specifies the maximum number of ARCn processes that can be created.

Property	Description
Parameter type	Integer
Default value	4
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	1 to 30
Basic	No

 See Also:

- ["Background Processes"](#) for more information about ARC*n* processes
- *Oracle Database Administrator's Guide* for more information about LOG_ARCHIVE_MAX_PROCESSES

2.204 LOG_ARCHIVE_MIN_SUCCEED_DEST

LOG_ARCHIVE_MIN_SUCCEED_DEST defines the minimum number of destinations that must succeed in order for the online logfile to be available for reuse.

Property	Description
Parameter type	Integer
Default value	1
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	1 to 10 if you are using LOG_ARCHIVE_DEST_ <i>n</i> 1 or 2 if you are using LOG_ARCHIVE_DEST and LOG_ARCHIVE_DUPLEX_DEST
Basic	No

If you are using the LOG_ARCHIVE_DEST_*n* parameters and automatic archiving is enabled, then the value of this parameter cannot exceed the number of enabled, valid destinations specified as MANDATORY plus the number of enabled, valid destinations that are configured with the OPTIONAL and LOCATION attributes.

If you are using LOG_ARCHIVE_DEST and LOG_ARCHIVE_DUPLEX_DEST and automatic archiving is enabled, a value of 1 specifies that the destination specified in LOG_ARCHIVE_DEST must succeed. A value of 2 specifies that the destinations specified in both parameters must succeed.

If the value of this parameter is less than the number of enabled, valid MANDATORY destinations, this parameter is ignored in favor of the MANDATORY destination count. If the value is more than the number of enabled, valid MANDATORY destinations, then some of the enabled, valid destinations configured with the OPTIONAL and LOCATION attributes are treated as MANDATORY.

You can switch dynamically from using the older parameters to the LOG_ARCHIVE_DEST_*n* parameter using ALTER SYSTEM, as follows:

1. Set LOG_ARCHIVE_MIN_SUCCEED_DEST to 1.
2. Set the value of LOG_ARCHIVE_DEST and LOG_ARCHIVE_DUPLEX_DEST to the null string.
3. Set the desired number of destinations for the LOG_ARCHIVE_DEST_*n* parameters.
4. Reset LOG_ARCHIVE_MIN_SUCCEED_DEST to the desired value.

 See Also:

- *Oracle Database Administrator's Guide* for more information on setting this parameter
- "LOG_ARCHIVE_DEST_#", "LOG_ARCHIVE_DUPLEX_DEST", and "V\$ARCHIVE_DEST" for information on related parameters

2.205 LOG_ARCHIVE_TRACE

LOG_ARCHIVE_TRACE enables and controls the generation of comprehensive trace information for log archiving and redo transport activity.

Property	Description
Parameter type	Integer
Default value	0
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	0, 1, 2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192, 16384, 32768
Basic	No
Oracle RAC	Multiple instances can have different values.

The additional tracing that is output when setting LOG_ARCHIVE_TRACE to a non-zero value can appear in trace files for an archive process, RFS process, LGWR process, SYNC process, ASYNC process, foreground process, MRP process, recovery process, log apply process, startup process, shutdown process, and other processes that use redo transport services.

Table 2-4 describes the valid LOG_ARCHIVE_TRACE values.

Table 2-4 LOG_ARCHIVE_TRACE Values

Value	Description	More Information
0	Disables archivelog tracing (this is the default)	
1	High-level tracing	High-level tracing provides a small amount of tracing from most redo transport processes. When a value is specified that is not high-level (not 1), the high-level tracing for that value will be output to the trace file even if the high-level tracing has not been specifically requested. For example, if you set LOG_ARCHIVE_TRACE to 128, you will get all the trace messages pertaining to the FAL engine, <i>including</i> the high-level tracing from the FAL engine.

Table 2-4 (Cont.) LOG_ARCHIVE_TRACE Values

Value	Description	More Information
2	Tracks Data Guard interfaces	This tracing level is for the various Data Guard configuration parameters, the various Data Guard related SQL commands, the various Data Guard table accesses, and some Data Guard internal interfaces.
4	Tracks common redo transport services	This tracing level is for a number of common services provided by redo transport to various internal users (such as the RFS process, the LGWR process, and the ASYNC process). These include locking primitives, use of common VOS (Virtual Operating System) interfaces, task scheduling, process monitoring, control file access, and other miscellaneous common services.
8	Tracks database protection mode	
16	Tracks disk and network I/O requests	
32	Tracks redo transport destinations	
64	Tracks redo transport archive engine	
128	Tracks redo transport FAL (fetch archive log) engine	
256	Tracks Physical, Logical, and Availability Machine clients of RFS process	
512	Tracks redo transport of LGWR, SYNC, and ASYNC processes	
1024	Tracks redo transport RFS process	
2048	Tracks redo transport gap resolution	
4096	Tracks real-time apply	
8192	Tracks recovery process	
16384	Tracks redo transport buffer management	
32768	Tracks LogMiner dictionary	

You can combine tracing levels by adding together the values of the desired tracing levels. For example, a setting of 3 will generate level 1 and level 2 trace output. You can set different values for the primary and standby database.

When this parameter is set to the default value of 0, Oracle will still generate appropriate alert and trace entries in response to error conditions. If you change the value of this parameter dynamically in an `ALTER SYSTEM` statement, the change takes effect immediately.

Many of the trace messages from redo transport processes include a routine name at the beginning of the trace message. The first part of the routine name specifies the module for that routine. [Table 2-5](#) shows the tracing value used for each redo transport module. Note that the tracing value for transport modules can change from release to release.

Table 2-5 Tracing Values Used for Redo Transport Modules

Module Name	Purpose	Tracing Value
krsa	Locking primitives	4
krsb	Buffer management	16384
krsc	Crash recovery	64
krsd	Destination	32
krse	Archive engine	64
krsf	FAL engine	128
krsg	Gap resolution	2048
krsh	Helper	4
krsi	Input/output	16
krsj	Protection mode	8
krsk	Control file access	4
krsl	Log writer	512
krsm	MRP process	8192
krsn	Configuration	2
krso	Process monitor	4
krsp	Physical standby and Availability Machine RFS client	256
krsq	SQL commands	2
krsr	RFS process	1024
krst	Tables	2
krsu	Network I/O	16
krsv	VOS front end	4
krsw	ASYNCR process	512
krsx	Internal interfaces	2

**See Also:***Oracle Database Administrator's Guide*

2.206 LOG_BUFFER

LOG_BUFFER specifies the amount of memory (in bytes) that Oracle uses when buffering redo entries to a redo log file.

Property	Description
Parameter type	Big integer
Default value	2 MB to 32 MB, depending on the SGA size and CPU count
Modifiable	No

Property	Description
Modifiable in a PDB	No
Range of values	2 MB to operating system-dependent
Basic	No

Redo log entries contain a record of the changes that have been made to the database block buffers. The LGWR process writes redo log entries from the log buffer to a redo log file.

The log buffer size depends on the number of redo strands in the system. One redo strand is allocated for every 16 CPUs and has a default size of 2 MB. Oracle allocates a minimum of 2 redo strands per instance. When the log buffer size is not specified, any remaining memory in the redo granules is given to the log buffer.

 See Also:

- Your operating system-specific Oracle documentation for the default value and range of values
- *Oracle Database Performance Tuning Guide* for information on resizing the redo log buffer using this parameter

2.207 LOG_CHECKPOINT_INTERVAL

LOG_CHECKPOINT_INTERVAL specifies the frequency of checkpoints in terms of the number of redo log file blocks that can exist between an incremental checkpoint and the last block written to the redo log. This number refers to physical operating system blocks, not database blocks.

Property	Description
Parameter type	Integer
Default value	0
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	0 to $2^{31} - 1$
Basic	No
Oracle RAC	Multiple instances can have different values.

Regardless of this value, a checkpoint always occurs when switching from one online redo log file to another. Therefore, if the value exceeds the actual redo log file size, checkpoints occur only when switching logs. Checkpoint frequency is one of the factors that influence the time required for the database to recover from an unexpected failure.

 Note:

- Specifying a value of 0 (zero) for `LOG_CHECKPOINT_INTERVAL` has the same effect as setting the parameter to infinity and causes the parameter to be ignored. Only nonzero values of this parameter are considered meaningful.
- Recovery I/O can also be limited by setting the `LOG_CHECKPOINT_TIMEOUT` parameter or by the size specified for the smallest redo log. For information on which mechanism is controlling checkpointing behavior, query the `V$INSTANCE_RECOVERY` view.

 See Also:

- ["LOG_CHECKPOINT_TIMEOUT"](#)
- ["V\\$INSTANCE_RECOVERY"](#)
- *Oracle Database Performance Tuning Guide* for information on disabling or removing this parameter when the `FAST_START_MTTR_TARGET` parameter is set

2.208 LOG_CHECKPOINT_TIMEOUT

`LOG_CHECKPOINT_TIMEOUT` specifies (in seconds) the amount of time that has passed since the incremental checkpoint at the position where the last write to the redo log (sometimes called the **tail of the log**) occurred. This parameter also signifies that no buffer will remain dirty (in the cache) for more than *integer* seconds.

Property	Description
Parameter type	Integer
Default value	1800
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	0 to $2^{31} - 1$
Basic	No
Oracle RAC	Multiple instances can have different values.

Specifying a value of 0 for the timeout disables time-based checkpoints. Hence, setting the value to 0 is not recommended unless `FAST_START_MTTR_TARGET` is set.

 Note:

- A checkpoint scheduled to occur because of this parameter is delayed until the completion of the previous checkpoint if the previous checkpoint has not yet completed.
- Recovery I/O can also be limited by setting the `LOG_CHECKPOINT_INTERVAL` parameter or by the size specified for the smallest redo log. For information on which mechanism is controlling checkpointing behavior, query the `V$INSTANCE_RECOVERY` view.

 See Also:

- `"LOG_CHECKPOINT_TIMEOUT"`
- `"V$INSTANCE_RECOVERY"`
- *Oracle Database Performance Tuning Guide* for information on disabling or removing this parameter when the `FAST_START_MTTR_TARGET` parameter is set

2.209 LOG_CHECKPOINTS_TO_ALERT

`LOG_CHECKPOINTS_TO_ALERT` lets you log your checkpoints to the alert log. Doing so is useful for determining whether checkpoints are occurring at the desired frequency.

Property	Description
Parameter type	Boolean
Default value	false
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	true false
Basic	No

2.210 LOG_FILE_NAME_CONVERT

`LOG_FILE_NAME_CONVERT` converts the filename of a new log file on the primary database to the filename of a log file on the standby database.

Property	Description
Parameter type	String

Property	Description
Syntax	<pre>LOG_FILE_NAME_CONVERT = 'string1' , 'string2' , 'string3' , 'string4' , ...</pre> Where: • <i>string1</i> is the pattern of the primary database filename • <i>string2</i> is the pattern of the standby database filename • <i>string3</i> is the pattern of the primary database filename • <i>string4</i> is the pattern of the standby database filename You can enclose each string in single or double quotation marks. You can specify as many pairs of primary and standby replacement strings as required. Example: <pre>LOG_FILE_NAME_CONVERT = '/dbs/t1/', '/dbs/t1/s', 'dbs/t2/', 'dbs/t2/s'</pre>
Default value	There is no default value.
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Basic	No

If you add a log file to the primary database, you must add a corresponding file to the standby database.

Set the value of this parameter to one or more pairs of strings. The first string is the pattern found in the log file names on the primary database. The second string is the pattern found in the log file names on the standby database.

When the standby database is updated, this parameter converts the log file name on the primary database to the log file name on the standby database. The file must exist on the standby database and must be writable or the recovery process will halt with an error.

If you specify an odd number of strings (the last string has no corresponding replacement string), an error is signalled during startup. If the filename being converted matches more than one pattern in the pattern/replace string list, the first matched pattern takes effect. There is no limit on the number of pairs that you can specify in this parameter (other than the hard limit of the maximum length of multivalue parameters).

You should also use `LOG_FILE_NAME_CONVERT` to rename the logfiles in the clone control file when setting up the clone database during tablespace point-in-time recovery.

**Note:**

The `LOG_FILE_NAME_CONVERT` parameter applies only to online logs (not to archived logs).

**See Also:**

Oracle Data Guard Concepts and Administration

2.211 LONG_MODULE_ACTION

LONG_MODULE_ACTION enables the use of longer lengths for modules and actions.

Property	Description
Parameter type	Boolean
Default value	true
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	true false
Basic	No
Oracle RAC	The same value must be used on all instances.

Module length was 48 bytes and action length was 32 bytes in Oracle Database releases prior to Oracle Database 12c Release 2 (12.2.0.1).

Starting with Oracle Database 12c Release 2 (12.2.0.1):

- If LONG_MODULE_ACTION is set to TRUE (the default value), then the length of modules and actions will be 64 bytes each.
- If LONG_MODULE_ACTION is set to FALSE, then the length of modules will be 48 bytes, and the length of actions will be 32 bytes.

2.212 MANDATORY_USER_PROFILE

MANDATORY_USER_PROFILE specifies the mandatory user profile for a CDB or PDB.

Property	Description
Parameter type	String
Syntax	MANDATORY_USER_PROFILE = <i>profile_name</i>
Default value	There is no default value
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	Multiple instances must use the same value.

For *profile_name*, specify the name of a mandatory user profile. Mandatory user profiles are common profiles created in the CDB root with the following SQL statement:

```
CREATE MANDATORY PROFILE ... CONTAINER = ALL;
```

You can set the value of MANDATORY_USER_PROFILE in the CDB root or in a PDB.

- When you set this parameter in the CDB root, the specified mandatory user profile applies to the CDB root and all PDBs.

- When you set this parameter in a PDB, the specified mandatory user profile applies only to that PDB and overrides the mandatory user profile for the CDB root, if any.

Only common users with the commonly granted `ALTER SYSTEM` privilege or the commonly granted `SYSDBA` privilege can set the value of `MANDATORY_USER_PROFILE` in the CDB root or in a PDB. This prevents local PDB administrators from circumventing any restrictions that are enforced at the CDB root.

**See Also:**

See *Oracle Database Security Guide* for more information about mandatory user profiles

2.213 MAX_AUTH_SERVERS

`MAX_AUTH_SERVERS` specifies the maximum number of authentication servers in the authentication pool. This pool authenticates user connections when client applications connect to Database Resident Connection Pooling (DRCP).

Property	Description
Parameter type	Integer
Default value	25
Modifiable	<code>ALTER SYSTEM</code>
Modifiable in a PDB	Yes, according to the following guidelines: • When the <code>ENABLE_PER_PDB_DRCP</code> initialization parameter is set to <code>true</code>, <code>MAX_AUTH_SERVERS</code> can be modified only at the PDB level; it cannot be modified for the CDB root. • When the <code>ENABLE_PER_PDB_DRCP</code> initialization parameter is set to <code>false</code>, <code>MAX_AUTH_SERVERS</code> can be modified only for the CDB root; it cannot be modified at the PDB level.
Range of values	Minimum: <code>MIN_AUTH_SERVERS</code> or 1, whichever is the greater value Maximum: operating system-dependent
Basic	No
Oracle RAC	Different instances can use different values.

The value of this parameter must be greater than or equal to the value of the `MIN_AUTH_SERVERS` initialization parameter, which specifies the minimum number of authentication servers in the authentication pool. The exception is when `MIN_AUTH_SERVERS` = 0. In this case, the value of `MAX_AUTH_SERVERS` must be greater than or equal to 1.

**See Also:**

- *Oracle Database Administrator's Guide* for more information about setting this parameter
- `"ENABLE_PER_PDB_DRCP"`
- `"MIN_AUTH_SERVERS"`

2.214 MAX_COLUMNS

Use `MAX_COLUMNS` to enable or disable Wide Tables for the database.

Property	Description
Parameter type	String
Syntax	<code>MAX_COLUMNS = { STANDARD EXTENDED }</code>
Default value	STANDARD
Modifiable	No
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	Multiple instances must use the same value.

Values:

- To enable Wide Tables, set this parameter to `EXTENDED`. With this setting, the maximum number of columns allowed in a database table or view is 4096.

The `COMPATIBLE` initialization parameter must be set to `23.0.0.0` or higher in order to set `MAX_COLUMNS = EXTENDED`.
- To disable Wide Tables, set this parameter to `STANDARD`. With this setting, the maximum number of columns allowed in a database table or view is 1000. This matches the behavior in releases prior to Oracle Database 23ai.

You can change the value of `MAX_COLUMNS` from `STANDARD` to `EXTENDED` at any time. However, you can change the value of `MAX_COLUMNS` from `EXTENDED` to `STANDARD` only when all tables and views in the database contain 1000 or fewer columns.



Note:

The increased column limit of 4096 is supported by Oracle Database 23ai clients, such as SQL*Plus, OCI, JDBC-OCI, unmanaged ODP.NET, and open source drivers. Older client versions (pre-Oracle Database 23ai) do not support the increased column limit and cannot access more than 1000 columns in a table or view.



Note:

This parameter is available starting with Oracle Database 23ai.

2.215 MAX_DATAPUMP_JOBS_PER_PDB

MAX_DATAPUMP_JOBS_PER_PDB determines the maximum number of concurrent Oracle Data Pump jobs per PDB.

Property	Description
Parameter type	String
Syntax	MAX_DATAPUMP_JOBS_PER_PDB = { AUTO integer }
Default value	AUTO
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	0 to 250 or AUTO
Basic	No
Oracle RAC	The same value must be used on all instances.

When this parameter has a value of `AUTO`, Oracle Data Pump will derive its actual value to be 50% of the `SESSIONS` initialization parameter.

A value that is too large could cause Oracle Data Pump to consume too many system resources, while a value that is too small could prevent users from performing their Oracle Data Pump tasks.

The main resource Oracle Data Pump uses is shared pool in the System Global Area (SGA) for the database. Parallel jobs increase the number of sessions and, depending on the job, the number of PX servers used.



See Also:

- *Oracle Database Utilities* for more information about using Oracle Data Pump with CDBs
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_DATAPUMP` PL/SQL package

2.216 MAX_DATAPUMP_PARALLEL_PER_JOB

MAX_DATAPUMP_PARALLEL_PER_JOB specifies the maximum number of parallel processes allowed per Oracle Data Pump job.

Property	Description
Parameter type	String
Syntax	MAX_DATAPUMP_PARALLEL_PER_JOB = { integer AUTO }
Default value	AUTO
Range of values	1 to 1024, or AUTO
Modifiable	ALTER SYSTEM

Property	Description
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	Different instances can use different values.

When this parameter has a value of `AUTO`, Oracle Data Pump derives its value to be 50 percent of the value of the `SESSIONS` initialization parameter.

2.217 MAX_DISPATCHERS

`MAX_DISPATCHERS` specifies the maximum number of dispatcher processes allowed to be running simultaneously.

Property	Description
Parameter type	Integer
Default value	There is no default value.
Modifiable	<code>ALTER SYSTEM</code>
Modifiable in a PDB	No
Range of values	If <code>MAX_DISPATCHERS</code> is specified, then it should be greater than or equal to the number of dispatchers specified by the <code>DISPATCHERS</code> parameter and less than the number of processes specified by the <code>PROCESSES</code> parameter.
Basic	No

This parameter can be overridden by the `DISPATCHERS` parameter and is maintained for backward compatibility with older releases.

See Also:

- *Oracle Database Administrator's Guide* for more information about this parameter
- Your operating system-specific Oracle documentation for the default value and range of values

2.218 MAX_DUMP_FILE_SIZE

`MAX_DUMP_FILE_SIZE` specifies the maximum size of trace files (excluding the alert log).

Property	Description
Parameter type	String
Syntax	<code>MAX_DUMP_FILE_SIZE = { integer [K M G] UNLIMITED }</code>

Property	Description
Default value	Oracle Database Free: 32M (4 segments of 8 MB each) For all other Oracle Database offerings, the default value is 1G, which means: • The maximum size for trace files generated by foreground processes is 1 GB (5 segments of 200 MB each). • The maximum size for other trace files, such as incident trace files and trace files generated by background processes, is 10 GB (5 segments of 2 GB each).
Modifiable	ALTER SESSION, ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	0 to unlimited, or UNLIMITED
Basic	No

You can change this limit if you are concerned that trace files may use too much space.

- A numeric value for `MAX_DUMP_FILE_SIZE` specifies the maximum size in operating system blocks.
- A numeric value followed by a `K` or `M` or `G` suffix specifies the file size in kilobytes, megabytes, or gigabytes.
- The special value string `UNLIMITED` means that there is no upper limit on trace file size. Thus, dump files can be as large as the operating system permits.

When the trace file is limited in size, it may be automatically split into multiple files, called segments, if needed. This process is called trace file segmentation. The segments will have the same file name as the active trace file, but with an extra segment number appended.

The trace file can be split into a maximum of 5 segments, and the size of each segment will typically be 1/5th of the trace file limit.

When the combined size of all the trace file segments exceeds the specified limit, the oldest segment is deleted, and a new, empty segment is created. Thus, the trace file always contains the most recent trace information. The first segment is never deleted, because it may contain relevant information about the initial state of the process, unless it ages out and gets purged. Rotation will happen between the remaining segments only.

Note that trace file segmentation will not occur when this parameter is set to a value less than 25 MB.



See Also:

Oracle Database Administrator's Guide and *Oracle Database SQL Tuning Guide* for more information on setting this parameter

2.219 MAX_IDLE_BLOCKER_TIME

MAX_IDLE_BLOCKER_TIME specifies the maximum number of minutes that a blocking session can be idle. After that point, the session is automatically terminated.

Property	Description
Parameter type	Integer
Default value	0
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	0 to the maximum integer. The value of 0 indicates that there is no limit.
Basic	No
Oracle RAC	Different instances can use different values.

A session is considered to be a blocking session when it is holding resources required by other sessions. For example:

- The session is holding a lock required by another session.
- The session is a parallel operation and its consumer group, PDB, or database has either reached its maximum parallel server limit or has queued parallel operations.
- The session's PDB or database instance is about to reach its SESSIONS or PROCESSES limit.

This parameter differs from the MAX_IDLE_TIME parameter in that MAX_IDLE_TIME applies to all sessions (blocking and non-blocking), whereas MAX_IDLE_BLOCKING_TIME applies only to blocking sessions. Therefore, in order for MAX_IDLE_BLOCKING_TIME to be effective, its limit must be less than the MAX_IDLE_TIME limit.



Note:

This parameter does not have an effect on parallel query processes, nor on SYS user sessions.



See Also:

"MAX_IDLE_TIME"

2.220 MAX_IDLE_TIME

MAX_IDLE_TIME specifies the maximum number of minutes that a session can be idle. After that point, the session is automatically terminated.

Property	Description
Parameter type	Integer

Property	Description
Default value	0
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	0 to the maximum integer. The value of 0 indicates that there is no limit.
Basic	No
Oracle RAC	Different instances can use different values.



See Also:

"[MAX_IDLE_BLOCKER_TIME](#)" to learn how to set a lower idle time limit for sessions that are holding resources required by other sessions

2.221 MAX_IOPS

MAX_IOPS enables you to set the maximum number of I/Os that can be issued per second on a per pluggable database (PDB) basis. This parameter is used to throttle PDB I/Os.

Property	Description
Parameter type	Integer
Default value	0
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	0 to the maximum Integer value. A very low value (for example, under 100 I/Os per second) is not recommended.
Basic	No
Oracle RAC	Different values can be set on different instances.

DBWR I/Os, control file I/Os, password file I/Os and other critical I/Os are exempted from the rate limit set by this parameter, but their I/Os are accounted for while throttling. Because of these exemptions, the PDB's actual I/O rate may sometimes exceed the limit.

This feature is enabled for multitenant container database (CDB) only. The feature is not supported on Oracle Exadata.

This parameter can be set from inside a PDB. If the parameter is set in CDB\$ROOT, all the PDBs in that CDB will inherit the parameter value from CDB\$ROOT. This parameter cannot be set in a non-CDB environment.

The default value of 0 means that no limits are set on the maximum number of I/Os that can be issued per second in a PDB.

If Oracle processes need to wait because of this IO rate limit, the wait event is resmgr: I/O rate limit.

**See Also:**

- "MAX_MBPS"
- "resmgr: I/O rate limit"

Examples

This example shows how to use SQL statements to set a maximum of 3000 I/Os per second on a PDB named CDB1_PDB1:

```
alter session set container = cdb1_pdb1;  
alter system set max_iops = 3000;
```

2.222 MAX_MBPS

MAX_MBPS enables you to set the maximum number of megabytes (MB) of I/Os issued per second on a per pluggable database (PDB) basis. This parameter is used to throttle PDB I/Os.

Property	Description
Parameter type	Integer
Default value	0
Modifiable	ALTER SYSTEM
Modifiable in a PDB	Yes
Range of values	0 to the maximum Integer value. A very low value (for example, under 25 MB per second) is not recommended.
Basic	No
Oracle RAC	Different values can be set on different instances.

DBWR I/Os, control file I/Os, password file I/Os and other critical I/Os are exempted from the throughput limit set by this parameter, but their I/Os are accounted for while throttling. Because of these exemptions, the PDB's actual I/O rate may sometimes exceed the limit.

This feature is enabled for multitenant container database (CDB) only. The feature is not supported on Oracle Exadata.

This parameter can be set from inside a PDB. If the parameter is set in CDB\$ROOT, all the PDBs in that CDB will inherit the parameter value from CDB\$ROOT. This parameter cannot be set in a non-CDB environment.

The default value of 0 means that no limits are set on the maximum number of megabytes (MB) of I/Os that can be issued per second in a PDB.

If Oracle processes need to wait because of this IO rate limit, the wait event is resmgr: I/O rate limit.

 See Also:

- "MAX_IOPS"
- "resmgr: I/O rate limit"

Examples

This example shows how to use SQL statements to set a maximum of 200 megabytes per second on a PDB named CDB1_PDB1:

```
alter session set container = cdb1_pdb1;  
alter system set max_mbps = 200;
```

2.223 MAX_PDBS

MAX_PDBS allows you to limit the number of pluggable databases (PDBs) that can be created in a CDB or an application container.

Property	Description
Parameter type	Integer
Default value	Depends on the Oracle Database edition Possible values: 5, 254, or 4098
Modifiable	ALTER SYSTEM ... SID='*'
Modifiable in a PDB	No. However, this parameter can be modified in the application root of an application container.
Range of values	Minimum: 0 Maximum: The default value for the Oracle Database edition (5, 254, or 4098)
Basic	No
Oracle RAC	The same value must be used on all instances.

This parameter can only be set while connected to the CDB root or an application root.

This parameter applies to PDBs, application containers, and application PDBs. An application PDB is a PDB that resides in an application container.

This parameter does not apply to the PDB seed (PDB\$SEED), application seeds, or application root clones.

 Note:

The maximum number of PDBs that you are allowed to create in a CDB depends on the licensing policy for your Oracle Database edition. To learn more, refer to the Oracle Multitenant information in the "Consolidation" table in *Oracle Database Licensing Information User Manual*.

2.224 MAX_SAGA_DURATION

MAX_SAGA_DURATION specifies the maximum duration for a saga (in seconds).

If a saga exists for longer than the amount of time specified by this parameter, it is considered incomplete and is eligible for termination.

Property	Description
Parameter type	Integer
Default value	86400 seconds (equivalent to 24 hours)
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	1 to $2^{31} - 1$
Basic	No
Oracle RAC	Multiple instances must have the same value.



Note:

This parameter is available starting with Oracle Database 23ai.

2.225 MAX_SHARED_SERVERS

MAX_SHARED_SERVERS specifies the maximum number of shared server processes allowed to be running simultaneously. Setting this parameter enables you to reserve process slots for other processes, such as dedicated servers.

Property	Description
Parameter type	Integer
Default value	There is no default value.
Modifiable	ALTER SYSTEM
Modifiable in a PDB	No
Range of values	If MAX_SHARED_SERVERS is specified, then it should be greater than or equal to SHARED_SERVERS and less than PROCESSES.
Basic	No

When you want to reduce the range of shared servers, you can reduce MAX_SHARED_SERVERS before reducing SHARED_SERVERS. If MAX_SHARED_SERVERS is lower than SHARED_SERVERS, then the number of shared servers will not vary but will remain at the constant level specified by SHARED_SERVERS. If MAX_SHARED_SERVERS is not specified, then a shared server process may be spawned as long as the number of free process slots is greater than 1 / 8 the maximum number of processes, or 2 if PROCESSES is less than 24.

**See Also:**

- "SHARED_SERVERS"
- "PROCESSES"
- *Oracle Database Administrator's Guide* for more information on setting this parameter
- *Oracle Database Concepts* for information on processes
- Your operating system-specific Oracle documentation for the default value and range of values

2.226 MAX_STRING_SIZE

MAX_STRING_SIZE controls the maximum size of VARCHAR2, NVARCHAR2, and RAW data types in SQL.

Property	Description
Parameter type	String
Syntax	MAX_STRING_SIZE = { STANDARD EXTENDED }
Default value	STANDARD
Modifiable	ALTER SYSTEM ... SID=* ¹
Modifiable in a PDB	Yes
Basic	No
Oracle RAC	Multiple instances must use the same value.

¹ Use ALTER SYSTEM only when the database is in UPGRADE mode, and run the utl32k.sql script afterward, as explained in this section.

STANDARD means that the length limits for Oracle Database releases prior to Oracle Database 12c apply (for example, 4000 bytes for VARCHAR2 and NVARCHAR2, and 2000 bytes for RAW).

EXTENDED means that the 32767 byte limit introduced in Oracle Database 12c applies.

The COMPATIBLE initialization parameter must be set to 12.0.0.0 or higher to set MAX_STRING_SIZE = EXTENDED.

You can change the value of MAX_STRING_SIZE from STANDARD to EXTENDED. However, you cannot change the value of MAX_STRING_SIZE from EXTENDED to STANDARD.

By setting MAX_STRING_SIZE = EXTENDED, users are taking an explicit action that could introduce application incompatibility in their database. Applications that do not want to use the expanded data types can be rewritten for compatibility with either setting; for example, these applications could use explicit CASTs to fix the length of VARCHAR2 expressions during CREATE TABLE AS SELECT.

Altering MAX_STRING_SIZE will update database objects and possibly invalidate them, as follows:

- Tables with virtual columns will be updated with new data type metadata for virtual columns of VARCHAR2 (4000), 4000-byte NVARCHAR2, or RAW (2000) type.
 - Functional indexes will become unusable if a change to their associated virtual columns causes the index key to exceed index key length limits. Attempts to rebuild such indexes will fail with ORA-01450: maximum key length exceeded.
- Views will be invalidated if they contain VARCHAR2 (4000), 4000-byte NVARCHAR2, or RAW (2000) typed expression columns.
- Materialized views will be updated with new metadata VARCHAR2 (4000), 4000-byte NVARCHAR2, and RAW (2000) typed expression columns

Increasing the Maximum Size of VARCHAR2, NVARCHAR2, and RAW Columns in a CDB

To increase the maximum size of VARCHAR2, NVARCHAR2, and RAW columns in a CDB and in all the PDBs in the CDB:

1. Connect to the CDB AS SYSDBA.
2. In the root, change the setting of MAX_STRING_SIZE to EXTENDED:

```
ALTER SESSION SET CONTAINER=CDB$ROOT;
ALTER SYSTEM SET max_string_size=extended SCOPE=SPFILE;
```

Note:

The root continues to use STANDARD semantics even after MAX_STRING_SIZE is set to EXTENDED. The reason for setting MAX_STRING_SIZE to EXTENDED in the root is so all the PDBs in the CDB can inherit the EXTENDED setting from the root.

3. Shut down the CDB.
 4. Restart the CDB in UPGRADE mode.
- ```
startup upgrade;
```
5. Use the catcon.pl script to run the rdbms/admin/utl32k.sql script in the root and in all the PDBs in the CDB to increase the maximum size of the VARCHAR2, NVARCHAR2, and RAW columns. The --force\_pdb\_mode 'UPGRADE' option is used to ensure that all PDBs, including application root clones, are opened in migrate mode. Enter the SYS password when prompted:

```
$ cd $ORACLE_HOME/rdbms/admin
$ mkdir /scratch/mydir/utl32k_cdb_pdb_output
$ $ORACLE_HOME/perl/bin/perl $ORACLE_HOME/rdbms/admin/catcon.pl -u SYS --
force_pdb_mode 'UPGRADE' -d $ORACLE_HOME/rdbms/admin -l '/scratch/mydir/
utl32k_cdb_pdb_output' -b
utl32k_cdb_pdb_output utl32k.sql
catcon: ALL catcon-related output will be written to [/scratch/mydir/
utl32k_cdb_pdb_output/utl32k_cdb_pdb_output_catcon_23172.lst]
catcon: See [/scratch/mydir/utl32k_cdb_pdb_output/
utl32k_cdb_pdb_output*.log] files for output generated by scripts
catcon: See [/scratch/mydir/utl32k_cdb_pdb_output/
utl32k_cdb_pdb_output_*.lst] files for spool files, if any
Enter Password:
```

```
catcon.pl: completed successfully
$
```

### Note:

The `utl32k.sql` script increases the maximum size of the `VARCHAR2`, `NVARCHAR2`, and `RAW` columns for the views where this is required. The script does not increase the maximum size of the `VARCHAR2`, `NVARCHAR2`, and `RAW` columns in some views because of the way the SQL for those views is written.

6. Connect to the CDB AS SYSDBA and shut down the database.
7. Restart the CDB in NORMAL mode.

```
startup;
```

8. Use the `catcon.pl` script to run the `rdbms/admin/utlrlp.sql` script to recompile invalid objects in the root and in all the PDBs in the CDB. The `--force_pdb_mode 'READ WRITE'` option is used to ensure that all the PDBs (including application root clones) are opened in read write mode. Enter the SYS password when prompted:

```
$ cd $ORACLE_HOME/rdbms/admin
$ mkdir /scratch/mydir/utlrlp_cdb_pdb_output
$ $ORACLE_HOME/perl/bin/perl $ORACLE_HOME/rdbms/admin/catcon.pl -u SYS --
force_pdb_mode 'READ WRITE' -d $ORACLE_HOME/rdbms/admin -l '/scratch/mydir/
utlrlp_cdb_pdb_output' -b utlrlp_cdb_pdb_output utlrlp.sql
catcon: ALL catcon-related output will be written to [/scratch/mydir/
utlrlp_cdb_pdb_output/utlrlp_cdb_pdb_output_catcon_24271.lst]
catcon: See [/scratch/mydir/utlrlp_cdb_pdb_output/
utlrlp_cdb_pdb_output*.log] files for output generated by scripts
catcon: See [/scratch/mydir/utlrlp_cdb_pdb_output/
utlrlp_cdb_pdb_output_*.lst] files for spool files, if any
Enter Password:
catcon.pl: completed successfully
$
```

### See Also:

*Oracle Multitenant Administrator's Guide* for information about using the `catcon.pl` script to run Oracle-supplied scripts in a CDB and PDBs.

## Increasing the Maximum Size of VARCHAR2, NVARCHAR2, and RAW Columns in a PDB

To increase the maximum size of `VARCHAR2`, `NVARCHAR2`, and `RAW` columns in a PDB:

1. Shut down the PDB.
2. Reopen the PDB in migrate mode.

 **Note:**

The following SQL statement can be used to reopen a PDB in migrate mode when the current container is the PDB:

```
ALTER PLUGGABLE DATABASE pdb-name OPEN UPGRADE;
```

3. Change the setting of `MAX_STRING_SIZE` in the PDB to `EXTENDED`.
4. Run the `rdbms/admin/utl32k.sql` script in the PDB. You must be connected `AS SYSDBA` to run the `utl32k.sql` script.
5. Reopen the PDB in `NORMAL` mode.

 **Note:**

The `utl32k.sql` script increases the maximum size of the `VARCHAR2`, `NVARCHAR2`, and `RAW` columns for the views where this is required. The script does not increase the maximum size of the `VARCHAR2`, `NVARCHAR2`, and `RAW` columns in some views because of the way the SQL for those views is written.

6. Run the `rdbms/admin/utlrp.sql` script in the PDB to recompile invalid objects. You must be connected `AS SYSDBA` to run the script.

 **See Also:**

*Oracle Multitenant Administrator's Guide* for more information about modifying the open mode of PDBs.

### Increasing the Maximum Size of `VARCHAR2`, `NVARCHAR2`, and `RAW` Columns in an Oracle RAC Database

To increase the maximum size of `VARCHAR2`, `NVARCHAR2`, and `RAW` columns in an Oracle RAC database:

1. Shut down all of the Oracle RAC database instances, except one.
2. Restart the Oracle RAC database instance in `UPGRADE` mode.
3. Change the setting of `MAX_STRING_SIZE` to `EXTENDED`.
4. Run the `rdbms/admin/utl32k.sql` script in the Oracle RAC database instance. You must be connected `AS SYSDBA` to run the script.
5. Restart all Oracle RAC database instances in `NORMAL` mode.

 **Note:**

The `utl32k.sql` script increases the maximum size of the `VARCHAR2`, `NVARCHAR2`, and `RAW` columns for the views where this is required. The script does not increase the maximum size of the `VARCHAR2`, `NVARCHAR2`, and `RAW` columns in some views because of the way the SQL for those views is written.

6. Run the `rdbms/admin/utl32k.sql` script to recompile invalid objects. You must be connected `AS SYSDBA` to run the script.

### Increasing the Maximum Size of `VARCHAR2`, `NVARCHAR2`, and `RAW` Columns in an Oracle Data Guard Logical Standby Database

To increase the maximum size of `VARCHAR2`, `NVARCHAR2`, and `RAW` columns in an Oracle Data Guard logical standby database:

1. Shut down the Oracle Data Guard primary database and logical standby database.
2. Restart the primary database and logical standby database in `UPGRADE` mode.
3. Change the setting of `MAX_STRING_SIZE` to `EXTENDED` on the primary database and logical standby database.
4. Run the `rdbms/admin/utl32k.sql` script on both the primary database and the logical standby database. You must be connected `AS SYSDBA` to run the script.
5. Restart the primary database and logical standby database in `NORMAL` mode.

 **Note:**

The `utl32k.sql` script increases the maximum size of the `VARCHAR2`, `NVARCHAR2`, and `RAW` columns for the views where this is required. The script does not increase the maximum size of the `VARCHAR2`, `NVARCHAR2`, and `RAW` columns in some views because of the way the SQL for those views is written.

6. Run the `rdbms/admin/utl32k.sql` script on the primary database and logical standby database to recompile invalid objects. You must be connected `AS SYSDBA` to run the script.
7. Restart SQL Apply.

 **See Also:**

*Oracle Database Globalization Support Guide* for more information about the `MAX_STRING_SIZE` parameter



## 2.227 MEMOPTIMIZE\_POOL\_SIZE

`MEMOPTIMIZE_POOL_SIZE` sets the size of the memoptimize pool, a memory area in the system global area (SGA) used by the Memoptimized Rowstore.

| Property                   | Description                                              |
|----------------------------|----------------------------------------------------------|
| <b>Parameter type</b>      | Big integer                                              |
| <b>Syntax</b>              | <code>MEMOPTIMIZE_POOL_SIZE = integer [K   M   G]</code> |
| <b>Default value</b>       | 0                                                        |
| <b>Modifiable</b>          | No                                                       |
| <b>Modifiable in a PDB</b> | No                                                       |
| <b>Range of values</b>     | 0 to no maximum                                          |
| <b>Basic</b>               | No                                                       |
| <b>Oracle RAC</b>          | Different values can be used on different instances.     |

The Memoptimized Rowstore improves the data query performance of applications, such as Internet of Things (IoT), that frequently query tables based on primary key values.

The Memoptimized Rowstore provides the capability of fast lookup of data for the tables that are mainly queried based on primary key columns.

This parameter specifies an integer value to indicate the amount of SGA to use for allocating the following structures for the memoptimize pool:

- The size of the buffer cache region: This is the total number of blocks for all `MEMOPTIMIZE FOR READ` tables.
- The size of the hash index segmented data structure pointing to the special blocks of `MEMOPTIMIZE FOR READ` tables.

Calculate the buffer cache requirement for the table being considered for `MEMOPTIMIZE FOR READ`, and include an additional 25% memory requirement for the hash index segmented data structure.

These structures are allocated from SGA at instance startup.

The value specified for this parameter counts toward `SGA_TARGET`. For example, if you set `SGA_TARGET` to 10 GB and you set `MEMOPTIMIZE_POOL_SIZE` to 2 GB, then 20% of the `SGA_TARGET` setting is allocated to the memoptimize pool.

Unlike other SGA components such as the buffer cache and shared pool, the memoptimize pool size is not controlled by automatic memory management. The database does not automatically shrink the memoptimize pool when the buffer cache or shared pool requires more memory, or increase the memoptimize pool when it runs out of space. You can only increase the size of the memoptimize pool by manually adjusting the `MEMOPTIMIZE_POOL_SIZE` initialization parameter.

### See Also:

*Oracle Database Performance Tuning Guide* for more information about the Memoptimized Rowstore and the memoptimize pool.

## 2.228 MEMOPTIMIZE\_WRITE\_AREA\_SIZE

`MEMOPTIMIZE_WRITE_AREA_SIZE` specifies the size of the ingest buffer in the large pool of the SGA. The ingest buffer is where Memoptimized Rowstore fast ingest inserts are buffered.

| Property                   | Description                                                                                      |
|----------------------------|--------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | Big integer                                                                                      |
| <b>Syntax</b>              | <code>MEMOPTIMIZE_WRITE_AREA_SIZE = integer [K   M   G]</code>                                   |
| <b>Default value</b>       | 0                                                                                                |
| <b>Modifiable</b>          | <code>ALTER SYSTEM ... SID='*'</code>                                                            |
| <b>Modifiable in a PDB</b> | No                                                                                               |
| <b>Range of values</b>     | 0 to operating system-dependent                                                                  |
| <b>Basic</b>               | No                                                                                               |
| <b>Oracle RAC</b>          | You must set this parameter for every instance, and multiple instances must have the same value. |



### Note:

This parameter is available starting with Oracle Database 23ai.

## 2.229 MEMOPTIMIZE\_WRITES

`MEMOPTIMIZE_WRITES` allows you to instruct the database to always use fast ingest when inserting data into tables enabled for Memoptimized Rowstore fast ingest.

| Property                   | Description                                     |
|----------------------------|-------------------------------------------------|
| <b>Parameter type</b>      | String                                          |
| <b>Syntax</b>              | <code>MEMOPTIMIZE_WRITES = { HINT   ON }</code> |
| <b>Default value</b>       | HINT                                            |
| <b>Modifiable</b>          | <code>ALTER SESSION</code>                      |
| <b>Modifiable in a PDB</b> | No                                              |
| <b>Basic</b>               | No                                              |

The fast ingest feature of Memoptimized Rowstore was introduced in Oracle Database 19c. At that time, the only way to direct the database to use fast ingest was to specify the `MEMOPTIMIZE_WRITE` hint in the `INSERT` statement.

Starting with Oracle Database 23ai, you can also direct the database to use fast ingest by setting the `MEMOPTIMIZE_WRITES` initialization parameter as follows:

- **ON** - When inserting data into tables enabled for fast ingest, the fast ingest feature is always used, regardless of whether the `MEMOPTIMIZE_WRITE` hint is specified in the `INSERT` statement.

- **HINT** - When inserting data into tables enabled for fast ingest, the fast ingest feature is used only when the `MEMOPTIMIZE_WRITE` hint is specified in the `INSERT` statement.

**Note:**

This parameter is available starting with Oracle Database 23ai.

## 2.230 MEMORY\_MAX\_SIZE

`MEMORY_MAX_SIZE` specifies the maximum value to which a DBA can set the `MEMORY_SIZE` initialization parameter.

| Property                   | Description                                                                           |
|----------------------------|---------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | Big integer                                                                           |
| <b>Syntax</b>              | <code>MEMORY_MAX_SIZE = integer [K   M   G]</code>                                    |
| <b>Default value</b>       | The value of the <code>MEMORY_SIZE</code> initialization parameter                    |
| <b>Modifiable</b>          | No                                                                                    |
| <b>Modifiable in a PDB</b> | No                                                                                    |
| <b>Range of values</b>     | <code>MEMORY_SIZE</code> to the physical memory size available to the Oracle database |
| <b>Basic</b>               | No                                                                                    |
| <b>Oracle RAC</b>          | Different instances can use different values.                                         |

**Note:**

This parameter is available starting with Oracle Database 23ai.

**See Also:**

"[MEMORY\\_SIZE](#)" for more information about how the settings of `MEMORY_MAX_SIZE` and `MEMORY_SIZE` affect each other

## 2.231 MEMORY\_MAX\_TARGET

`MEMORY_MAX_TARGET` specifies the maximum value to which a DBA can set the `MEMORY_TARGET` initialization parameter.

| Property              | Description                                          |
|-----------------------|------------------------------------------------------|
| <b>Parameter type</b> | Big integer                                          |
| <b>Syntax</b>         | <code>MEMORY_MAX_TARGET = integer [K   M   G]</code> |
| <b>Default value</b>  | 0                                                    |

| Property                   | Description                                                    |
|----------------------------|----------------------------------------------------------------|
| <b>Modifiable</b>          | No                                                             |
| <b>Modifiable in a PDB</b> | No                                                             |
| <b>Range of values</b>     | 0 to the physical memory size available to the Oracle Database |
| <b>Basic</b>               | No                                                             |

See the description of `MEMORY_TARGET` for more information about how the settings of `MEMORY_MAX_TARGET` and `MEMORY_TARGET` affect each other.



#### See Also:

*Oracle Database Administrator's Guide* for more information about managing memory

## 2.232 MEMORY\_SIZE

`MEMORY_SIZE` specifies the size of instance-wide usable memory.

| Property                   | Description                                                                                                                                                                                            |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | Big integer                                                                                                                                                                                            |
| <b>Syntax</b>              | <code>MEMORY_SIZE = integer [K   M   G]</code>                                                                                                                                                         |
| <b>Default value</b>       | 0                                                                                                                                                                                                      |
| <b>Modifiable</b>          | You can use <code>ALTER SYSTEM</code> to increase or decrease the value of this parameter. However, the value of this parameter must always be greater than or equal to its value at instance startup. |
| <b>Modifiable in a PDB</b> | No                                                                                                                                                                                                     |
| <b>Range of values</b>     | 1536 MB to <code>MEMORY_MAX_SIZE</code>                                                                                                                                                                |
| <b>Basic</b>               | No                                                                                                                                                                                                     |
| <b>Oracle RAC</b>          | Different instances can use different values.                                                                                                                                                          |

In a text-based initialization parameter file, if you omit `MEMORY_MAX_SIZE` and include a value for `MEMORY_SIZE`, then the database automatically sets `MEMORY_MAX_SIZE` to the value of `MEMORY_SIZE`. If you omit the line for `MEMORY_SIZE` and include a value for `MEMORY_MAX_SIZE`, the `MEMORY_SIZE` parameter defaults to 0. After instance startup, you can dynamically change `MEMORY_SIZE` to a nonzero value, provided that it does not exceed the value of `MEMORY_MAX_SIZE`.

Based on the value of `MEMORY_SIZE`, the values for the SGA and PGA parameters `SGA_TARGET` and `PGA_AGGREGATE_LIMIT` will be calculated internally for the instance. The sizing will also depend on the large page settings.

When `MEMORY_SIZE` is set to a nonzero value, the CDB-level values for the following SGA and PGA parameters will be ignored by the database: `SGA_MAX_SIZE`, `PGA_AGGREGATE_LIMIT`, and `SGA_TARGET`. If you assign a value to any of these parameters at the time of instance startup, the database will not report an error, but the parameter value will be ignored. If you dynamically modify any of these parameters, an error will be reported.

When `MEMORY_SIZE` is set to a nonzero value, the `MEMORY_MAX_TARGET` and `MEMORY_TARGET` parameters should be set to 0. If you attempt to set either of these parameters to a nonzero value, the request will be ignored, and a warning will be written to the alert log at startup.

**Note:**

This parameter is available starting with Oracle Database 23ai.

**See Also:**

"`MEMORY_MAX_SIZE`"

## 2.233 MEMORY\_TARGET

`MEMORY_TARGET` specifies the Oracle system-wide usable memory.

The database tunes memory to the `MEMORY_TARGET` value, reducing or enlarging the SGA and PGA as needed.

| Property                   | Description                                                                                                              |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | Big integer                                                                                                              |
| <b>Syntax</b>              | <code>MEMORY_TARGET = integer [K   M   G]</code>                                                                         |
| <b>Default value</b>       | 0 (SGA autotuning is disabled for DEFERRED mode autotuning requests, but allowed for IMMEDIATE mode autotuning requests) |
| <b>Modifiable</b>          | ALTER SYSTEM                                                                                                             |
| <b>Modifiable in a PDB</b> | No                                                                                                                       |
| <b>Range of values</b>     | 152 MB to <code>MEMORY_MAX_TARGET</code>                                                                                 |
| <b>Basic</b>               | No                                                                                                                       |

`MEMORY_TARGET` should be set higher than or equal to the sum of the current sizes of the SGA and PGA.

In a text-based initialization parameter file, if you omit `MEMORY_MAX_TARGET` and include a value for `MEMORY_TARGET`, then the database automatically sets `MEMORY_MAX_TARGET` to the value of `MEMORY_TARGET`. If you omit the line for `MEMORY_TARGET` and include a value for `MEMORY_MAX_TARGET`, the `MEMORY_TARGET` parameter defaults to zero. After startup, you can then dynamically change `MEMORY_TARGET` to a nonzero value, provided that it does not exceed the value of `MEMORY_MAX_TARGET`.

Total memory usage can grow beyond the value of `MEMORY_TARGET`. For example, memory is allocated to PL/SQL tables and varrays regardless of the value of `MEMORY_TARGET` as long as memory is available at the operating system level.

In the **Default value** field, IMMEDIATE mode autotuning requests are necessary to avoid ORA-04031 errors. The DEFERRED and IMMEDIATE modes are reflected in the `OPER_MODE` column of the `V$MEMORY_RESIZE_OPS` view.

**Note:**

The default value of `SGA_MAX_SIZE` depends on the values of `MEMORY_TARGET` and `MEMORY_MAX_TARGET`.

**See Also:**

- *Oracle Database Administrator's Guide* for more information about managing memory
- *Oracle Multitenant Administrator's Guide* for information about the initialization parameters that control the memory usage of PDBs

## 2.234 MIN\_AUTH\_SERVERS

`MIN_AUTH_SERVERS` specifies the minimum number of authentication servers in the authentication pool. This pool authenticates user connections when client applications connect to Database Resident Connection Pooling (DRCP).

| Property            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parameter type      | Integer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Default value       | If the <code>ENABLE_PER_PDB_DRCP</code> initialization parameter is set to <code>true</code> , then the default value for <code>MIN_AUTH_SERVERS</code> is 0 in each PDB.<br><br>If the <code>ENABLE_PER_PDB_DRCP</code> initialization parameter is set to <code>false</code> , then the default value for <code>MIN_AUTH_SERVERS</code> is 1 in the CDB root.                                                                                                                                                                    |
| Modifiable          | ALTER SYSTEM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Modifiable in a PDB | Yes, according to the following guidelines: <ul style="list-style-type: none"><li>• When the <code>ENABLE_PER_PDB_DRCP</code> initialization parameter is set to <code>true</code>, <code>MIN_AUTH_SERVERS</code> can be modified only at the PDB level; it cannot be modified for the CDB root.</li><li>• When the <code>ENABLE_PER_PDB_DRCP</code> initialization parameter is set to <code>false</code>, <code>MIN_AUTH_SERVERS</code> can be modified only for the CDB root; it cannot be modified at the PDB level.</li></ul> |
| Range of values     | Minimum: 0<br><br>Maximum: <code>MAX_AUTH_SERVERS</code> or <code>PROCESSES</code> , whichever is the lesser value                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Basic               | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Oracle RAC          | Different instances can use different values.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

The value of this parameter must be less than or equal to the values of both the `MAX_AUTH_SERVERS` initialization parameter and the `PROCESSES` initialization parameter. The `MAX_AUTH_SERVERS` parameter specifies the maximum number of authentication servers in the authentication pool. The `PROCESSES` parameter specifies the maximum number of operating system user processes that can simultaneously connect to Oracle.

 **See Also:**

- *Oracle Database Administrator's Guide* for more information about setting this parameter
- ["ENABLE\\_PER\\_PDB\\_DRCP"](#)
- ["MAX\\_AUTH\\_SERVERS"](#)
- ["PROCESSES"](#)

## 2.235 MLE\_PROG\_LANGUAGES

Use `MLE_PROG_LANGUAGES` to enable or disable Oracle Database Multilingual Engine (MLE) completely, or selectively enable certain languages.

| Property                   | Description                                                  |
|----------------------------|--------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                       |
| <b>Syntax</b>              | <code>MLE_PROG_LANGUAGES = { ALL   JAVASCRIPT   OFF }</code> |
| <b>Default value</b>       | ALL                                                          |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                                  |
| <b>Modifiable in a PDB</b> | Yes                                                          |
| <b>Basic</b>               | No                                                           |
| <b>Oracle RAC</b>          | Multiple instances must have the same value.                 |

**Values:**

- `ALL` - Enable MLE completely.
- `JAVASCRIPT` - Enable MLE for JavaScript only. Note that MLE currently supports JavaScript as its sole language. Therefore, the `JAVASCRIPT` setting has the same effect as the `ALL` setting.
- `OFF` - Disable MLE completely.

If MLE is disabled completely at the CDB level, it cannot be enabled at the PDB or session level. Similarly, if MLE is disabled completely at the PDB level, it cannot be enabled at the session level.

 **Note:**

This parameter is available starting with Oracle Database 23ai.

 **See Also:**

*Oracle Database Multilingual Engine JavaScript Developer's Guide* for more information about this parameter

## 2.236 MULTISHARD\_QUERY\_DATA\_CONSISTENCY

`MULTISHARD_QUERY_DATA_CONSISTENCY` enables you to specify a data consistency setting for multi-shard queries.

| Property                   | Description                                                                                         |
|----------------------------|-----------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                                                              |
| <b>Syntax</b>              | <code>MULTISHARD_QUERY_DATA_CONSISTENCY = { STRONG   SHARD_LOCAL   DELAYED_STANDBY_ALLOWED }</code> |
| <b>Default value</b>       | STRONG                                                                                              |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                                                                         |
| <b>Modifiable in a PDB</b> | Yes                                                                                                 |
| <b>Basic</b>               | No                                                                                                  |
| <b>Oracle RAC</b>          | The value of this parameter can be different on different Oracle RAC instances.                     |

You can use `MULTISHARD_QUERY_DATA_CONSISTENCY` to avoid the cost of SCN synchronization when executing multi-shard queries across shards, which can be globally distributed.

`MULTISHARD_QUERY_DATA_CONSISTENCY` can be set at the system level or the session level.

The values that can be set for `MULTISHARD_QUERY_DATA_CONSISTENCY` are:

- **STRONG:** With this setting, SCN synchronization is performed across all shards, and data is consistent across all shards. This setting provides global consistent read capability. This is the default value.
- **SHARD\_LOCAL:** With this setting, SCN synchronization is not performed across all shards. Data is consistent within each shard. This setting provides the most current data.
- **DELAYED\_STANDBY\_ALLOWED:** With this setting, SCN synchronization is not performed across all shards. Data is consistent within each shard. This setting allows data to be fetched from Data Guard standby databases when possible (for example, depending on load balancing), and may return stale data from standby databases.

### See Also:

*Oracle Globally Distributed Database Guide* for more information about specifying consistency levels in a multi-shard query

## 2.237 NLS\_CALENDAR

`NLS_CALENDAR` specifies which calendar system Oracle uses.

| Property              | Description                                   |
|-----------------------|-----------------------------------------------|
| <b>Parameter type</b> | String                                        |
| <b>Syntax</b>         | <code>NLS_CALENDAR = "calendar_system"</code> |



| Property                   | Description                    |
|----------------------------|--------------------------------|
| <b>Default value</b>       | None, implies GREGORIAN        |
| <b>Modifiable</b>          | ALTER SESSION                  |
| <b>Modifiable in a PDB</b> | Yes                            |
| <b>Range of values</b>     | Any valid calendar format name |
| <b>Basic</b>               | No                             |

NLS\_CALENDAR can have one of the following values:

- Arabic Hijrah
- English Hijrah
- Ethiopian
- Gregorian
- Japanese Imperial
- Persian
- ROC Official (Republic of China)
- Thai Buddha

For example, suppose NLS\_CALENDAR is set to "Japanese Imperial", the date format is "E YY-MM-DD". ("E" is the date format element for the abbreviated era name.) If the date is May 15, 1997, then the SYSDATE is displayed as follows:

```
SELECT SYSDATE FROM DUAL;
SYSDATE

H 09-05-15
```

**Note:**

The value of the initialization parameter NLS\_CALENDER is used to initialize the session value of this parameter, which is the actual value referenced by the SQL query processing. If the initialization parameter is not specified, the initial session value becomes GREGORIAN. This initial value is overridden by a client-side value if the client is OCI-based and the NLS\_LANG client setting (environment variable) is defined.

**See Also:**

*Oracle Database Globalization Support Guide* for a listing of available calendar systems

## 2.238 NLS\_COMP

NLS\_COMP specifies the collation behavior of the database session.

| Property            | Description                               |
|---------------------|-------------------------------------------|
| Parameter type      | String                                    |
| Syntax              | NLS_COMP = { BINARY   LINGUISTIC   ANSI } |
| Default value       | BINARY                                    |
| Modifiable          | ALTER SESSION                             |
| Modifiable in a PDB | Yes                                       |
| Basic               | No                                        |

### Values

- **BINARY**  
Normally, comparisons in the `WHERE` clause and in PL/SQL blocks is binary unless you specify the `NLSSORT` function.
- **LINGUISTIC**  
Comparisons for all SQL operations in the `WHERE` clause and in PL/SQL blocks should use the linguistic sort specified in the `NLS_SORT` parameter. To improve the performance, you can also define a linguistic index on the column for which you want linguistic comparisons.
- **ANSI**  
A setting of `ANSI` is for backward compatibility; in general, you should set `NLS_COMP` to `LINGUISTIC`.



#### Note:

Unless you explicitly set the value for `NLS_COMP` in your initialization parameter file, a default value of `NULL` is shown in the following views: `V$PARAMETER`, `V$SYSTEM_PARAMETER`, `V$PARAMETER2`, `V$SYSTEM_PARAMETER2`, and `NLS_INSTANCE_PARAMETERS`. However, the actual default value, and behavior, is `BINARY`. Note that you cannot change the default to `NULL`, because `NULL` is not among the valid values.

### Examples

See *Oracle Database Globalization Support Guide* for examples of using this parameter.



#### Note:

The value of this initialization parameter `NLS_COMP` is used to initialize the session value of this parameter, which is the actual value referenced by the SQL query processing. This initial value is overridden by a client-side value if the client uses the Oracle JDBC driver or if the client is OCI-based and the `NLS_LANG` client setting (environment variable) is defined. The initialization parameter value is, therefore, usually ignored.

## 2.239 NLS\_CURRENCY

NLS\_CURRENCY specifies the string to use as the local currency symbol for the L number format element. The default value of this parameter is determined by NLS\_TERRITORY.

| Property            | Description                                                                 |
|---------------------|-----------------------------------------------------------------------------|
| Parameter type      | String                                                                      |
| Syntax              | NLS_CURRENCY = <i>currency_symbol</i>                                       |
| Default value       | Derived from NLS_TERRITORY                                                  |
| Modifiable          | ALTER SESSION                                                               |
| Modifiable in a PDB | Yes                                                                         |
| Range of values     | Any valid character string, with a maximum of 10 bytes (not including null) |
| Basic               | No                                                                          |



### Note:

The value of this initialization parameter NLS\_CURRENCY is used to initialize the session value of this parameter, which is the actual value referenced by the SQL query processing. This initial value is overridden by a client-side value if the client uses the Oracle JDBC driver or if the client is OCI-based and the NLS\_LANG client setting (environment variable) is defined. The initialization parameter value is, therefore, usually ignored.



### See Also:

- *Oracle Database Globalization Support Guide* for more information about this parameter
- *Oracle Database SQL Language Reference* for information on number format elements

## 2.240 NLS\_DATE\_FORMAT

NLS\_DATE\_FORMAT specifies the default date format to use with the TO\_CHAR and TO\_DATE functions. The default value of this parameter is determined by NLS\_TERRITORY.

| Property            | Description                         |
|---------------------|-------------------------------------|
| Parameter type      | String                              |
| Syntax              | NLS_DATE_FORMAT = " <i>format</i> " |
| Default value       | Derived from NLS_TERRITORY          |
| Modifiable          | ALTER SESSION                       |
| Modifiable in a PDB | Yes                                 |

| Property        | Description                                                 |
|-----------------|-------------------------------------------------------------|
| Range of values | Any valid date format mask but not exceeding a fixed length |
| Basic           | No                                                          |

The value of this parameter can be any valid date format mask, and the value must be surrounded by double quotation marks. For example:

```
NLS_DATE_FORMAT = "MM/DD/YYYY"
```

 **Note:**

The value of this initialization parameter `NLS_DATE_FORMAT` is used to initialize the session value of this parameter, which is the actual value referenced by the SQL query processing. This initial value is overridden by a client-side value if the client uses the Oracle JDBC driver or if the client is OCI-based and the `NLS_LANG` client setting (environment variable) is defined. The initialization parameter value is, therefore, usually ignored.

 **See Also:**

*Oracle Database Globalization Support Guide* for more information about this parameter

## 2.241 NLS\_DATE\_LANGUAGE

`NLS_DATE_LANGUAGE` specifies the language to use for the spelling of day and month names and date abbreviations (a.m., p.m., AD, BC) returned by the `TO_DATE` and `TO_CHAR` functions.

| Property            | Description                               |
|---------------------|-------------------------------------------|
| Parameter type      | String                                    |
| Syntax              | <code>NLS_DATE_LANGUAGE = language</code> |
| Default value       | Derived from <code>NLS_LANGUAGE</code>    |
| Modifiable          | <code>ALTER SESSION</code>                |
| Modifiable in a PDB | Yes                                       |
| Range of values     | Any valid <code>NLS_LANGUAGE</code> value |
| Basic               | No                                        |

**Note:**

The value of this initialization parameter `NLS_DATE_LANGUAGE` is used to initialize the session value of this parameter, which is the actual value referenced by the SQL query processing. This initial value is overridden by a client-side value if the client uses the Oracle JDBC driver or if the client is OCI-based and the `NLS_LANG` client setting (environment variable) is defined. The initialization parameter value is, therefore, usually ignored.

**See Also:**

- *Oracle Database Globalization Support Guide* for more information about this parameter
- *Oracle Database SQL Language Reference* for information on the `TO_DATE` function.
- *Oracle Database SQL Language Reference* for information on the `TO_CHAR` function.

## 2.242 NLS\_DUAL\_CURRENCY

`NLS_DUAL_CURRENCY` specifies the dual currency symbol (such as "Euro") for the territory. The default is the dual currency symbol defined in the territory of your current language environment.

| Property            | Description                                      |
|---------------------|--------------------------------------------------|
| Parameter type      | String                                           |
| Syntax              | <code>NLS_DUAL_CURRENCY = currency_symbol</code> |
| Default value       | Derived from <code>NLS_TERRITORY</code>          |
| Modifiable          | <code>ALTER SESSION</code>                       |
| Modifiable in a PDB | Yes                                              |
| Range of values     | Any valid format name up to 10 characters        |
| Basic               | No                                               |

**Note:**

The value of this initialization parameter `NLS_DUAL_CURRENCY` is used to initialize the session value of this parameter, which is the actual value referenced by the SQL query processing. This initial value is overridden by a client-side value if the client uses the Oracle JDBC driver or if the client is OCI-based and the `NLS_LANG` client setting (environment variable) is defined. The initialization parameter value is, therefore, usually ignored.

**See Also:**

*Oracle Database Globalization Support Guide* for more information about this parameter

## 2.243 NLS\_ISO\_CURRENCY

NLS\_ISO\_CURRENCY determines the string to use as the international currency symbol corresponding to the C number format element in a call to the TO\_CHAR function.

| Property            | Description                         |
|---------------------|-------------------------------------|
| Parameter type      | String                              |
| Syntax              | NLS_ISO_CURRENCY = <i>territory</i> |
| Default value       | Derived from NLS_TERRITORY          |
| Modifiable          | ALTER SESSION                       |
| Modifiable in a PDB | Yes                                 |
| Range of values     | Any valid NLS_TERRITORY value       |
| Basic               | No                                  |

Local currency symbols can be ambiguous. For example, a dollar sign (\$) can refer to U.S. dollars or Australian dollars. ISO Specification 4217 defines unique "international" currency symbols for the currencies of specific territories or countries. The value of the NLS\_ISO\_CURRENCY parameter is the Oracle name of the territory whose ISO currency symbol is returned in place of the C number format element. For example, if NLS\_ISO\_CURRENCY is set to AMERICA, the string 'USD' is returned by TO\_CHAR where the C element is specified in the format.

**Note:**

The value of this initialization parameter NLS\_ISO\_CURRENCY is used to initialize the session value of this parameter, which is the actual value referenced by the SQL query processing. This initial value is overridden by a client-side value if the client uses the Oracle JDBC driver or if the client is OCI-based and the NLS\_LANG client setting (environment variable) is defined. The initialization parameter value is, therefore, usually ignored.

**See Also:**

- *Oracle Database Globalization Support Guide* for more information about this parameter
- *Oracle Database SQL Language Reference* for information on number format elements

## 2.244 NLS\_LANGUAGE

NLS\_LANGUAGE specifies the default language of the database.

| Property            | Description                                                                |
|---------------------|----------------------------------------------------------------------------|
| Parameter type      | String                                                                     |
| Syntax              | NLS_LANGUAGE = <i>language</i>                                             |
| Default value       | Operating system-dependent, derived from the NLS_LANG environment variable |
| Modifiable          | ALTER SESSION                                                              |
| Modifiable in a PDB | Yes                                                                        |
| Range of values     | Any valid language name                                                    |
| Basic               | Yes                                                                        |

This language specified by NLS\_LANGUAGE is used for messages, day and month names, symbols for AD, BC, a.m., and p.m., and the default sorting mechanism. This parameter also determines the default values of the parameters NLS\_DATE\_LANGUAGE and NLS\_SORT.

### Note:

The value of this initialization parameter NLS\_LANGUAGE is used to initialize the session value of this parameter, which is the actual value referenced by the SQL query processing. This initial value is overridden by a client-side value if the client uses the Oracle JDBC driver or if the client is OCI-based and the NLS\_LANG client setting (environment variable) is defined. The initialization parameter value is, therefore, usually ignored.

### Examples

See these examples of using the NLS\_LANGUAGE parameter:

- For an example of setting NLS\_LANGUAGE to Italian, see *Oracle Database Globalization Support Guide*.
- For an example of overriding default values for NLS\_LANGUAGE and NLS\_TERRITORY during a session, see *Oracle Database Globalization Support Guide*.

 **See Also:**

- *Oracle Database Globalization Support Guide* for more information about this parameter.
- *Oracle Database Globalization Support Guide* for a complete list of languages that can be specified using this parameter
- *Oracle Database Globalization Support Guide* for information on overriding the default values for this parameter
- Your operating system-specific Oracle documentation and the release notes for your country

## 2.245 NLS\_LENGTH\_SEMANTICS

NLS\_LENGTH\_SEMANTICS is used to specify length semantics.

| Property                   | Description                                                                    |
|----------------------------|--------------------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                                         |
| <b>Syntax</b>              | NLS_LENGTH_SEMANTICS = <i>string</i><br>Example: NLS_LENGTH_SEMANTICS = 'CHAR' |
| <b>Default value</b>       | BYTE                                                                           |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                                                    |
| <b>Modifiable in a PDB</b> | Yes                                                                            |
| <b>Range of values</b>     | BYTE   CHAR                                                                    |
| <b>Basic</b>               | No                                                                             |

The session-level value of NLS\_LENGTH\_SEMANTICS specifies the default length semantics to use for VARCHAR2 and CHAR table columns, user-defined object attributes, and PL/SQL variables in database objects created in the session. This default may be overridden by the explicit length semantics qualifiers BYTE and CHAR in column, attribute, and variable definitions.

The instance-level value of NLS\_LENGTH\_SEMANTICS provides a default for the session-level value if NLS\_LENGTH\_SEMANTICS is not set explicitly by the database client through the NLS\_LENGTH\_SEMANTICS client environment variable (does not apply to JDBC Thin clients), or the ALTER SESSION SET NLS\_LENGTH\_SEMANTICS statement.

NCHAR, NVARCHAR2, CLOB, and NCLOB columns are always character-based.

Sessions logged in as SYS do not use the NLS\_LENGTH\_SEMANTICS parameter. They use BYTE length semantics for all created objects unless overridden by the explicit BYTE and CHAR qualifiers in object definitions (SQL DDL statements).



**Note:**

Oracle strongly recommends that you do NOT set the `NLS_LENGTH_SEMANTICS` parameter to `CHAR` in the instance or server parameter file. This may cause many existing installation scripts to unexpectedly create columns with character length semantics, resulting in run-time errors, including buffer overflows.

**See Also:**

*Oracle Database Globalization Support Guide* for more information about this parameter

## 2.246 NLS\_NCHAR\_CONV\_EXCP

`NLS_NCHAR_CONV_EXCP` determines whether an error is reported when there is data loss during an implicit or explicit character type conversion between `NCHAR/NVARCHAR2` and `CHAR/VARCHAR2`.

| Property            | Description                                         |
|---------------------|-----------------------------------------------------|
| Parameter type      | String                                              |
| Syntax              | <code>NLS_NCHAR_CONV_EXCP = { TRUE   FALSE }</code> |
| Default value       | <code>FALSE</code>                                  |
| Modifiable          | <code>ALTER SESSION, ALTER SYSTEM</code>            |
| Modifiable in a PDB | Yes                                                 |
| Basic               | No                                                  |

The default value results in no error being reported.

**See Also:**

*Oracle Database Globalization Support Guide* for more information about this parameter

## 2.247 NLS\_NUMERIC\_CHARACTERS

`NLS_NUMERIC_CHARACTERS` specifies the characters to use as the group separator and decimal character.

| Property       | Description |
|----------------|-------------|
| Parameter type | String      |

| Property                   | Description                                                     |
|----------------------------|-----------------------------------------------------------------|
| <b>Syntax</b>              | NLS_NUMERIC_CHARACTERS =<br>"decimal_character group_separator" |
| <b>Default value</b>       | Derived from NLS_TERRITORY                                      |
| <b>Modifiable</b>          | ALTER SESSION                                                   |
| <b>Modifiable in a PDB</b> | Yes                                                             |
| <b>Basic</b>               | No                                                              |

NLS\_NUMERIC\_CHARACTERS overrides those characters defined implicitly by NLS\_TERRITORY. The group separator separates integer groups (that is, thousands, millions, billions, and so on). The decimal separates the integer portion of a number from the decimal portion.

You can specify any character as the decimal or group separator. The two characters specified must be single-byte and must be different from each other. The characters cannot be any numeric character or any of the following characters: plus (+), minus sign (-), less than sign (<), greater than sign (>). Either character can be a space.

For example, if you want to specify a comma as the decimal character and a space as the group separator, you would set this parameter as follows:

```
NLS_NUMERIC_CHARACTERS = ", "
```



#### Note:

The value of this initialization parameter NLS\_NUMERIC\_CHARACTERS is used to initialize the session value of this parameter, which is the actual value referenced by the SQL query processing. This initial value is overridden by a client-side value if the client uses the Oracle JDBC driver or if the client is OCI-based and the NLS\_LANG client setting (environment variable) is defined. The initialization parameter value is, therefore, usually ignored.



#### See Also:

*Oracle Database Globalization Support Guide* for more information about this parameter

## 2.248 NLS\_SORT

NLS\_SORT specifies the collating sequence for character value comparison in various SQL operators and clauses.

| Property              | Description                                          |
|-----------------------|------------------------------------------------------|
| <b>Parameter type</b> | String                                               |
| <b>Syntax</b>         | NLS_SORT = { BINARY   <i>linguistic_definition</i> } |
| <b>Default value</b>  | Derived from NLS_LANGUAGE                            |

| Property                   | Description                                    |
|----------------------------|------------------------------------------------|
| <b>Modifiable</b>          | ALTER SESSION                                  |
| <b>Modifiable in a PDB</b> | Yes                                            |
| <b>Range of values</b>     | BINARY or any valid linguistic definition name |
| <b>Basic</b>               | No                                             |

For example, `NLS_SORT` specifies the collating sequence for character value comparison in these SQL operators and clauses: `ORDER BY`, `GROUP BY`, comparison conditions (`=`, `<>`, `<=`, `>=`), `IN`, `BETWEEN`, `LIKE`, `MIN/MAX`, `GREATEST/LEAST`, and `INSTR`.

- If the value is `BINARY`, then comparison is based directly on byte values in the binary encoding of the character values being compared. The ordering depends on the character set of the compared values, which is either the database character set (for `VARCHAR2`, `CHAR`, `LONG`, and `CLOB`) or the national character set (for `NVARCHAR2`, `NCHAR`, and `NCLOB`).
- If the value is a named linguistic sort, then comparison is defined by this sort. A linguistic sort uses various rules to achieve ordering expected by speakers of one or more natural languages. This is usually the same ordering that is used in dictionaries and telephone directories in those languages.

The exact operators and query clauses that obey the `NLS_SORT` parameter depend on the value of the `NLS_COMP` parameter. If an operator or clause does not obey the `NLS_SORT` value, as determined by `NLS_COMP`, the collation used is `BINARY`.

The `BINARY` comparison is faster and uses less resources than any linguistic comparison but for text in a natural language, it does not provide ordering expected by users.

The value of `NLS_SORT` affects execution plans of queries. Because a standard index cannot be used as a source of values sorted in a linguistic order, an explicit sort operation must usually be performed instead of an index range scan. A functional index on the `NLSSORT` function may be defined to provide values sorted in a linguistic order and reintroduce the index range scan to the execution plan.

 **Note:**

The value of the initialization parameter `NLS_SORT` is used to initialize the session value of this parameter, which is the actual value referenced by the SQL query processing. This initial value is overridden by a client-side value if the client uses the Oracle JDBC driver or if the client is OCI-based and the `NLS_LANG` client setting (environment variable) is defined. The initialization parameter value is, therefore, usually ignored.

 **See Also:**

- *Oracle Database Globalization Support Guide* for more information about this parameter and a current listing of values you can specify

## 2.249 NLS\_TERRITORY

NLS\_TERRITORY specifies the name of the territory whose conventions are to be followed for day and week numbering.

| Property            | Description                      |
|---------------------|----------------------------------|
| Parameter type      | String                           |
| Syntax              | NLS_TERRITORY = <i>territory</i> |
| Default value       | Operating system-dependent       |
| Modifiable          | ALTER SESSION                    |
| Modifiable in a PDB | Yes                              |
| Range of values     | Any valid territory name         |
| Basic               | Yes                              |

This parameter also establishes the default date format, the default decimal character and group separator, and the default ISO and local currency symbols.

For information on these settings, see ["NLS\\_DATE\\_FORMAT"](#), ["NLS\\_NUMERIC\\_CHARACTERS"](#), ["NLS\\_CURRENCY"](#), and ["NLS\\_ISO\\_CURRENCY"](#).



### Note:

The value of this initialization parameter NLS\_TERRITORY is used to initialize the session value of this parameter, which is the actual value referenced by the SQL query processing. This initial value is overridden by a client-side value if the client uses the Oracle JDBC driver or if the client is OCI-based and the NLS\_LANG client setting (environment variable) is defined. The initialization parameter value is, therefore, usually ignored.

### Examples

For an example of overriding the default value for the NLS\_TERRITORY parameter, see *Oracle Database Globalization Support Guide*.



### See Also:

- *Oracle Database Globalization Support Guide* for a complete list of territories
- Your operating system-specific Oracle documentation for the territory-dependent default values for these parameters

## 2.250 NLS\_TIMESTAMP\_FORMAT

NLS\_TIMESTAMP\_FORMAT defines the default timestamp format to use with the TO\_CHAR and TO\_TIMESTAMP functions.

| Property            | Description                     |
|---------------------|---------------------------------|
| Parameter type      | String                          |
| Syntax              | NLS_TIMESTAMP_FORMAT = "format" |
| Default value       | Derived from NLS_TERRITORY      |
| Modifiable          | ALTER SESSION                   |
| Modifiable in a PDB | Yes                             |
| Range of values     | Any valid datetime format mask  |
| Basic               | No                              |

The value must be surrounded by quotation marks as follows:

```
NLS_TIMESTAMP_FORMAT = 'YYYY-MM-DD HH:MI:SS.FF'
```

You can specify the value of NLS\_TIMESTAMP\_FORMAT by setting it in the initialization parameter file. You can specify its value for a client as a client environment variable.

You can also alter the value of NLS\_TIMESTAMP\_FORMAT by changing its value in the initialization parameter and then restarting the instance. To alter the value during a session use the ALTER SESSION SET statement.

**Note:**

The value of this initialization parameter NLS\_TIMESTAMP\_FORMAT is used to initialize the session value of this parameter, which is the actual value referenced by the SQL query processing. This initial value is overridden by a client-side value if the client uses the Oracle JDBC driver or if the client is OCI-based and the NLS\_LANG client setting (environment variable) is defined. The initialization parameter value is, therefore, usually ignored.

**See Also:**

*Oracle Database Globalization Support Guide* for more information about this parameter

## 2.251 NLS\_TIMESTAMP\_TZ\_FORMAT

NLS\_TIMESTAMP\_TZ\_FORMAT defines the default timestamp with time zone format to use with the TO\_CHAR and TO\_TIMESTAMP\_TZ functions.

| Property       | Description                        |
|----------------|------------------------------------|
| Parameter type | String                             |
| Syntax         | NLS_TIMESTAMP_TZ_FORMAT = "format" |
| Default value  | Derived from NLS_TERRITORY         |
| Modifiable     | ALTER SESSION                      |

| Property                   | Description                    |
|----------------------------|--------------------------------|
| <b>Modifiable in a PDB</b> | Yes                            |
| <b>Range of values</b>     | Any valid datetime format mask |
| <b>Basic</b>               | No                             |

The value must be surrounded by quotation marks as follows:

```
NLS_TIMESTAMP_TZ_FORMAT = 'YYYY-MM-DD HH:MI:SS.FF TZH:TZM'
```

You can specify the value of `NLS_TIMESTAMP_TZ_FORMAT` by setting it in the initialization parameter file. You can specify its value for a client as a client environment variable.

You can also alter the value of `NLS_TIMESTAMP_TZ_FORMAT` by changing its value in the initialization parameter and then restarting the instance. To alter the value during a session use the `ALTER SESSION SET` statement.

 **Note:**

The value of this initialization parameter `NLS_TIMESTAMP_TZ_FORMAT` is used to initialize the session value of this parameter, which is the actual value referenced by the SQL query processing. This initial value is overridden by a client-side value if the client uses the Oracle JDBC driver or if the client is OCI-based and the `NLS_LANG` client setting (environment variable) is defined. The initialization parameter value is, therefore, usually ignored.

 **See Also:**

*Oracle Database Globalization Support Guide* for more information about this parameter

## 2.252 NONCDB\_COMPATIBLE

`NONCDB_COMPATIBLE` enables you to get behavior similar to a non-CDB when issuing SQL commands inside a PDB in a CDB.

| Property                   | Description  |
|----------------------------|--------------|
| <b>Parameter type</b>      | Boolean      |
| <b>Default value</b>       | false        |
| <b>Modifiable</b>          | No           |
| <b>Modifiable in a PDB</b> | No           |
| <b>Range of values</b>     | true   false |
| <b>Basic</b>               | No           |

Set this parameter if you are using a single PDB in your CDB configuration and you have legacy code that causes ORA-65040 when you run it in the PDB.

### Values

- **TRUE**  
Indicates the behavior for SQL statements will be like a non-CDB although the statements are issued in a PDB in a CDB.
- **FALSE**  
Indicates the behavior will for SQL statements will be like a CDB. This is the default value of the parameter.

There are some statements (such as `ALTER DB BACKUP CONTROLFILE`) which can be issued in a non-CDB, but in a CDB they must be issued in the root (because they affect the whole CDB) and would result in an error if issued in a PDB.

Some `ALTER DATABASE` or `ALTER SYSTEM` statements are not permitted inside a PDB, and they will fail if `NONCDB_COMPATIBLE=FALSE` is set in `init.ora`. However, these statements will succeed if `NONCDB_COMPATIBLE=TRUE` is set.



### See Also:

- *Oracle Multitenant Administrator's Guide* for an introduction to PDBs and CDBs
- *Oracle Multitenant Administrator's Guide* for information about the initialization parameters that control the memory usage of PDBs
- *Oracle Multitenant Administrator's Guide* for information about the `ALTER SYSTEM` statements that can be run in a PDB.

## 2.253 OBJECT\_CACHE\_MAX\_SIZE\_PERCENT

The **object cache** is a memory block on the client that allows applications to store entire objects and to navigate among them without round trips to the server.

`OBJECT_CACHE_MAX_SIZE_PERCENT` specifies the percentage of the optimal cache size that the session object cache can grow past the optimal size.

| Property                   | Description                                           |
|----------------------------|-------------------------------------------------------|
| <b>Parameter type</b>      | Integer                                               |
| <b>Default value</b>       | 10                                                    |
| <b>Modifiable</b>          | <code>ALTER SESSION, ALTER SYSTEM ... DEFERRED</code> |
| <b>Modifiable in a PDB</b> | Yes                                                   |
| <b>Range of values</b>     | 0 to operating system-dependent maximum               |
| <b>Basic</b>               | No                                                    |

The maximum size is equal to the optimal size plus the product of this percentage and the optimal size. When the cache size exceeds this maximum size, the system will attempt to shrink the cache to the optimal size.

 **See Also:**

- ["OBJECT\\_CACHE\\_OPTIMAL\\_SIZE"](#) for a description of the object cache
- *Pro\*C/C++ Developer's Guide* and *Oracle Call Interface Developer's Guide* for information on precompiler use of the object cache

## 2.254 OBJECT\_CACHE\_OPTIMAL\_SIZE

OBJECT\_CACHE\_OPTIMAL\_SIZE specifies (in bytes) the size to which the session object cache is reduced when the size of the cache exceeds the maximum size.

| Property                   | Description                                 |
|----------------------------|---------------------------------------------|
| <b>Parameter type</b>      | Integer                                     |
| <b>Default value</b>       | 51200000 (50M)                              |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM ... DEFERRED    |
| <b>Modifiable in a PDB</b> | Yes                                         |
| <b>Range of values</b>     | 10 KB to operating system-dependent maximum |
| <b>Basic</b>               | No                                          |

The **object cache** is a memory block on the client that allows applications to store entire objects and to navigate among them without round trips to the server. On the server, it is used to cache frequently used objects requested as a result of client requests to help in performance.

 **See Also:**

*Pro\*C/C++ Developer's Guide* and *Oracle Call Interface Developer's Guide* for information on precompiler use of the object cache

## 2.255 OFS\_THREADS

OFS\_THREADS sets the maximum number of Oracle file system (OFS) threads that can be started to service Oracle file system requests.

| Property                   | Description                                          |
|----------------------------|------------------------------------------------------|
| <b>Parameter type</b>      | Integer                                              |
| <b>Default value</b>       | 4                                                    |
| <b>Modifiable</b>          | ALTER SYSTEM                                         |
| <b>Modifiable in a PDB</b> | No                                                   |
| <b>Range of values</b>     | 2 to 128                                             |
| <b>Basic</b>               | No                                                   |
| <b>Oracle RAC</b>          | The same value should be specified on all instances. |



**Note:**

This initialization parameter is supported only on the Linux operating system.

**See Also:**

*Oracle Database Administrator's Guide* for more information about the Oracle Database NFS server feature

## 2.256 OLAP\_PAGE\_POOL\_SIZE

OLAP\_PAGE\_POOL\_SIZE specifies (in bytes) the size of the OLAP page pool.

| Property            | Description                                      |
|---------------------|--------------------------------------------------|
| Parameter type      | Big integer                                      |
| Syntax              | OLAP_PAGE_POOL_SIZE = <i>integer</i> [K   M   G] |
| Default value       | 0                                                |
| Modifiable          | ALTER SESSION, ALTER SYSTEM ... DEFERRED         |
| Modifiable in a PDB | Yes                                              |
| Range of values     | 0, 2097152 (2 MB) to $2^{31} - 1$                |
| Basic               | No                                               |

**Caution:**

Oracle strongly recommends that you leave this parameter set to its default value of 0. This instructs the database to autonomously adjust the OLAP page pool size to serve the requirements of the analytic workspaces. Setting this parameter to a value other than 0 can lead to errors in OLAP processing or wasted memory.

**See Also:**

*Oracle OLAP User's Guide* for more information about the OLAP option for Oracle Database

## 2.257 ONE\_STEP\_PLUGIN\_FOR\_PDB\_WITH\_TDE

If a pluggable database (PDB) has Transparent Data Encryption-encrypted (TDE-encrypted) tables or tablespaces, you can enable `ONE_STEP_PLUGIN_FOR_PDB_WITH_TDE` on the target CDB to simplify the move of TDE keys in a single step PDB move operation.

`ONE_STEP_PLUGIN_FOR_PDB_WITH_TDE` eliminates the need of having to manually provide a keystore password when you import the TDE keys into the PDB after it has moved to the target CDB.

| Property                   | Description                                                                        |
|----------------------------|------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | Boolean                                                                            |
| <b>Default value</b>       | FALSE                                                                              |
| <b>Modifiable</b>          | ALTER SYSTEM                                                                       |
| <b>Modifiable in a PDB</b> | No                                                                                 |
| <b>Range of values</b>     | true   false                                                                       |
| <b>Basic</b>               | No                                                                                 |
| <b>Oracle RAC</b>          | A different value can be set for this parameter on different Oracle RAC instances. |

The default for `ONE_STEP_PLUGIN_FOR_PDB_WITH_TDE` is FALSE.

When `ONE_STEP_PLUGIN_FOR_PDB_WITH_TDE` is set to TRUE on the target CDB, the plug in of the PDB does not require a keystore password.



### Note:

The `ONE_STEP_PLUGIN_FOR_PDB_WITH_TDE` parameter is deprecated in Oracle Database 23ai.

`ONE_STEP_PLUGIN_FOR_PDB_WITH_TDE` enables you to clone remotely or to relocate encrypted PDBs without providing the Transparent Data Encryption (TDE) keystore password. However, `EXTERNAL STORE` provides the same functionality, and is universally applicable to all `ADMINISTER KEY MANAGEMENT` statements that do not change the TDE configuration. Instead of using `ONE_STEP_PLUGIN_FOR_PDB_WITH_TDE`, Oracle recommends that you use the `IDENTIFIED BY EXTERNAL STORE` clause for the `ADMINISTER KEY MANAGEMENT` statement.

## 2.258 OPEN\_CURSORS

`OPEN_CURSORS` specifies the maximum number of open cursors (handles to private SQL areas) a session can have at once. You can use this parameter to prevent a session from opening an excessive number of cursors.

| Property              | Description |
|-----------------------|-------------|
| <b>Parameter type</b> | Integer     |

| Property            | Description  |
|---------------------|--------------|
| Default value       | 50           |
| Modifiable          | ALTER SYSTEM |
| Modifiable in a PDB | Yes          |
| Range of values     | 0 to 65535   |
| Basic               | Yes          |

It is important to set the value of `OPEN_CURSORS` high enough to prevent your application from running out of open cursors. The number will vary from one application to another. Assuming that a session does not open the number of cursors specified by `OPEN_CURSORS`, there is no added overhead to setting this value higher than actually needed.

 **See Also:**

- *Oracle Database Performance Tuning Guide* for more information on setting this parameter
- Your operating system-specific Oracle documentation for the range of values

## 2.259 OPEN\_LINKS

`OPEN_LINKS` specifies the maximum number of concurrent open connections to remote databases in one session. These connections include database links, as well as external procedures and cartridges, each of which uses a separate process.

| Property            | Description |
|---------------------|-------------|
| Parameter type      | Integer     |
| Default value       | 4           |
| Modifiable          | No          |
| Modifiable in a PDB | Yes         |
| Range of values     | 0 to 32768  |
| Basic               | No          |

Oracle counts one open link for the following:

- For each user that references a public or private database link
- For each external procedure or cartridge connection when it is executed for the first time

Both types of connections close when the session ends. You can also close a database link connection explicitly by issuing an `ALTER SESSION CLOSE DATABASE LINK` statement.

You should set this parameter to allow for the external procedure and cartridge connections expected during the session plus the number of databases referred to in typical distributed transactions (that is, a single SQL statement that references multiple databases), so that all the databases can be open to execute the statement. For example, if queries alternately access databases A, B, and C, and `OPEN_LINKS` is set to 2, time will be lost waiting while one

connection is broken and another made. Increase the value if many different databases are accessed over time.

This parameter refers only to connections used for distributed transactions. Direct connections to a remote database specified as an application connects are not counted.

If you set `OPEN_LINKS` to 0, then no distributed transactions are allowed.

In a multitenant container database (CDB), the `OPEN_LINKS` parameter can be set at both the root and at the PDB level using either an initialization parameter file (PFILE) or server parameter file (SPFILE). You need to restart the instance or reopen the PDB for a new `OPEN_LINKS` value to become effective.

**See Also:**

"[OPEN\\_LINKS\\_PER\\_INSTANCE](#)" for information on setting open connections globally for a database instance

## 2.260 OPEN\_LINKS\_PER\_INSTANCE

`OPEN_LINKS_PER_INSTANCE` specifies the maximum number of migratable open connections globally for each database instance.

| Property                   | Description                                   |
|----------------------------|-----------------------------------------------|
| <b>Parameter type</b>      | Integer                                       |
| <b>Default value</b>       | 4                                             |
| <b>Modifiable</b>          | No                                            |
| <b>Modifiable in a PDB</b> | No                                            |
| <b>Range of values</b>     | 0 to $2^{31} - 1$                             |
| <b>Basic</b>               | No                                            |
| <b>Oracle RAC</b>          | Multiple instances can have different values. |

XA transactions use migratable open connections so that the connections are cached after a transaction is committed. Another transaction can use the connection, provided the user who created the connection is the same as the user who owns the transaction.

`OPEN_LINKS_PER_INSTANCE` is different from `OPEN_LINKS`, which indicates the number of connections from a session. The `OPEN_LINKS` parameter is not applicable to XA applications.

**See Also:**

- "[OPEN\\_LINKS](#)"
- *Oracle Database Development Guide* for more information about using this parameter in Oracle XA applications

## 2.261 OPTIMIZER\_ADAPTIVE\_PLANS

`OPTIMIZER_ADAPTIVE_PLANS` controls adaptive plans. Adaptive plans are execution plans built with alternative choices that are decided at run time based on statistics collected as the query executes.

| Property                   | Description                                 |
|----------------------------|---------------------------------------------|
| <b>Parameter type</b>      | Boolean                                     |
| <b>Default value</b>       | true                                        |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                 |
| <b>Modifiable in a PDB</b> | Yes                                         |
| <b>Range of values</b>     | true   false                                |
| <b>Basic</b>               | No                                          |
| <b>Oracle RAC</b>          | The same value must be set on all instances |

Setting this parameter to `false` disables the following adaptive features:

- Nested loop join/hash join selection
- Star transformation bitmap pruning
- Adaptive parallel distribution method



### See Also:

*Oracle Database SQL Tuning Guide* for information about adaptive plans

## 2.262 OPTIMIZER\_ADAPTIVE\_REPORTING\_ONLY

`OPTIMIZER_ADAPTIVE_REPORTING_ONLY` controls reporting-only mode for adaptive optimizations.

| Property                   | Description                 |
|----------------------------|-----------------------------|
| <b>Parameter type</b>      | Boolean                     |
| <b>Default value</b>       | FALSE                       |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM |
| <b>Modifiable in a PDB</b> | Yes                         |
| <b>Range of values</b>     | TRUE   FALSE                |
| <b>Basic</b>               | No                          |

When `OPTIMIZER_ADAPTIVE_REPORTING_ONLY` is set to `FALSE`, reporting-only mode is off, and the adaptive optimizations are enabled as usual.

When `OPTIMIZER_ADAPTIVE_REPORTING_ONLY` is set to `TRUE`, adaptive optimizations run in reporting-only mode. With this setting, the information required for an adaptive optimization is gathered, but no action is taken to change the plan. For instance, an adaptive plan will always

choose the default (optimizer-chosen) plan, but information is collected on what plan to adapt to in non-reporting mode. This information can be viewed in the adaptive plan report.

This parameter affects only adaptive optimizations that are enabled.

 **See Also:**

- *Oracle Database SQL Tuning Guide* for more information about adaptive plans and automatic reoptimization
- *Oracle Database SQL Tuning Guide* for information on controlling adaptive optimization

## 2.263 OPTIMIZER\_ADAPTIVE\_STATISTICS

`OPTIMIZER_ADAPTIVE_STATISTICS` controls adaptive statistics. Some query shapes are too complex to rely on base table statistics alone, so the optimizer augments these statistics with adaptive statistics.

| Property                   | Description                                 |
|----------------------------|---------------------------------------------|
| <b>Parameter type</b>      | Boolean                                     |
| <b>Default value</b>       | false                                       |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                 |
| <b>Modifiable in a PDB</b> | Yes                                         |
| <b>Range of values</b>     | true   false                                |
| <b>Basic</b>               | No                                          |
| <b>Oracle RAC</b>          | The same value must be set on all instances |

Setting this parameter to `false` disables the following adaptive features:

- SQL plan directives
- Statistics feedback for joins
- Adaptive dynamic sampling for parallel execution

 **Note:**

Setting `OPTIMIZER_ADAPTIVE_STATISTICS` to `false` preserves the statistics feedback functionality that was introduced in Oracle Database 11g.

`OPTIMIZER_ADAPTIVE_STATISTICS` does not control the creation of SQL plan directives. SQL plan directives will be created even if this parameter is `false`, but they will not be used to refine SQL execution plans with dynamic sampling.

**See Also:**

*Oracle Database SQL Tuning Guide* for information about adaptive plans

## 2.264 OPTIMIZER\_CAPTURE\_SQL\_PLAN\_BASELINES

`OPTIMIZER_CAPTURE_SQL_PLAN_BASELINES` enables or disables the automatic recognition of repeatable SQL statements, as well as the generation of SQL plan baselines for such statements.

| Property                   | Description                 |
|----------------------------|-----------------------------|
| <b>Parameter type</b>      | Boolean                     |
| <b>Default value</b>       | false                       |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM |
| <b>Modifiable in a PDB</b> | Yes                         |
| <b>Range of values</b>     | true   false                |
| <b>Basic</b>               | No                          |

**See Also:**

*Oracle Database SQL Tuning Guide* for more information about the optimizer

## 2.265 OPTIMIZER\_CAPTURE\_SQL\_QUARANTINE

`OPTIMIZER_CAPTURE_SQL_QUARANTINE` enables or disables the automatic creation of SQL Quarantine configurations.

| Property                   | Description                                   |
|----------------------------|-----------------------------------------------|
| <b>Parameter type</b>      | Boolean                                       |
| <b>Default value</b>       | false                                         |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                   |
| <b>Modifiable in a PDB</b> | Yes                                           |
| <b>Range of values</b>     | true   false                                  |
| <b>Basic</b>               | No                                            |
| <b>Oracle RAC</b>          | Different instances can use different values. |

**Values:**

- true

Enables the automatic creation of SQL Quarantine configurations. If the Resource Manager terminates a SQL statement because the statement has exceeded resource limits, then the database automatically creates a SQL Quarantine configuration for the

execution plan used by the terminated SQL statement. Note that the *plan* for a terminated SQL statement is quarantined, not the statement itself.

- `false`

Disables the automatic creation of SQL Quarantine configurations.

#### See Also:

- `"DBA_SQL_QUARANTINE"`
- `"OPTIMIZER_USE_SQL_QUARANTINE"`
- *Oracle Database SQL Tuning Guide* for more information about SQL Quarantine

## 2.266 OPTIMIZER\_CROSS\_SHARD\_RESILIENCY

`OPTIMIZER_CROSS_SHARD_RESILIENCY` enables resilient execution of cross shard queries.

| Property            | Description                                            |
|---------------------|--------------------------------------------------------|
| Parameter type      | Boolean                                                |
| Default value       | <code>false</code>                                     |
| Modifiable          | <code>ALTER SESSION</code> , <code>ALTER SYSTEM</code> |
| Modifiable in a PDB | Yes                                                    |
| Range of values     | <code>true</code>   <code>false</code>                 |
| Basic               | No                                                     |
| Oracle RAC          | The same value must be used on all instances.          |

When this parameter is set to `true` and a cross-shard query fails on one or more shards, the query execution continues on the Oracle Data Guard standbys of the failed shards. This parameter is not set to `true` by default, because there may be performance overhead for the resilient query execution.

## 2.267 OPTIMIZER\_DYNAMIC\_SAMPLING

`OPTIMIZER_DYNAMIC_SAMPLING` controls both when the database gathers dynamic statistics, and the size of the sample that the optimizer uses to gather the statistics.

| Property            | Description                                                                                                                                                                                                                     |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parameter type      | Integer                                                                                                                                                                                                                         |
| Default value       | If <code>OPTIMIZER_FEATURES_ENABLE</code> is set to 10.0.0 or higher, then 2<br>If <code>OPTIMIZER_FEATURES_ENABLE</code> is set to 9.2.0, then 1<br>If <code>OPTIMIZER_FEATURES_ENABLE</code> is set to 9.0.1 or lower, then 0 |
| Modifiable          | <code>ALTER SESSION</code> , <code>ALTER SYSTEM</code>                                                                                                                                                                          |
| Modifiable in a PDB | Yes                                                                                                                                                                                                                             |
| Range of values     | 0 to 11                                                                                                                                                                                                                         |



| Property | Description |
|----------|-------------|
| Basic    | No          |

**Note:**

Dynamic statistics were called dynamic sampling in releases earlier than Oracle Database 12c Release 1 (12.1).

If the value of `OPTIMIZER_DYNAMIC_SAMPLING` is set to 11, the `OPTIMIZER_FEATURES_ENABLE` setting has no effect on the `OPTIMIZER_DYNAMIC_SAMPLING` setting.

**See Also:**

*Oracle Database SQL Tuning Guide* for detailed information about the values (0 – 11) that can be set for the `OPTIMIZER_DYNAMIC_SAMPLING` parameter.

## 2.268 OPTIMIZER\_FEATURES\_ENABLE

`OPTIMIZER_FEATURES_ENABLE` acts as an umbrella parameter for enabling a series of optimizer features based on an Oracle release number.

| Property            | Description                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parameter type      | String                                                                                                                                                                                                                                                                                                                                                                                                               |
| Syntax              | <code>OPTIMIZER_FEATURES_ENABLE = { 8.0.0   8.0.3   8.0.4   8.0.5   8.0.6   8.0.7   8.1.0   8.1.3   8.1.4   8.1.5   8.1.6   8.1.7   9.0.0   9.0.1   9.2.0   9.2.0.8   10.1.0   10.1.0.3   10.1.0.4   10.1.0.5   10.2.0.1   10.2.0.2   10.2.0.3   10.2.0.4   10.2.0.5   11.1.0.6   11.1.0.7   11.2.0.1   11.2.0.2   11.2.0.3   11.2.0.4   12.1.0.1   12.1.0.2   12.2.0.1   18.1.0   19.1.0   21.1.0   23.1.0 }</code> |
| Default value       | 23.1.0                                                                                                                                                                                                                                                                                                                                                                                                               |
| Modifiable          | ALTER SESSION, ALTER SYSTEM                                                                                                                                                                                                                                                                                                                                                                                          |
| Modifiable in a PDB | Yes                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Basic               | No                                                                                                                                                                                                                                                                                                                                                                                                                   |

For example, if you upgrade your database from release 19c to release 23ai, but you want to keep the release 19c optimizer behavior, you can do so by setting this parameter to 19.1.0. At a later time, you can try the enhancements introduced in releases up to and including release 23ai by setting the parameter to 23.1.0.

**Note:**

When setting this parameter to a value representing Oracle Database 18c or later, you must specify three numeric values separated by periods, such as 21.1.0 or 23.1.0.

Table 2-6 describes some of the optimizer features that are enabled when you set the `OPTIMIZER_FEATURES_ENABLE` parameter to 12.1.0.2 or a later release.

**Table 2-6 Optimizer Features for Oracle Database 12c and Later Releases**

| Features                                                              | 12.1.0.2 | 12.2.0.1 | 18c | 19c | 21c | 23ai |
|-----------------------------------------------------------------------|----------|----------|-----|-----|-----|------|
| Adaptive Query Optimization                                           | X        | X        | X   | X   | X   | X    |
| Online statistics gathering for bulk loads                            | X        | X        | X   | X   | X   | X    |
| Session level statistics for Global Temporary Tables                  | X        | X        | X   | X   | X   | X    |
| Multi-table left outer joins                                          | X        | X        | X   | X   | X   | X    |
| Lateral views                                                         | X        | X        | X   | X   | X   | X    |
| Batch table access by rowid                                           | X        | X        | X   | X   | X   | X    |
| Null accepting semi joins                                             | X        | X        | X   | X   | X   | X    |
| Scalar subquery unnesting                                             | X        | X        | X   | X   | X   | X    |
| Conversion of joins that produce unnecessary duplicates to semi-joins | X        | X        | X   | X   | X   | X    |
| Parallel Union and Parallel Union All operations                      | X        | X        | X   | X   | X   | X    |
| Enhance Auto DOP                                                      | X        | X        | X   | X   | X   | X    |
| Approximate count distinct                                            | X        | X        | X   | X   | X   | X    |
| Support for Oracle Database In-Memory                                 | X        | X        | X   | X   | X   | X    |
| Group-by and aggregation elimination                                  | X        | X        | X   | X   | X   | X    |
| Query rewrite for approximate query processing                        |          | X        | X   | X   | X   | X    |
| Statistics advisor                                                    |          | X        | X   | X   | X   | X    |
| Support for sharded databases                                         |          | X        | X   | X   | X   | X    |
| Expression tracking                                                   |          | X        | X   | X   | X   | X    |
| Space-saving algorithm for partition synopses                         |          | X        | X   | X   | X   | X    |
| Oracle In-Memory Database statistics                                  |          | X        | X   | X   | X   | X    |
| Support for sharding                                                  |          | X        | X   | X   | X   | X    |
| Cost-based OR expansion                                               |          | X        | X   | X   | X   | X    |
| Sub-query elimination                                                 |          | X        | X   | X   | X   | X    |
| Multi-column key join elimination                                     |          | X        | X   | X   | X   | X    |
| SQL Quarantine                                                        |          |          |     | X   | X   | X    |
| Gathering and use of real-time statistics                             |          |          |     | X   | X   | X    |
| Use of automatic indexes                                              |          |          |     | X   | X   | X    |
| Exists-to-any rewrite of subqueries                                   |          |          |     |     | X   | X    |
| WITH clause filter predicate pushdown                                 |          |          |     |     | X   | X    |

Table 2-6 (Cont.) Optimizer Features for Oracle Database 12c and Later Releases

| Features                                                         | 12.1.0.2 | 12.2.0.1 | 18c | 19c | 21c | 23ai |
|------------------------------------------------------------------|----------|----------|-----|-----|-----|------|
| Number of distinct value (NDV) modeling for real time statistics |          |          |     |     | X   | X    |
| Pushing down group-by into union-all branches                    |          |          |     |     |     | X    |
| Subsumption of views or subqueries                               |          |          |     |     |     | X    |

**See Also:**

*Oracle Database SQL Tuning Guide* for more information about the optimizer

## 2.269 OPTIMIZER\_IGNORE\_HINTS

OPTIMIZER\_IGNORE\_HINTS enables embedded hints to be ignored.

| Property                   | Description                                         |
|----------------------------|-----------------------------------------------------|
| <b>Parameter type</b>      | Boolean                                             |
| <b>Default value</b>       | FALSE                                               |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                         |
| <b>Modifiable in a PDB</b> | Yes                                                 |
| <b>Range of values</b>     | true   false                                        |
| <b>Basic</b>               | No                                                  |
| <b>Oracle RAC</b>          | Different values can be set on different instances. |

When this parameter is set to `TRUE`, the optimizer ignores embedded hints.

The default value is `FALSE`. When this parameter's value is `FALSE`, the optimizer does not ignore embedded hints.

## 2.270 OPTIMIZER\_IGNORE\_PARALLEL\_HINTS

OPTIMIZER\_IGNORE\_PARALLEL\_HINTS enables embedded parallel hints to be ignored.

| Property                   | Description                                         |
|----------------------------|-----------------------------------------------------|
| <b>Parameter type</b>      | Boolean                                             |
| <b>Default value</b>       | FALSE                                               |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                         |
| <b>Modifiable in a PDB</b> | Yes                                                 |
| <b>Range of values</b>     | true   false                                        |
| <b>Basic</b>               | No                                                  |
| <b>Oracle RAC</b>          | Different values can be set on different instances. |

When this parameter is set to `TRUE`, the optimizer ignores embedded parallel hints.

The default value is `FALSE`. When this parameter's value is `FALSE`, the optimizer does not ignore parallel embedded hints.

## 2.271 OPTIMIZER\_INDEX\_CACHING

`OPTIMIZER_INDEX_CACHING` lets you adjust the behavior of cost-based optimization to favor nested loops joins and IN-list iterators.

| Property                   | Description                 |
|----------------------------|-----------------------------|
| <b>Parameter type</b>      | Integer                     |
| <b>Default value</b>       | 0                           |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM |
| <b>Modifiable in a PDB</b> | Yes                         |
| <b>Range of values</b>     | 0 to 100                    |
| <b>Basic</b>               | No                          |

The cost of executing an index using an IN-list iterator or of executing a nested loops join when an index is used to access the inner table depends on the caching of that index in the buffer cache. The amount of caching depends on factors that the optimizer cannot predict, such as the load on the system and the block access patterns of different users.

You can modify the optimizer's assumptions about index caching for nested loops joins and IN-list iterators by setting this parameter to a value between 0 and 100 to indicate the percentage of the index blocks the optimizer should assume are in the cache. Setting this parameter to a higher value makes nested loops joins and IN-list iterators look less expensive to the optimizer. As a result, it will be more likely to pick nested loops joins over hash or sort-merge joins and to pick indexes using IN-list iterators over other indexes or full table scans. The default for this parameter is 0, which results in default optimizer behavior.



### See Also:

*Oracle Database SQL Language Reference* for additional information about this initialization parameter

## 2.272 OPTIMIZER\_INDEX\_COST\_ADJ

`OPTIMIZER_INDEX_COST_ADJ` lets you tune optimizer behavior for access path selection to be more or less index friendly—that is, to make the optimizer more or less prone to selecting an index access path over a full table scan.

| Property                   | Description                 |
|----------------------------|-----------------------------|
| <b>Parameter type</b>      | Integer                     |
| <b>Default value</b>       | 100                         |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM |
| <b>Modifiable in a PDB</b> | Yes                         |

| Property        | Description |
|-----------------|-------------|
| Range of values | 1 to 10000  |
| Basic           | No          |

The default for this parameter is 100 percent, at which the optimizer evaluates index access paths at the regular cost. Any other value makes the optimizer evaluate the access path at that percentage of the regular cost. For example, a setting of 50 makes the index access path look half as expensive as normal.

**Note:**

The adjustment does not apply to user-defined cost functions for domain indexes.

**See Also:**

*Oracle Database SQL Language Reference* for additional information about this initialization parameter

## 2.273 OPTIMIZER\_INMEMORY\_AWARE

`OPTIMIZER_INMEMORY_AWARE` enables or disables all of the optimizer cost model enhancements for in-memory.

| Property            | Description                             |
|---------------------|-----------------------------------------|
| Parameter type      | Boolean                                 |
| Default value       | true                                    |
| Modifiable          | ALTER SESSION, ALTER SYSTEM             |
| Modifiable in a PDB | Yes                                     |
| Range of values     | true   false                            |
| Basic               | No                                      |
| Oracle RAC          | All instances should use the same value |

Setting the parameter to `false` causes the optimizer to ignore the in-memory property of tables during the optimization of SQL statements. This behavior can also be achieved by setting the `OPTIMIZER_FEATURES_ENABLE` initialization parameter to values lower than 12.1.0.2.

**See Also:**

- "`OPTIMIZER_FEATURES_ENABLE`"
- *Oracle Database Concepts* and *Oracle Database SQL Tuning Guide* for more information about the optimizer

## 2.274 OPTIMIZER\_MODE

`OPTIMIZER_MODE` establishes the default behavior for choosing an optimization approach for the instance.

| Property                   | Description                                                                                                |
|----------------------------|------------------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                                                                     |
| <b>Syntax</b>              | <code>OPTIMIZER_MODE =</code><br><code>{ FIRST_ROWS_[1   10   100   1000]   FIRST_ROWS   ALL_ROWS }</code> |
| <b>Default value</b>       | <code>ALL_ROWS</code>                                                                                      |
| <b>Modifiable</b>          | <code>ALTER SESSION, ALTER SYSTEM</code>                                                                   |
| <b>Modifiable in a PDB</b> | Yes                                                                                                        |
| <b>Basic</b>               | No                                                                                                         |

### Values

- `FIRST_ROWS_n`  
The optimizer uses a cost-based approach and optimizes with a goal of best response time to return the first *n* rows (where *n* = 1, 10, 100, 1000).
- `FIRST_ROWS`  
The optimizer uses a mix of costs and heuristics to find a best plan for fast delivery of the first few rows.  
`FIRST_ROWS` is available for backward compatibility and plan stability; use `FIRST_ROWS_n` instead.
- `ALL_ROWS`  
The optimizer uses a cost-based approach for all SQL statements in the session and optimizes with a goal of best throughput (minimum resource use to complete the entire statement).

### See Also:

- *Oracle Database SQL Tuning Guide* for more information on setting this parameter
- *Oracle Database Concepts* and *Oracle Database SQL Tuning Guide* for more information about the optimizer

## 2.275 OPTIMIZER\_REAL\_TIME\_STATISTICS

`OPTIMIZER_REAL_TIME_STATISTICS` controls whether the database automatically gathers real-time statistics during conventional DML operations.

| Property              | Description |
|-----------------------|-------------|
| <b>Parameter type</b> | Boolean     |

| Property                   | Description                                         |
|----------------------------|-----------------------------------------------------|
| <b>Default value</b>       | false                                               |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                         |
| <b>Modifiable in a PDB</b> | Yes                                                 |
| <b>Range of values</b>     | true   false                                        |
| <b>Basic</b>               | No                                                  |
| <b>Oracle RAC</b>          | Different values can be set on different instances. |

When this parameter is set to `true`, the database automatically gathers real-time statistics during conventional DML operations. The default setting is `false`, which means real-time statistics are disabled.

## 2.276 OPTIMIZER\_SESSION\_TYPE

`OPTIMIZER_SESSION_TYPE` controls how the database performs automatic indexing for SQL statements in the session.

| Property                   | Description                                                         |
|----------------------------|---------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                              |
| <b>Syntax</b>              | <code>OPTIMIZER_SESSION_TYPE = { NORMAL   CRITICAL   ADHOC }</code> |
| <b>Default value</b>       | NORMAL                                                              |
| <b>Modifiable</b>          | ALTER SESSION                                                       |
| <b>Modifiable in a PDB</b> | No                                                                  |
| <b>Basic</b>               | No                                                                  |

### Values:

- `NORMAL`  
Automatic indexing is performed normally for SQL statements in the session. The automatic indexing process identifies auto index candidates, creates auto indexes, and verifies them against SQL statements.
- `CRITICAL`  
Automatic indexing is performed for SQL statements in the session, with a higher priority given to long-running statements. The automatic indexing process identifies auto index candidates and creates auto indexes. However, auto indexes are verified against SQL statements in descending order of elapsed execution time for each statement.
- `ADHOC`  
Automatic indexing is suspended for SQL statements in the session. The automatic indexing process does not identify auto index candidates, create auto indexes, or verify auto indexes against SQL statements. This setting is useful when running ad hoc queries or testing new functionality.

**See Also:**

*Oracle Database Administrator's Guide* for more information about how automatic indexing works

## 2.277 OPTIMIZER\_USE\_INVISIBLE\_INDEXES

OPTIMIZER\_USE\_INVISIBLE\_INDEXES enables or disables the use of invisible indexes.

| Property                   | Description                 |
|----------------------------|-----------------------------|
| <b>Parameter type</b>      | Boolean                     |
| <b>Default value</b>       | false                       |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM |
| <b>Modifiable in a PDB</b> | Yes                         |
| <b>Range of values</b>     | true   false                |
| <b>Basic</b>               | No                          |

### Values

- `true`  
Invisible indexes are treated as visible (normal) indexes.
- `false`  
Invisible indexes will not be considered by the optimizer but will still be maintained by DML operations.

## 2.278 OPTIMIZER\_USE\_PENDING\_STATISTICS

OPTIMIZER\_USE\_PENDING\_STATISTICS specifies whether the optimizer uses pending statistics when compiling SQL statements.

| Property                   | Description                 |
|----------------------------|-----------------------------|
| <b>Parameter type</b>      | Boolean                     |
| <b>Default value</b>       | false                       |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM |
| <b>Modifiable in a PDB</b> | Yes                         |
| <b>Range of values</b>     | true   false                |
| <b>Basic</b>               | No                          |

**See Also:**

*Oracle Database SQL Tuning Guide* for more information on setting this parameter



## 2.279 OPTIMIZER\_USE\_SQL\_PLAN\_BASELINES

`OPTIMIZER_USE_SQL_PLAN_BASELINES` enables or disables the use of SQL plan baselines stored in SQL Management Base.

| Property                   | Description                 |
|----------------------------|-----------------------------|
| <b>Parameter type</b>      | Boolean                     |
| <b>Default value</b>       | true                        |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM |
| <b>Modifiable in a PDB</b> | Yes                         |
| <b>Range of values</b>     | true   false                |
| <b>Basic</b>               | No                          |

When enabled, the optimizer looks for a SQL plan baseline for the SQL statement being compiled. If one is found in SQL Management Base, then the optimizer will cost each of the baseline plans and pick one with the lowest cost.



### See Also:

- *Oracle Database SQL Tuning Guide* for information on enabling automatic initial plan capture
- *Oracle Database SQL Tuning Guide* for information about configuring the capture and use of SQL plan baselines

## 2.280 OPTIMIZER\_USE\_SQL\_QUARANTINE

`OPTIMIZER_USE_SQL_QUARANTINE` determines whether the optimizer considers SQL Quarantine configurations when choosing an execution plan for a SQL statement.

| Property                   | Description                                   |
|----------------------------|-----------------------------------------------|
| <b>Parameter type</b>      | Boolean                                       |
| <b>Default value</b>       | true                                          |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                   |
| <b>Modifiable in a PDB</b> | Yes                                           |
| <b>Range of values</b>     | true   false                                  |
| <b>Basic</b>               | No                                            |
| <b>Oracle RAC</b>          | Different instances can use different values. |

### Values:

- true

The optimizer considers SQL Quarantine configurations when choosing an execution plan for a SQL statement. The statement will be terminated if it would otherwise use a quarantined execution plan.

- `false`

The optimizer ignores SQL Quarantine configurations when choosing an execution plan for a SQL statement. It may use any execution plan, regardless of its quarantine status.

 **See Also:**

- ["DBA\\_SQL\\_QUARANTINE"](#)
- ["OPTIMIZER\\_CAPTURE\\_SQL\\_QUARANTINE"](#)
- *Oracle Database SQL Tuning Guide* for more information about SQL Quarantine

## 2.281 OS\_AUTHENT\_PREFIX

OS\_AUTHENT\_PREFIX specifies a prefix that Oracle Database uses to authenticate users attempting to connect to the server.

| Property                   | Description                                      |
|----------------------------|--------------------------------------------------|
| <b>Parameter type</b>      | String                                           |
| <b>Syntax</b>              | OS_AUTHENT_PREFIX = <i>authentication_prefix</i> |
| <b>Default value</b>       | OPS\$                                            |
| <b>Modifiable</b>          | No                                               |
| <b>Modifiable in a PDB</b> | No                                               |
| <b>Basic</b>               | No                                               |

Oracle Database concatenates the value of this parameter to the beginning of the user's operating system account name. When a connection request is attempted, Oracle Database compares the prefixed username with Oracle user names in the database.

The default value of this parameter is OPS\$ for backward compatibility with previous versions. However, you might prefer to set the prefix value to "" (a null string), thereby eliminating the addition of any prefix to operating system account names.

 **Note:**

The text of the OS\_AUTHENT\_PREFIX parameter is case sensitive on some operating systems.

 **See Also:**

- *Oracle Database Security Guide* for more information on setting this parameter
- Your operating system-specific Oracle documentation for the default value

## 2.282 OS\_ROLES

OS\_ROLES determines whether Oracle or the operating system identifies and manages the roles of each username.

 **Note:**

Enterprise User Security (EUS) is deprecated with Oracle Database 23ai.

Oracle recommends that you migrate to using Centrally Managed Users (CMU). This feature enables you to directly connect with Microsoft Active Directory without an intervening directory service for enterprise user authentication and authorization to the database. If your Oracle Database is in the cloud, you can also choose to move to one of the newer integrations with a cloud identity provider.

| Property                   | Description  |
|----------------------------|--------------|
| <b>Parameter type</b>      | Boolean      |
| <b>Default value</b>       | false        |
| <b>Modifiable</b>          | No           |
| <b>Modifiable in a PDB</b> | No           |
| <b>Range of values</b>     | true   false |
| <b>Basic</b>               | No           |

### Values

- TRUE

The operating system completely manages the role grants for all database usernames. When a user attempts to create a session, the username's security domain is initialized using the roles identified by the operating system.

Revocation by Oracle of roles granted by the operating system is ignored, as are any roles previously granted by Oracle.

- FALSE

Oracle identifies and manages the roles.

 **See Also:**

- *Oracle Database Administrator's Guide* and *Oracle Database Enterprise User Security Administrator's Guide* for more information on roles and on setting this parameter
- ["REMOTE\\_OS\\_ROLES"](#)

## 2.283 OUTBOUND\_DBLINK\_PROTOCOLS

OUTBOUND\_DBLINK\_PROTOCOLS specifies the network protocols allowed for communicating for outbound database links in the database.

| Property                   | Description                                                                     |
|----------------------------|---------------------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                                          |
| <b>Syntax</b>              | OUTBOUND_DBLINK_PROTOCOLS = { ALL   NONE   [ TCP   [, ]   TCPS   [, ]   IPC ] } |
| <b>Default value</b>       | ALL                                                                             |
| <b>Modifiable</b>          | ALTER SYSTEM                                                                    |
| <b>Modifiable in a PDB</b> | No                                                                              |
| <b>Basic</b>               | No                                                                              |
| <b>Oracle RAC</b>          | The same value must be used on all instances.                                   |

Specify a value of ALL to allow all network protocols, and a value of NONE to disallow all network communication protocols for database link communication. Specify a single value or a list of comma separated network communication protocols to allow only certain network protocols for outbound database link communication.

## 2.284 PARALLEL\_ADAPTIVE\_MULTI\_USER

PARALLEL\_ADAPTIVE\_MULTI\_USER, when set to true, enables an adaptive algorithm designed to improve performance in multiuser environments that use parallel execution.

| Property                   | Description  |
|----------------------------|--------------|
| <b>Parameter type</b>      | Boolean      |
| <b>Default value</b>       | false        |
| <b>Modifiable</b>          | ALTER SYSTEM |
| <b>Modifiable in a PDB</b> | No           |
| <b>Range of values</b>     | true   false |
| <b>Basic</b>               | No           |

The algorithm automatically reduces the requested degree of parallelism based on the system load at query startup time. The effective degree of parallelism is based on the default degree of parallelism, or the degree from the table or hints, divided by a reduction factor.

The algorithm assumes that the system has been tuned for optimal performance in a single-user environment.

Tables and hints use the default degree of parallelism.

**Note:**

The `PARALLEL_ADAPTIVE_MULTI_USER` initialization parameter is deprecated in Oracle Database 12c Release 2 (12.2.0.1) and may be removed in a future release. Oracle recommends that you use the parallel statement queuing feature instead.

**See Also:**

- *Oracle Database SQL Language Reference* for more information about optimizer hints
- *Oracle Database VLDB and Partitioning Guide* for more information about parallel statement queuing

## 2.285 PARALLEL\_DEGREE\_LIMIT

`PARALLEL_DEGREE_LIMIT` limits the degree of parallelism used by the optimizer to ensure that parallel server processes do not flood the system.

| Property                   | Description                                                        |
|----------------------------|--------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                             |
| <b>Syntax</b>              | <code>PARALLEL_DEGREE_LIMIT = { CPU   AUTO   IO   integer }</code> |
| <b>Default value</b>       | CPU                                                                |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                                        |
| <b>Modifiable in a PDB</b> | Yes                                                                |
| <b>Basic</b>               | No                                                                 |

With automatic degree of parallelism, Oracle automatically decides whether a statement should execute in parallel and what degree of parallelism the statement should use. The optimizer automatically determines the degree of parallelism for a statement based on the resource requirements of the statement. However, `PARALLEL_DEGREE_LIMIT` enforces the limit for the degree of parallelism used by the optimizer.

**Values**

- CPU

The maximum degree of parallelism is limited by the number of CPUs in the system. The formula used to calculate the limit is `PARALLEL_THREADS_PER_CPU * CPU_COUNT` \* the number of instances available (by default, all the opened instances on the cluster but can be constrained using `PARALLEL_INSTANCE_GROUP` or service specification). This is the default.

- AUTO

This value is equivalent to the CPU value.

- IO

The maximum degree of parallelism the optimizer can use is limited by the I/O capacity of the system. The value is calculated by dividing the total system throughput by the maximum I/O bandwidth per process. You must run the `DBMS_RESOURCE_MANAGER.CALIBRATE_IO` procedure on the system to use the IO setting. This procedure will calculate the total system throughput and the maximum I/O bandwidth per process.

- integer

A numeric value for this parameter specifies the maximum degree of parallelism the optimizer can choose for a SQL statement when automatic degree of parallelism is active. Automatic degree of parallelism is only enabled if `PARALLEL_DEGREE_POLICY` is set to `ADAPTIVE`, `AUTO`, or `LIMITED`.

#### See Also:

- *Oracle Database VLDB and Partitioning Guide* for information about automatic degree of parallelism
- *Oracle Database PL/SQL Packages and Types Reference* for information on the `DBMS_RESOURCE_MANAGER.CALIBRATE_IO` procedure

## 2.286 PARALLEL\_DEGREE\_POLICY

`PARALLEL_DEGREE_POLICY` specifies whether automatic degree of parallelism, statement queuing, and in-memory parallel execution will be enabled.

| Property            | Description                                                                  |
|---------------------|------------------------------------------------------------------------------|
| Parameter type      | String                                                                       |
| Syntax              | <code>PARALLEL_DEGREE_POLICY = { MANUAL   LIMITED   AUTO   ADAPTIVE }</code> |
| Default value       | MANUAL                                                                       |
| Modifiable          | ALTER SESSION, ALTER SYSTEM                                                  |
| Modifiable in a PDB | Yes                                                                          |
| Basic               | No                                                                           |

### Values

#### Note:

Automatic degree of parallelism will be enabled regardless of the value of `PARALLEL_DEGREE_POLICY` if a `PARALLEL` hint is used at the SQL statement level.

- MANUAL

Disables automatic degree of parallelism, statement queuing, and in-memory parallel execution. This reverts the behavior of parallel execution to what it was prior to Oracle Database 11g Release 2 (11.2). This is the default.

- LIMITED

Enables automatic degree of parallelism for some statements but statement queuing and in-memory Parallel Execution are disabled. Automatic degree of parallelism is only applied to those statements that access tables or indexes decorated explicitly with the `DEFAULT` degree of parallelism using the `PARALLEL` clause. Statements that do not access any tables or indexes decorated with the `DEFAULT` degree of parallelism will retain the `MANUAL` behavior.

- AUTO

Enables automatic degree of parallelism, statement queuing, and in-memory parallel execution.

- ADAPTIVE

This value enables automatic degree of parallelism, statement queuing and in-memory parallel execution, similar to the `AUTO` value. In addition, performance feedback is enabled. Performance feedback helps to improve the degree of parallelism automatically chosen for repeated SQL statements. After the initial execution of a statement, the degree of parallelism chosen by the optimizer is compared to the degree of parallelism computed based on the actual execution performance. If they vary significantly, then the statement is marked for re-parse and the initial execution performance statistics (for example, CPU-time) are provided as feedback for subsequent executions. The optimizer uses the initial execution performance statistics to better determine a degree of parallelism for subsequent executions.

#### See Also:

- *Oracle Database SQL Language Reference* for information about `PARALLEL` hints
- *Oracle Database VLDB and Partitioning Guide* for information about automatic degree of parallelism

## 2.287 PARALLEL\_EXECUTION\_MESSAGE\_SIZE

`PARALLEL_EXECUTION_MESSAGE_SIZE` specifies the size of messages used for parallel execution (formerly referred to as parallel query, PDML, Parallel Recovery, replication).

| Property                   | Description                                                                          |
|----------------------------|--------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | Integer                                                                              |
| <b>Default value</b>       | Operating system-dependent                                                           |
| <b>Modifiable</b>          | No                                                                                   |
| <b>Modifiable in a PDB</b> | No                                                                                   |
| <b>Range of values</b>     | Minimum: 2148<br>Maximum: 65536, but some operating systems may have a smaller value |
| <b>Basic</b>               | No                                                                                   |

| Property   | Description                                  |
|------------|----------------------------------------------|
| Oracle RAC | Multiple instances must have the same value. |

On most platforms, the default value is as follows:

- 16384 bytes if `COMPATIBLE` is set to 11.2.0 or higher
- 2148 bytes if `COMPATIBLE` is less than 11.2.0

The default value is adequate for most applications. Larger values require a larger shared pool. Larger values result in better performance at the cost of higher memory use. For this reason, replication gets no benefit from increasing the size.



#### See Also:

*Oracle Database VLDB and Partitioning Guide* to learn how this parameter affects memory consumption for parallel operations, including parallel execution

## 2.288 PARALLEL\_FORCE\_LOCAL

`PARALLEL_FORCE_LOCAL` controls parallel execution in an Oracle RAC environment.

| Property            | Description                 |
|---------------------|-----------------------------|
| Parameter type      | Boolean                     |
| Default value       | false                       |
| Modifiable          | ALTER SESSION, ALTER SYSTEM |
| Modifiable in a PDB | Yes                         |
| Range of values     | true   false                |
| Basic               | No                          |

By default, the parallel server processes selected to execute a SQL statement can operate on any or all Oracle RAC nodes in the cluster. By setting `PARALLEL_FORCE_LOCAL` to `true`, the parallel server processes are restricted so that they can only operate on the same Oracle RAC node where the query coordinator resides (the node on which the SQL statement was executed).



#### See Also:

*Oracle Database VLDB and Partitioning Guide* for more information about this parameter



## 2.289 PARALLEL\_INSTANCE\_GROUP

Used in conjunction with services or with the `INSTANCE_GROUPS` parameter, `PARALLEL_INSTANCE_GROUP` lets you restrict parallel query operations to a limited number of instances.

| Property                   | Description                                                                                                       |
|----------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                                                                            |
| <b>Syntax</b>              | <code>PARALLEL_INSTANCE_GROUP = service_name   group_name</code>                                                  |
| <b>Default value</b>       | There is no default value; parallel execution is enabled across all currently active instances.                   |
| <b>Modifiable</b>          | <code>ALTER SESSION, ALTER SYSTEM</code>                                                                          |
| <b>Modifiable in a PDB</b> | Yes                                                                                                               |
| <b>Range of values</b>     | Any service name or any group name specified in the <code>INSTANCE_GROUPS</code> parameter of any active instance |
| <b>Basic</b>               | No                                                                                                                |
| <b>Oracle RAC</b>          | Multiple instances can have different values.                                                                     |

`PARALLEL_INSTANCE_GROUP` is an Oracle RAC parameter that you can specify in parallel mode only. Note that the `INSTANCE_GROUPS` parameter has been deprecated.

This parameter identifies the parallel instance group Oracle will use for spawning parallel execution processes. If used in conjunction with services, then parallel operations will spawn parallel execution processes only on instances defined in the service. If used in conjunction with `INSTANCE_GROUPS`, then parallel operations will spawn parallel execution processes only on instances that specify a matching group in their `INSTANCE_GROUPS` parameter.

If the value assigned to `PARALLEL_INSTANCE_GROUP` is the name of a service or group that does not exist, then the operation runs serially. No parallelism is used.

## 2.290 PARALLEL\_MAX\_SERVERS

`PARALLEL_MAX_SERVERS` specifies the maximum number of parallel execution processes and parallel recovery processes for an instance. As demand increases, Oracle Database increases the number of processes from the number created at instance startup up to this value.

| Property                   | Description                                                                       |
|----------------------------|-----------------------------------------------------------------------------------|
| <b>Parameter type</b>      | Integer                                                                           |
| <b>Default value</b>       | <code>PARALLEL_THREADS_PER_CPU * CPU_COUNT * concurrent_parallel_users * 5</code> |
| <b>Modifiable</b>          | <code>ALTER SYSTEM</code>                                                         |
| <b>Modifiable in a PDB</b> | Yes                                                                               |
| <b>Range of values</b>     | 0 to 32767                                                                        |
| <b>Basic</b>               | No                                                                                |
| <b>Oracle RAC</b>          | Multiple instances can have different values.                                     |

**Note:**

This parameter applies to parallel execution in exclusive mode as well as in a Real Application Clusters environment.

The number of concurrent parallel users running at default degree of parallelism on an instance depends on the memory initialization parameter settings for the instance. For example, if the `MEMORY_TARGET` or `SGA_TARGET` initialization parameter is set, then the number of `concurrent_parallel_users` = 4. If neither `MEMORY_TARGET` or `SGA_TARGET` is set, then `PGA_AGGREGATE_TARGET` is examined. If a value is set for `PGA_AGGREGATE_TARGET`, then `concurrent_parallel_users` = 2. If a value is not set for `PGA_AGGREGATE_TARGET`, then `concurrent_parallel_users` = 1.

The database system always reserves a certain number of reserved processes. Therefore, the following two values are taken into account when setting the `PARALLEL_MAX_SERVERS` initialization parameter:

- The default value of `PARALLEL_MAX_SERVERS` determined using the calculation in the table above
- The value of the `PROCESSES` initialization parameter minus the number of reserved processes

The lower of the two values is used as the default value of `PARALLEL_MAX_SERVERS`, and if you attempt to explicitly set `PARALLEL_MAX_SERVERS` to a value that is higher than either of the values, then the setting is adjusted to the lower of the two values.

When the `PARALLEL_MAX_SERVERS` parameter is set to a value lower than the value in the table above, the lower default value enables the database to start service processes and allows user processes to connect to the database.

The default value for `PARALLEL_MAX_SERVERS` for a PDB is determined using the calculation in the table above with the PDB's `CPU_COUNT` value.

**Note:**

If you set this parameter too low, then some queries may not have a parallel execution process available to them during query processing. If you set it too high, then memory resource shortages may occur during peak periods, which can degrade performance.

**See Also:**

*Oracle Database SQL Tuning Guide* for more information about parallel execution

## 2.291 PARALLEL\_MIN\_DEGREE

`PARALLEL_MIN_DEGREE` controls the minimum degree of parallelism computed by automatic degree of parallelism.

| Property            | Description                                          |
|---------------------|------------------------------------------------------|
| Parameter type      | String                                               |
| Syntax              | <code>PARALLEL_MIN_DEGREE = [ n   CPU ]</code>       |
| Default value       | 1                                                    |
| Modifiable          | ALTER SESSION, ALTER SYSTEM                          |
| Modifiable in a PDB | Yes                                                  |
| Basic               | No                                                   |
| Oracle RAC          | A different value can be set on different instances. |

The value of `PARALLEL_MIN_DEGREE` is either a number that corresponds to the lower bound on the degree of parallelism computed by automatic degree of parallelism, or the string value `CPU`, which is computed by the function `CPU_COUNT * PARALLEL_THREADS_PER_CPU`.

The default value of `PARALLEL_MIN_DEGREE` is 1.



### Note:

`PARALLEL_MIN_DEGREE` has no impact in either of these cases:

- When the value of `PARALLEL_MIN_DEGREE` is greater than the value of `CPU_COUNT`
- When the object is Oracle-owned, such as a dictionary table or view created on a dictionary table



### See Also:

- ["PARALLEL\\_DEGREE\\_LIMIT"](#)
- *Oracle Database VLDB and Partitioning Guide* for information about how the optimizer automatically determines the degree of parallelism for a statement

## 2.292 PARALLEL\_MIN\_PERCENT

`PARALLEL_MIN_PERCENT` lets you specify the minimum percentage of the requested number of parallel execution processes required for parallel execution.

| Property       | Description |
|----------------|-------------|
| Parameter type | Integer     |
| Default value  | 0           |

| Property                   | Description                                   |
|----------------------------|-----------------------------------------------|
| <b>Modifiable</b>          | ALTER SESSION                                 |
| <b>Modifiable in a PDB</b> | No                                            |
| <b>Range of values</b>     | 0 to 100                                      |
| <b>Basic</b>               | No                                            |
| <b>Oracle RAC</b>          | Multiple instances can have different values. |

This parameter controls the behavior for parallel operations when parallel statement queuing is not enabled (when `PARALLEL_DEGREE_POLICY` is set to `manual` or `limited`). It ensures that an operation always gets a minimum percentage of parallel execution servers or errors out. Setting this parameter ensures that parallel operations will not execute unless adequate resources are available. The default value of 0 means that no minimum percentage of processes has been set.

Consider the following settings:

```
PARALLEL_MIN_PERCENT = 50
PARALLEL_MIN_SERVERS = 5
PARALLEL_MAX_SERVERS = 10
```

If 8 of the 10 parallel execution processes are busy, only 2 processes are available. If you then request a query with a degree of parallelism of 8, the minimum 50% will not be met.

You can use this parameter with `PARALLEL_ADAPTIVE_MULTI_USER`. In a multi-user environment, an individual user or application can set `PARALLEL_MIN_PERCENT` to a minimum value until sufficient resources are available on the system and an acceptable degree of parallelism is returned.

#### See Also:

- *Oracle Database SQL Tuning Guide* for more information about parallel execution
- "`PARALLEL_DEGREE_POLICY`", "`PARALLEL_MAX_SERVERS`", "`PARALLEL_MIN_SERVERS`", and "`PARALLEL_ADAPTIVE_MULTI_USER`"

## 2.293 PARALLEL\_MIN\_SERVERS

`PARALLEL_MIN_SERVERS` is the number of parallel execution processes Oracle creates when the instance is started. These processes will be kept active to service parallel statements.

| Property                   | Description                                                     |
|----------------------------|-----------------------------------------------------------------|
| <b>Parameter type</b>      | Integer                                                         |
| <b>Default value</b>       | $CPU\_COUNT * PARALLEL\_THREADS\_PER\_CPU * 2$                  |
| <b>Modifiable</b>          | ALTER SYSTEM                                                    |
| <b>Modifiable in a PDB</b> | No                                                              |
| <b>Range of values</b>     | Default value to the value of <code>PARALLEL_MAX_SERVERS</code> |
| <b>Basic</b>               | No                                                              |

| Property   | Description                                   |
|------------|-----------------------------------------------|
| Oracle RAC | Multiple instances can have different values. |

**Note:**

This parameter applies to parallel execution in exclusive mode as well as in an Oracle Real Application Clusters environment.

**Note:**

When the `PROCESSES` initialization parameter is set to a value that is lower than the documented default value for the `PARALLEL_MIN_SERVERS` parameter in the table above, the database sets the default value of `PARALLEL_MIN_SERVERS` to a value that is lower than the documented default value. The lower default value enables the database to start service processes and allows user processes to connect to the database.

**See Also:**

*Oracle Database Administrator's Guide* for more information about parallel execution servers

## 2.294 PARALLEL\_MIN\_TIME\_THRESHOLD

`PARALLEL_MIN_TIME_THRESHOLD` specifies the minimum execution time a statement should have before the statement is considered for automatic degree of parallelism.

| Property            | Description                                                   |
|---------------------|---------------------------------------------------------------|
| Parameter type      | String                                                        |
| Syntax              | <code>PARALLEL_MIN_TIME_THRESHOLD = { AUTO   integer }</code> |
| Default value       | AUTO                                                          |
| Modifiable          | ALTER SESSION, ALTER SYSTEM                                   |
| Modifiable in a PDB | Yes                                                           |
| Basic               | No                                                            |

By default, this parameter is set to 10 seconds. Automatic degree of parallelism is only enabled if `PARALLEL_DEGREE_POLICY` is set to `ADAPTIVE`, `AUTO`, or `LIMITED`.

If all tables referenced by a SQL statement use In-Memory Column Store (IM column store), then `PARALLEL_MIN_TIME_THRESHOLD` defaults to 1.

**See Also:**

*Oracle Database VLDB and Partitioning Guide* for information about automatic degree of parallelism

## 2.295 PARALLEL\_SERVERS\_TARGET

`PARALLEL_SERVERS_TARGET` specifies the number of parallel server processes allowed to run parallel statements before statement queuing will be used.

| Property                   | Description                                                                                                                                                                                                   |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | Integer                                                                                                                                                                                                       |
| <b>Default value</b>       | For a CDB:<br>Equal to the <code>PARALLEL_MAX_SERVERS</code> value for the CDB.<br>For a PDB or non-CDB:<br>$\text{PARALLEL\_THREADS\_PER\_CPU} * \text{CPU\_COUNT} * \text{concurrent\_parallel\_users} * 2$ |
| <b>Modifiable</b>          | ALTER SYSTEM                                                                                                                                                                                                  |
| <b>Modifiable in a PDB</b> | Yes                                                                                                                                                                                                           |
| <b>Range of values</b>     | 0 to <code>PARALLEL_MAX_SERVERS</code>                                                                                                                                                                        |
| <b>Basic</b>               | No                                                                                                                                                                                                            |

When the parameter `PARALLEL_DEGREE_POLICY` is set to `ADAPTIVE` or `AUTO`, Oracle will queue SQL statements that require parallel execution, if the necessary parallel server processes are not available. In a single instance database, statement queuing will begin once the number of parallel server processes active on the system is equal to or greater than `PARALLEL_SERVERS_TARGET`. In an Oracle RAC database, a statement running on one instance can allocate parallel server processes on another instance when necessary. For example, if a statement running on one instance requires parallel execution, but the number of parallel server processes active on that instance is equal to or greater than the value of `PARALLEL_SERVERS_TARGET` for that instance, then the statement can allocate parallel server processes on a different instance. Therefore, statement queuing in an Oracle RAC database will begin only when every instance has reached its `PARALLEL_SERVER_TARGET` threshold.

**Note:**

Consumer groups that have been marked with the `PARALLEL_STMT_CRITICAL` directive set to `BYPASS_QUEUE` are allowed to bypass the parallel statement queue, and therefore may drive the total number of active parallel server processes beyond `PARALLEL_SERVERS_TARGET`. Parallel statements issued with `PARALLEL_DEGREE_POLICY` not set to `ADAPTIVE` and `AUTO` can also drive the total number of active parallel server processes beyond `PARALLEL_SERVERS_TARGET`.

By default, `PARALLEL_SERVERS_TARGET` is set lower than the maximum number of parallel server processes allowed on the system (`PARALLEL_MAX_SERVERS`) to ensure each parallel statement

will get all of the parallel server resources required and to prevent overloading the system with parallel server processes.

The number of concurrent parallel users running at default degree of parallelism on an instance depends on the memory initialization parameter settings for the instance. For example, if the `MEMORY_TARGET` or `SGA_TARGET` initialization parameter is set, then the number of `concurrent_parallel_users` = 4. If neither `MEMORY_TARGET` or `SGA_TARGET` is set, then `PGA_AGGREGATE_TARGET` is examined. If a value is set for `PGA_AGGREGATE_TARGET`, then `concurrent_parallel_users` = 2. If a value is not set for `PGA_AGGREGATE_TARGET`, then `concurrent_parallel_users` = 1.

Note that all serial (non-parallel) statements will execute immediately even if statement queuing has been activated.

By default, all PDB queries are subjected to queuing at the PDB level first by the PDB's `PARALLEL_SERVERS_TARGET` value, and then at the CDB level by the CDB's `PARALLEL_SERVERS_TARGET` value. This default behavior prevents any SQL statement inside a PDB from getting downgraded if parallel servers are exhausted in the CDB.

Parallel statement queuing is enabled by default at the CDB level because the CDB has a default value for `PARALLEL_SERVERS_TARGET`. You can disable parallel statement queuing at the CDB level by using `ALTER SYSTEM` to set `PARALLEL_SERVERS_TARGET` to 0 for the CDB.

The default value for `PARALLEL_SERVERS_TARGET` for a PDB is determined using the calculation in the table above with the PDB's `CPU_COUNT` value.

 **Note:**

A PDB can set a lower limit for parallel execution servers than the limit specified in the CDB resource plan. When the `PARALLEL_SERVERS_TARGET` initialization parameter is set in a PDB, and parallel execution server limit is specified for a PDB in the CDB resource plan, then the lower of the two limits is enforced. For example, assume that the `PARALLEL_SERVERS_TARGET` initialization parameter is set to 100 in the CDB root. Also assume that `hrpdb` has its `PARALLEL_SERVERS_TARGET` initialization parameter set to 50 and the CDB plan has a directive for `hrpdb` with `parallel_server_limit` set to 70%. In this case, the limit for parallel execution servers for `hrpdb` is 50, because 50 is lower than the CDB resource plan limit of 70 for `hrpdb`.

 **See Also:**

- "PARALLEL\_DEGREE\_POLICY"
- "PARALLEL\_MAX\_SERVERS"
- "MEMORY\_TARGET"
- "SGA\_TARGET"
- "PGA\_AGGREGATE\_TARGET"
- *Oracle Database VLDB and Partitioning Guide* for more information about this parameter

## 2.296 PARALLEL\_THREADS\_PER\_CPU

`PARALLEL_THREADS_PER_CPU` describes the number of parallel execution processes or threads that a CPU can handle during parallel execution.

| Property            | Description        |
|---------------------|--------------------|
| Parameter type      | Integer            |
| Default value       | 1                  |
| Modifiable          | ALTER SYSTEM       |
| Modifiable in a PDB | No                 |
| Range of values     | Any nonzero number |
| Basic               | No                 |



### Note:

This parameter applies to parallel execution in exclusive mode as well as in an Oracle Real Application Clusters environment.

This parameter is used in determining the default values of other parallel execution related parameters, for example, `PARALLEL_MAX_SERVERS`. It is also used in determining the default degree of parallelism for SQL statements, and determining the upper bound for the degree of parallelism in automatic degree of parallelism. The default value is adequate in most cases.



### See Also:

- *Oracle Database SQL Tuning Guide* for more information about parallel execution
- *Oracle Database VLDB and Partitioning Guide* for information about how the optimizer automatically determines the degree of parallelism for a statement

## 2.297 PDB\_FILE\_NAME\_CONVERT

`PDB_FILE_NAME_CONVERT` maps names of existing files to new file names when processing a `CREATE PLUGGABLE DATABASE` statement, as well as when processing the `ENABLE PLUGGABLE DATABASE` clause of the `CREATE DATABASE` statement, if the `file_name_convert_clause` is not specified and Oracle Managed Files is not enabled.

| Property       | Description |
|----------------|-------------|
| Parameter type | String      |



| Property                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Syntax</b>              | <p>PDB_FILE_NAME_CONVERT = 'string1' , 'string2' , 'string3' , 'string4' , ...</p> <p>Where:</p> <ul style="list-style-type: none"> <li>• <i>string1</i> is the pattern of the existing filename</li> <li>• <i>string2</i> is the pattern of the new filename</li> <li>• <i>string3</i> is the pattern of the existing filename</li> <li>• <i>string4</i> is the pattern of the new filename</li> </ul> <p>You can enclose each string in single or double quotation marks.</p> <p>You can specify as many pairs of existing and new replacement strings as required.</p> <p><b>Example:</b></p> <pre>PDB_FILE_NAME_CONVERT = '/dbs/t1/', '/dbs/t1/s', 'dbs/t2/', 'dbs/t2/s'</pre> |
| <b>Default value</b>       | There is no default value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Modifiable in a PDB</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Basic</b>               | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Oracle RAC</b>          | You must set this parameter for every instance, and multiple instances must have the same value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

File name patterns specified in this initialization parameter cannot match files or directories managed by Oracle Managed Files.



#### See Also:

*Oracle Multitenant Administrator's Guide* for more information about this parameter

## 2.298 PDB\_LOCKDOWN

PDB\_LOCKDOWN determines the PDB lockdown profile that applies to a PDB.

| Property                   | Description                              |
|----------------------------|------------------------------------------|
| <b>Parameter type</b>      | String                                   |
| <b>Syntax</b>              | PDB_LOCKDOWN = pdb-lockdown-profile-name |
| <b>Default value</b>       | NULL                                     |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM              |
| <b>Modifiable in a PDB</b> | Yes                                      |
| <b>Basic</b>               | No                                       |
| <b>Oracle RAC</b>          | All instances should have the same value |

A PDB lockdown profile is a mechanism to restrict operations (such as setting values of certain parameters and using certain options) that can be performed by users connected to a given

PDB. You can also restrict execution of any packages that allow network access, for example, `UTL_SMTP`.

You create lockdown profiles using the SQL `CREATE LOCKDOWN PROFILE` statement. Then you can set a profile using the SQL `ALTER SESSION` or `ALTER SYSTEM` statement. See the Examples section.

This parameter can be set using the `ALTER SYSTEM` statement with scope set to `MEMORY`, `SPFILE`, or `BOTH`.

The lockdown profile for PDBs can be specified by a common user with common `ALTER SYSTEM` or common `SYSDBA` privilege.

If a PDB lockdown profile is dropped, any PDB to which the dropped profile was assigned (by means of storing the dropped profile name in the `PDB_LOCKDOWN` parameter) will continue to have its `PDB_LOCKDOWN` parameter set to the dropped lockdown profile name. However, the PDB will not have any restrictions imposed by the dropped lockdown profile.

Lockdown profiles can now be created in an application root and are referred to as application lockdown profiles.

A CDB common user with common `SYSDBA` or common `ALTER SYSTEM` privilege can only set `PDB_LOCKDOWN` to a CDB lockdown profile. Similarly, an application common user with application common `SYSDBA` or application common `ALTER SYSTEM` privilege can only set `PDB_LOCKDOWN` to an application lockdown profile.

An application common user cannot overwrite `PDB_LOCKDOWN` if `PDB_LOCKDOWN` is already set to a CDB lockdown profile in an application root or application PDB.

If the `PDB_LOCKDOWN` parameter in a PDB is set to the name of a lockdown profile different from that in its ancestor (for a CDB, the CDB root or, for application PDBs, the application root), the following will govern the interaction between restrictions imposed by these profiles:

- If the `PDB_LOCKDOWN` parameter in a PDB (including an application PDB) is set to a CDB lockdown profile, lockdown profiles specified by the `PDB_LOCKDOWN` parameter in CDB root (and for application PDBs, the application root) are ignored.
- If the `PDB_LOCKDOWN` parameter in an application PDB is set to an application lockdown profile while the `PDB_LOCKDOWN` parameter in the application root or CDB root is set to a CDB lockdown profile, in addition to the rules stipulated in the application lockdown profile, the `DISABLE` rules from the CDB lockdown profile set in its nearest ancestor (that is, an application root or CDB root) are inherited.
- If there are conflicts between rules comprising the CDB lockdown profile and the application lockdown profile, the rules in the CDB lockdown profile will take precedence (for example, the `OPTION_VALUE` clause of a CDB lockdown profile will take precedence over the `OPTION_VALUE` clause of an application lockdown profile).

## Examples

This example shows how the `SYS` user can connect to the database as `SYSDBA` and use the `CREATE LOCKDOWN PROFILE` statement in the root of a CDB to define a new lockdown profile. After defining the new lockdown profile, the `SYS` user can assign the new lockdown profile to a PDB using the `PDB_LOCKDOWN` parameter:

```
SQL> ALTER SESSION SET CONTAINER=CDB$ROOT;
```

Session altered.

```
SQL> CREATE LOCKDOWN PROFILE MYPROFILE;

Lockdown Profile created.

SQL> ALTER SESSION SET CONTAINER=CDB1_PDB1;

Session altered.

SQL> ALTER SYSTEM SET PDB_LOCKDOWN=MYPROFILE;

System altered.

SQL> SHOW PARAMETER PDB_LOCKDOWN
```

| NAME         | TYPE   | VALUE     |
|--------------|--------|-----------|
| -----        | -----  | -----     |
| pdb_lockdown | string | MYPROFILE |

```
SQL>
```

 **See Also:**

- ["DBA\\_LOCKDOWN\\_PROFILES"](#)
- *Oracle Multitenant Administrator's Guide* for an introduction to PDB lockdown profiles
- *Oracle Database SQL Language Reference* for more information about the `CREATE LOCKDOWN PROFILE` statement

## 2.299 PDB\_OS\_CREDENTIAL

`PDB_OS_CREDENTIAL` determines the identity of the operating system user (OS user) employed when interacting with the operating system from a PDB.

| Property                   | Description                                     |
|----------------------------|-------------------------------------------------|
| <b>Parameter type</b>      | String                                          |
| <b>Syntax</b>              | <code>PDB_OS_CREDENTIAL = credential</code>     |
| <b>Default value</b>       | None                                            |
| <b>Modifiable</b>          | No                                              |
| <b>Modifiable in a PDB</b> | Yes                                             |
| <b>Basic</b>               | No                                              |
| <b>Oracle RAC</b>          | The same value should be used for all instances |

 **Note:**

The Oracle OS user will continue to be used when interacting with the operating system from the root.

The Oracle OS user is usually a highly privileged user, and using the same user for operating system interactions for every PDB is not recommended. Also, using the same OS user for operating system interactions from different PDBs may compromise data belonging to a given PDB.

In contrast, using an OS user described by a credential whose name is specified as a value of the `PDB_OS_CREDENTIAL` parameter helps ensure that operating system interactions are performed as a less powerful user and provides the ability to protect data belonging to one PDB from being accessed by users connected to another PDB. A credential is an object that is created using the `CREATE_CREDENTIAL` procedure for the `DBMS_CREDENTIAL` package.

The operating system interactions that are done as the OS user name specified in the credential include:

- External jobs that do not already have an operating system credential specified
- External table pre-processors
- PL/SQL library executions

This parameter can be specified for all the PDBs in a CDB but the CDB-wide value can be overridden for a specific PDB and can be modified *only* by a common administrative user with the `EXECUTE` privilege for the `DBMS_CREDENTIAL` PL/SQL package and the `ALTER SYSTEM` system privilege.

If a value is not set for this parameter for a given PDB, the Oracle OS User will continue to be used when interacting with the operating system from that PDB.

 **See Also:**

- *Oracle Database Security Guide* for an example of setting an OS user for a PDB using this parameter
- *Oracle Multitenant Administrator's Guide* for conceptual information about CDBs and PDBs
- *Oracle Multitenant Administrator's Guide* for information about managing CDBs and PDBs
- *Oracle Database PL/SQL Packages and Types Reference* for information about creating a credential using the `DBMS_CREDENTIAL.CREATE_CREDENTIAL` procedure

## 2.300 PERMIT\_92\_WRAP\_FORMAT

`PERMIT_92_WRAP_FORMAT` allows Oracle Database release 9.2 wrapped versions of PL/SQL source text to be used in Oracle Database releases 10.2 and later when this parameter is set to `true`.

| Property            | Description                                  |
|---------------------|----------------------------------------------|
| Parameter type      | Boolean                                      |
| Default value       | false                                        |
| Modifiable          | No                                           |
| Modifiable in a PDB | No                                           |
| Range of values     | true   false                                 |
| Basic               | No                                           |
| Oracle RAC          | Multiple instances should use the same value |

Oracle recommends that wrapped files be created using the PL/SQL Wrapper utility from Oracle Database release 10 or later.

**See Also:**

*Oracle Database PL/SQL Language Reference* for more information about PL/SQL source text wrapping

## 2.301 PGA\_AGGREGATE\_LIMIT

PGA\_AGGREGATE\_LIMIT specifies a limit on the aggregate PGA memory consumed by the instance.

| Property            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parameter type      | Big integer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Syntax              | PGA_AGGREGATE_LIMIT = <i>integer</i> [K   M   G]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Default value       | <p>If MEMORY_TARGET is set, then PGA_AGGREGATE_LIMIT defaults to the MEMORY_MAX_TARGET value.</p> <p>If MEMORY_TARGET is not set, then PGA_AGGREGATE_LIMIT defaults to 200% of PGA_AGGREGATE_TARGET.</p> <p>If MEMORY_TARGET is not set, and PGA_AGGREGATE_TARGET is explicitly set to 0, then the value of PGA_AGGREGATE_LIMIT is set to 90% of the physical memory size minus the total SGA size.</p> <p>In all cases, the default PGA_AGGREGATE_LIMIT is at least 2GB and at least 3MB times the PROCESSES parameter (and at least 5MB times the PROCESSES parameter for an Oracle RAC instance).</p> <p>For a PDB, the default value is the same as the CDB's default value.</p> |
| Modifiable          | ALTER SYSTEM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Modifiable in a PDB | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Range of values     | <p>Do not attempt to set PGA_AGGREGATE_LIMIT below its default value, even in a parameter file (pfile), or instance startup will fail. However, PGA_AGGREGATE_LIMIT can be set to 0 either in a parameter file or dynamically after startup. If a value of 0 is specified, it means there is no limit to the aggregate PGA memory consumed by the instance.</p>                                                                                                                                                                                                                                                                                                                      |
| Basic               | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

### Actions Taken When PGA\_AGGREGATE\_LIMIT is Exceeded

Parallel queries will be treated as a unit. First, the sessions that are using the most untunable memory will have their calls terminated. Then, if the total PGA memory usage is still over the limit, the sessions that are using the most untunable memory will be terminated.

SYS processes and background processes other than job queue processes will not be subjected to any of the actions described in this section. Instead, if they are using the most untunable memory, they will periodically write a brief summary of their PGA usage to a trace file.

#### Note:

This parameter is optional for pluggable databases (PDBs). When this parameter is set for a PDB, it specifies the maximum PGA size for the PDB.

To be able to use Resource Manager in a CDB to control the amount of memory each PDB can use:

- The `NONCDB_COMPATIBLE` initialization parameter must be set to `FALSE` at the CDB level (in the root of the CDB).
- The `MEMORY_TARGET` initialization parameter must not be set at the CDB level.
- You must set the `PGA_AGGREGATE_LIMIT` initialization parameter in a PDB to a value that meets these requirements:
  - Less than or equal to the `PGA_AGGREGATE_LIMIT` value set at the CDB level
  - Greater than or equal to twice the value of `PGA_AGGREGATE_TARGET` set in the PDB

When you set `PGA_AGGREGATE_LIMIT` in a PDB to a value that does not meet these requirements, you receive an error. If these requirements are violated after the PDB's parameter is set (for example, if the `PGA_AGGREGATE_LIMIT` value is changed at the CDB level), Oracle will adjust the PDB's value to meet these requirements.

#### See Also:

- `"MEMORY_TARGET"`
- `"PGA_AGGREGATE_TARGET"`
- *Oracle Multitenant Administrator's Guide* for more information about the initialization parameters that control the memory usage of PDBs
- *Oracle Database Performance Tuning Guide* for more information about this parameter

## 2.302 PGA\_AGGREGATE\_TARGET

PGA\_AGGREGATE\_TARGET specifies the target aggregate PGA memory available to all server processes attached to the instance.

| Property            | Description                                                                                                                       |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Parameter type      | Big integer                                                                                                                       |
| Syntax              | PGA_AGGREGATE_TARGET = <i>integer</i> [K   M   G]                                                                                 |
| Default value       | 10 MB or 20% of the size of the SGA, whichever is greater<br>For a PDB, the default value is the same as the CDB's default value. |
| Modifiable          | ALTER SYSTEM                                                                                                                      |
| Modifiable in a PDB | Yes                                                                                                                               |
| Range of values     | Minimum: 10 MB<br>Maximum: 4096 GB - 1                                                                                            |
| Basic               | Yes                                                                                                                               |

To set a hard limit for aggregate PGA memory, use the PGA\_AGGREGATE\_LIMIT parameter.

Setting PGA\_AGGREGATE\_TARGET to a nonzero value has the effect of automatically setting the WORKAREA\_SIZE\_POLICY parameter to AUTO. With this setting, SQL working areas used by memory-intensive SQL operators (such as sort, group-by, hash-join, bitmap merge, and bitmap create) will be automatically sized. A nonzero value for this parameter is the default since, unless you specify otherwise, Oracle sets it to 20% of the SGA or 10 MB, whichever is greater.

Setting PGA\_AGGREGATE\_TARGET to 0 automatically sets the WORKAREA\_SIZE\_POLICY parameter to MANUAL. With this setting, SQL working areas are sized using the \*\_AREA\_SIZE parameters.

Oracle attempts to keep the amount of private memory below the target specified by this parameter by adapting the size of the working areas to private memory. When increasing the value of this parameter, you indirectly increase the memory allotted to working areas. Consequently, more memory-intensive operations are able to run fully in memory and fewer will work their way over to disk.

If Automatic Memory Management is enabled (MEMORY\_TARGET is set to a positive value) and PGA\_AGGREGATE\_TARGET is also set to a positive value, the PGA\_AGGREGATE\_TARGET value acts as the minimum value for the size of the instance PGA.

 **Note:**

This parameter is optional for pluggable databases (PDBs). When this parameter is set for a PDB, it specifies the target aggregate PGA size for the PDB.

To be able to use Resource Manager in a CDB to control the amount of memory each PDB can use:

- The `NONCDB_COMPATIBLE` initialization parameter must be set to `FALSE` at the CDB level (in the root of the CDB).
- The `MEMORY_TARGET` initialization parameter must not be set at the CDB level.
- You must set the `PGA_AGGREGATE_TARGET` initialization parameter in a PDB to a value that meets these requirements:
  - Less than or equal to the `PGA_AGGREGATE_TARGET` value set at the CDB level
  - Less than or equal to 50% of the `PGA_AGGREGATE_LIMIT` initialization parameter value set at the CDB level
  - Less than or equal to 50% of the `PGA_AGGREGATE_LIMIT` value set in the PDB

When you set `PGA_AGGREGATE_TARGET` in a PDB to a value that does not meet these requirements, you receive an error. If these requirements are violated after the PDB's parameter is set (for example, if the `PGA_AGGREGATE_TARGET` value is changed at the CDB level), Oracle will adjust the PDB's value to meet these requirements.

 **See Also:**

- ["WORKAREA\\_SIZE\\_POLICY"](#)
- *Oracle Database Performance Tuning Guide* for more information about configuring memory
- ["PGA\\_AGGREGATE\\_LIMIT"](#)

## 2.303 PKCS11\_LIBRARY\_LOCATION

`PKCS11_LIBRARY_LOCATION` specifies the PKCS#11 library location for Transparent Data Encryption (TDE).

| Property            | Description                                               |
|---------------------|-----------------------------------------------------------|
| Parameter type      | String                                                    |
| Syntax              | <code>PKCS11_LIBRARY_LOCATION = 'library_location'</code> |
| Default value       | None                                                      |
| Modifiable          | <code>ALTER SYSTEM</code>                                 |
| Modifiable in a PDB | Yes                                                       |
| Basic               | No                                                        |
| Oracle RAC          | The same value must be used on all instances.             |



For *library\_location*, specify the full operating system path to the PKCS#11 library. For example:

```
ALTER SYSTEM SET PKCS11_LIBRARY_LOCATION =
 '/opt/oracle/extapi/64/pkcs11/okv/21.8/liborapkcs.so';
```

**See Also:**

`"V$PKCS11_PATH"`

## 2.304 PLSCOPE\_SETTINGS

PLSCOPE\_SETTINGS controls the compile time collection, cross-reference, and storage of PL/SQL source code identifier data.

| Property                   | Description                                                                                                                                                                                                                             |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                                                                                                                                                                                                  |
| <b>Syntax</b>              | <code>PLSCOPE_SETTINGS = 'value_clause [, value_clause ]'</code><br><b>value_clause::=</b><br>{ IDENTIFIERS   STATEMENTS } : { ALL   NONE   PUBLIC (for IDENTIFIERS only)   SQL (for IDENTIFIERS only)   PLSQL (for IDENTIFIERS only) } |
| <b>Default value</b>       | <code>'IDENTIFIERS:NONE'</code>                                                                                                                                                                                                         |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                                                                                                                                                                                                             |
| <b>Modifiable in a PDB</b> | Yes                                                                                                                                                                                                                                     |
| <b>Basic</b>               | No                                                                                                                                                                                                                                      |

### Values

- `IDENTIFIERS:ALL`  
Enables the collection of all source code identifier data.
- `IDENTIFIERS:NONE`  
Disables the collection of all source code identifier data.
- `IDENTIFIERS: PUBLIC`  
Enables the collection of all PUBLIC user identifier data (except for DEFINITION)
- `IDENTIFIERS:SQL`  
Enables the collection of all SQL identifier data.
- `IDENTIFIERS:PLSQL`  
Enables the collection of all PLSQL identifier data.
- `STATEMENTS:ALL`  
Enables the collection of all SQL statements used in PL/SQL.
- `STATEMENTS:NONE`

Disables the collection of all statements.

PLSCOPE\_SETTINGS can be set on a session, system, or per-library unit (ALTER COMPILER) basis. The current setting of PLSCOPE\_SETTINGS for any library unit can be attained by querying the \*\_PLSQL\_OBJECT\_SETTINGS views. Any identifier data collected by setting this parameter can be accessed using the \*\_IDENTIFIERS views.

When a STATEMENTS setting is not specified, and IDENTIFIERS is specified but set to a value other than NONE, STATEMENTS defaults to a setting of ALL, which is equal to:

```
IDENTIFIERS: [ALL|PLSQL|PLSQL|PUBLIC]
```

### Examples

The following parameter setting causes PL/SQL and SQL identifiers and statements to be collected:

```
PLSCOPE_SETTINGS = 'IDENTIFIERS:ALL, STATEMENTS:ALL'
```

The following parameter setting causes only SQL identifiers and statements to be collected:

```
PLSCOPE_SETTINGS = 'IDENTIFIERS:SQL, STATEMENTS:ALL'
```

The following parameter setting causes only PL/SQL identifiers to be collected:

```
PLSCOPE_SETTINGS = 'IDENTIFIERS:PLSQL, STATEMENTS:NONE'
```

The following parameter setting causes no identifier data to be collected, and drops any existing identifier data:

```
PLSCOPE_SETTINGS = 'IDENTIFIERS: NONE'
```

#### See Also:

- "ALL\_PLSQL\_OBJECT\_SETTINGS," "DBA\_PLSQL\_OBJECT\_SETTINGS," and "USER\_PLSQL\_OBJECT\_SETTINGS"
- "ALL\_IDENTIFIERS," "DBA\_IDENTIFIERS," and "USER\_IDENTIFIERS"
- *Oracle Database PL/SQL Language Reference* for more information about this parameter

## 2.305 PLSQL\_CCFLAGS

PLSQL\_CCFLAGS provides a mechanism that allows PL/SQL programmers to control conditional compilation of each PL/SQL library unit independently.

| Property       | Description |
|----------------|-------------|
| Parameter type | String      |

| Property                   | Description                                                                                        |
|----------------------------|----------------------------------------------------------------------------------------------------|
| <b>Syntax</b>              | PLSQL_CCFLAGS = '<v1>:<c1>,<v2>:<c2>,...,<vn>:<cn>'                                                |
| <b>Default value</b>       | Empty string                                                                                       |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                                                                        |
| <b>Modifiable in a PDB</b> | Yes                                                                                                |
| <b>Range of values</b>     | Any string literal that satisfies the internal syntax                                              |
| <b>Basic</b>               | No                                                                                                 |
| <b>Examples</b>            | ALTER SESSION SET PLSQL_CCFLAGS = 'DeBug:True';<br>ALTER SESSION SET PLSQL_CCFLAGS = 'debug:TRUE'; |

### Values

- <vi> has the form of an unquoted PL/SQL identifier. It is unrestricted and can be a reserved word or a keyword. The text is insensitive to case. Each one is known as a flag or flag name. Each <vi> can occur more than once in the string, each occurrence can have a different flag value, and the flag values can be of different kinds.
- <ci> is one of the following: a PL/SQL boolean literal, a PLS\_INTEGER literal, or the literal NULL. The text is insensitive to case. Each one is known as a flag value and corresponds to a flag name.

You can define any allowable value for PLSQL\_CCFLAGS. However, Oracle recommends that this parameter be used for controlling the conditional compilation of debugging or tracing code. It is recommended that the following identifiers not be used as flag name values:

- Names of Oracle parameters (for example, NLS\_LENGTH\_SEMANTICS)
- Identifiers with any of the following prefixes: PLS\_, PLSQL\_, PLSCC\_, ORA\_, ORACLE\_, DBMS\_, SYS\_



### See Also:

*Oracle Database PL/SQL Language Reference* for more information about this parameter

## 2.306 PLSQL\_CODE\_TYPE

PLSQL\_CODE\_TYPE specifies the compilation mode for PL/SQL library units.

| Property                   | Description                                |
|----------------------------|--------------------------------------------|
| <b>Parameter type</b>      | String                                     |
| <b>Syntax</b>              | PLSQL_CODE_TYPE = { INTERPRETED   NATIVE } |
| <b>Default value</b>       | INTERPRETED                                |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                |
| <b>Modifiable in a PDB</b> | Yes                                        |
| <b>Basic</b>               | No                                         |

### Values

- INTERPRETED

PL/SQL library units will be compiled to PL/SQL bytecode format. Such modules are executed by the PL/SQL interpreter engine.

- NATIVE

PL/SQL library units (with the possible exception of top-level anonymous PL/SQL blocks) will be compiled to native (machine) code. Such modules will be executed natively without incurring any interpreter overhead.

When the value of this parameter is changed, it has no effect on PL/SQL library units that have already been compiled. The value of this parameter is stored persistently with each library unit.

If a PL/SQL library unit is compiled native, all subsequent automatic recompilations of that library unit will use native compilation.

#### See Also:

*Oracle Database PL/SQL Language Reference* for more information about this parameter

## 2.307 PLSQL\_DEBUG

PLSQL\_DEBUG specifies whether or not PL/SQL library units will be compiled for debugging.

| Property                   | Description                 |
|----------------------------|-----------------------------|
| <b>Parameter type</b>      | Boolean                     |
| <b>Default value</b>       | false                       |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM |
| <b>Modifiable in a PDB</b> | Yes                         |
| <b>Range of values</b>     | true   false                |
| <b>Basic</b>               | No                          |

#### Note:

The PLSQL\_DEBUG parameter is deprecated. It is retained for backward compatibility only.

### Values

- true

PL/SQL library units will be compiled for debugging

- false

PL/SQL library units will be compiled for normal execution

When `PLSQL_DEBUG` is set to `true`, PL/SQL library units are always compiled `INTERPRETED` in order to be debuggable.

When the value of this parameter is changed, it has no effect on PL/SQL library units that have already been compiled. The value of this parameter is stored persistently with each library unit.

## 2.308 PLSQL\_IMPLICIT\_CONVERSION\_BOOL

`PLSQL_IMPLICIT_CONVERSION_BOOL` allows or disallows implicit conversions in PL/SQL between numeric data types and the `BOOLEAN` data type, and between character data types and the `BOOLEAN` data type.

| Property                   | Description                 |
|----------------------------|-----------------------------|
| <b>Parameter type</b>      | Boolean                     |
| <b>Default value</b>       | false                       |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM |
| <b>Modifiable in a PDB</b> | Yes                         |
| <b>Range of values</b>     | true   false                |
| <b>Basic</b>               | No                          |

When this parameter is set to `true`, PL/SQL supports the following implicit data type conversions:

- Numeric data type to `BOOLEAN` data type
  - Non-zero numeric values are implicitly converted to the `BOOLEAN` value `TRUE`
  - The numeric value of 0 is implicitly converted to the `BOOLEAN` value `FALSE`
- Character data type to `BOOLEAN` data type
  - Character values such as 'true', 't', 'yes', 'y', '1', and 'on' (case-insensitive) are implicitly converted to the `BOOLEAN` value `TRUE`
  - Character values such as 'false', 'f', 'no', 'n', '0', and 'off' (case-insensitive) are implicitly converted to the `BOOLEAN` value `FALSE`
- `BOOLEAN` data type to numeric data type
  - The `BOOLEAN` value `TRUE` is implicitly converted to the numeric value 1
  - The `BOOLEAN` value `FALSE` is implicitly converted to the numeric value 0
- `BOOLEAN` data type to character data type
  - The `BOOLEAN` value `TRUE` is implicitly converted to the character value 'TRUE'
  - The `BOOLEAN` value `FALSE` is implicitly converted to the character value 'FALSE'

When this parameter is set to `false`, PL/SQL does not support such implicit conversions.



### Note:

This parameter is available starting with Oracle Database 23ai.

## 2.309 PLSQL\_OPTIMIZE\_LEVEL

`PLSQL_OPTIMIZE_LEVEL` specifies the optimization level that will be used to compile PL/SQL library units. The higher the setting of this parameter, the more effort the compiler makes to optimize PL/SQL library units.

| Property            | Description                 |
|---------------------|-----------------------------|
| Parameter type      | Integer                     |
| Default value       | 2                           |
| Modifiable          | ALTER SESSION, ALTER SYSTEM |
| Modifiable in a PDB | Yes                         |
| Range of values     | 0 to 3                      |
| Basic               | No                          |

### Values

- 0  
Maintains the evaluation order and hence the pattern of side effects, exceptions, and package initializations of Oracle9i and earlier releases. Also removes the new semantic identity of `BINARY_INTEGER` and `PLS_INTEGER` and restores the earlier rules for the evaluation of integer expressions. Although code will run somewhat faster than it did in Oracle9i, use of level 0 will forfeit most of the performance gains of PL/SQL in Oracle Database 10g.
- 1  
Applies a wide range of optimizations to PL/SQL programs including the elimination of unnecessary computations and exceptions, but generally does not move source code out of its original source order.
- 2  
Applies a wide range of modern optimization techniques beyond those of level 1 including changes which may move source code relatively far from its original location.
- 3  
Applies a wide range of optimization techniques beyond those of level 2, automatically including techniques not specifically requested.

Generally, setting this parameter to 2 pays off in better execution performance. If, however, the compiler runs slowly on a particular source module or if optimization does not make sense for some reason (for example, during rapid turnaround development), then setting this parameter to 1 will result in almost as good a compilation with less use of compile-time resources.

The value of this parameter is stored persistently with the library unit.

 **See Also:**

- *Oracle Database PL/SQL Language Reference* for more information about this parameter
- *Oracle Database Development Guide* for an example of using this parameter

## 2.310 PLSQL\_V2\_COMPATIBILITY

PLSQL\_V2\_COMPATIBILITY is used to specify whether nonstandard behavior that PL/SQL Version 2 allows will be allowed in PL/SQL Version 8.

| Property            | Description                 |
|---------------------|-----------------------------|
| Parameter type      | Boolean                     |
| Default value       | false                       |
| Modifiable          | ALTER SESSION, ALTER SYSTEM |
| Modifiable in a PDB | Yes                         |
| Range of values     | true   false                |
| Basic               | No                          |

 **Note:**

The PLSQL\_V2\_COMPATIBILITY parameter is deprecated. It is retained for backward compatibility only.

PL/SQL Version 2 allows some nonstandard behavior that Version 8 disallows. If you want to retain that behavior for backward compatibility, set PLSQL\_V2\_COMPATIBILITY to true. If you set it to false, then PL/SQL Version 8 behavior is enforced and Version 2 behavior is not allowed.

 **See Also:**

*Oracle Database PL/SQL Language Reference* for a description of the differences between PL/SQL Version 2 and Version 8, and for more information on setting this parameter

## 2.311 PLSQL\_WARNINGS

PLSQL\_WARNINGS enables or disables the reporting of warning messages by the PL/SQL compiler, and specifies which warning messages to show as errors.

| Property       | Description |
|----------------|-------------|
| Parameter type | String      |

| Property                   | Description                                                                                                                                                                                                                               |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Syntax</b>              | PLSQL_WARNINGS = 'value_clause' [, 'value_clause' ] ...                                                                                                                                                                                   |
| <b>Syntax</b>              | <b>value_clause::=</b><br>{ ENABLE   DISABLE   ERROR }:<br>{ ALL<br>  SEVERE<br>  INFORMATIONAL<br>  PERFORMANCE<br>  { integer<br>  (integer [, integer ] ...)<br>}<br>}                                                                 |
| <b>Default value</b>       | 'DISABLE:ALL'                                                                                                                                                                                                                             |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                                                                                                                                                                                                               |
| <b>Modifiable in a PDB</b> | Yes                                                                                                                                                                                                                                       |
| <b>Basic</b>               | No                                                                                                                                                                                                                                        |
| <b>Examples</b>            | PLSQL_WARNINGS = 'ENABLE:SEVERE', 'DISABLE:INFORMATIONAL';<br>PLSQL_WARNINGS = 'DISABLE:ALL';<br>PLSQL_WARNINGS = 'DISABLE:5000', 'ENABLE:5001', 'ERROR:5002';<br>PLSQL_WARNINGS = 'ENABLE: (5000,5001,5002)', 'DISABLE:<br>(6000,6001)'; |

### value\_clause

Multiple value clauses may be specified, enclosed in quotes and separated by commas. Each value clause is composed of a qualifier, a colon (:), and a modifier.

#### Qualifier values:

- **ENABLE**  
Enable a specific warning or a set of warnings
- **DISABLE**  
Disable a specific warning or a set of warnings
- **ERROR**  
Treat a specific warning or a set of warnings as errors

#### Modifier values:

- **ALL**  
Apply the qualifier to all warning messages
- **SEVERE**  
Apply the qualifier to only those warning messages in the **SEVERE** category
- **INFORMATIONAL**  
Apply the qualifier to only those warning messages in the **INFORMATIONAL** category
- **PERFORMANCE**



Apply the qualifier to only those warning messages in the `PERFORMANCE` category

 **See Also:**

*Oracle Database PL/SQL Language Reference* for more information about this parameter

## 2.312 PMEM\_FILESTORE

`PMEM_FILESTORE` specifies the Persistent Memory Filestores (PMEM Filestores) that the database automatically mounts during instance startup.

| Property                   | Description                                                                                           |
|----------------------------|-------------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                                                                |
| <b>Syntax</b>              | <code>PMEM_FILESTORE = ( 'mount_point', 'backing_file' [, 'mount_point', 'backing_file' ]... )</code> |
| <b>Default value</b>       | None                                                                                                  |
| <b>Modifiable</b>          | No                                                                                                    |
| <b>Modifiable in a PDB</b> | No                                                                                                    |
| <b>Basic</b>               | No                                                                                                    |

You can specify one or more PMEM Filestores to be mounted during instance startup.

Specify the following pair of values for each PMEM Filestore:

- `mount_point`: The operating system directory path for the mount point of the PMEM Filestore
- `backing_file`: The operating system file path for the backing file of the PMEM Filestore

For example:

```
PMEM_FILESTORE=('/var/db/db_1', '/var/db_storage/db1.f')
```

```
PMEM_FILESTORE=('/var/db/db_1', '/var/db_storage/db1.f', '/var/db/db_2',
'/var/db_storage/db2.f')
```

## 2.313 PRE\_PAGE\_SGA

`PRE_PAGE_SGA` determines whether Oracle accesses the entire SGA at instance startup.

Operating system page table entries are then prebuilt for each page of the SGA.

| Property                   | Description |
|----------------------------|-------------|
| <b>Parameter type</b>      | Boolean     |
| <b>Default value</b>       | true        |
| <b>Modifiable</b>          | No          |
| <b>Modifiable in a PDB</b> | No          |

| Property        | Description  |
|-----------------|--------------|
| Range of values | true   false |
| Basic           | No           |

When this parameter is set to `true`, the database server touches the entire SGA after the instance startup. These accesses are done by a background process and are initiated after the instance startup. The accesses cause the OS to allocate memory to the SGA and populate the page tables, making the SGA memory resident and increasing database performance.

**Note:**

This setting does not prevent your operating system from paging or swapping the SGA after it is initially read into memory.

**Note:**

The `PRE_PAGE_SGA` parameter is deprecated in Oracle Database 23ai because it is obsolete. Setting this parameter typically provides little or no potential performance benefits, and can create problems.

The Oracle Database design for SGA packaging has evolved over time, so that process start-up effects on the SGA are initiated after instance startup, and there is little to no benefit in changing the value for `PRE_PAGE_SGA`. The only use case for this parameter is on Oracle Exadata systems, which should have `PRE_PAGE_SGA` set to `TRUE`.

## 2.314 PRIORITY\_TXNS\_HIGH\_WAIT\_TARGET

`PRIORITY_TXNS_HIGH_WAIT_TARGET` specifies the maximum number of seconds that a `HIGH` priority transaction will wait for a row lock before the Priority Transactions feature rolls back a lower priority transaction holding the lock.

| Property            | Description                                   |
|---------------------|-----------------------------------------------|
| Parameter type      | Integer                                       |
| Default value       | 2147483647                                    |
| Modifiable          | ALTER SYSTEM                                  |
| Modifiable in a PDB | Yes                                           |
| Range of values     | 1 to 2147483647                               |
| Basic               | No                                            |
| Oracle RAC          | Different instances can use different values. |

The Priority Transactions feature automatically rolls back low-priority transactions that are blocking higher priority transactions from obtaining row locks.

This parameter is one of four initialization parameters that enable you to configure Priority Transactions. The other parameters are:

- `TXN_PRIORITY` - Specifies a priority (`HIGH`, `MEDIUM`, or `LOW`) for all transactions in a user session
- `PRIORITY_TXNS_MEDIUM_WAIT_TARGET` - Specifies the maximum number of seconds that a `MEDIUM` priority transaction will wait for a row lock
- `PRIORITY_TXNS_MODE` - Specifies whether to enable Priority Transactions or test Priority Transactions by running in tracking mode



#### Note:

This parameter is available starting with Oracle Database 23ai.



#### See Also:

- `"TXN_PRIORITY"`
- `"PRIORITY_TXNS_MEDIUM_WAIT_TARGET"`
- `"PRIORITY_TXNS_MODE"`
- *Oracle Database Administrator's Guide* for more information about Priority Transactions

## 2.315 PRIORITY\_TXNS\_MEDIUM\_WAIT\_TARGET

`PRIORITY_TXNS_MEDIUM_WAIT_TARGET` specifies the maximum number of seconds that a `MEDIUM` priority transaction will wait for a row lock before the Priority Transactions feature rolls back a lower priority transaction holding the lock.

| Property                   | Description                                   |
|----------------------------|-----------------------------------------------|
| <b>Parameter type</b>      | Integer                                       |
| <b>Default value</b>       | 2147483647                                    |
| <b>Modifiable</b>          | ALTER SYSTEM                                  |
| <b>Modifiable in a PDB</b> | Yes                                           |
| <b>Range of values</b>     | 1 to 2147483647                               |
| <b>Basic</b>               | No                                            |
| <b>Oracle RAC</b>          | Different instances can use different values. |

The Priority Transactions feature automatically rolls back low-priority transactions that are blocking higher priority transactions from obtaining row locks.

This parameter is one of four initialization parameters that enable you to configure Priority Transactions. The other parameters are:

- `TXN_PRIORITY` - Specifies a priority (`HIGH`, `MEDIUM`, or `LOW`) for all transactions in a user session

- `PRIORITY_TXNS_HIGH_WAIT_TARGET` - Specifies the maximum number of seconds that a **HIGH** priority transaction will wait for a row lock
- `PRIORITY_TXNS_MODE` - Specifies whether to enable Priority Transactions or test Priority Transactions by running in tracking mode

**Note:**

This parameter is available starting with Oracle Database 23ai.

**See Also:**

- `"TXN_PRIORITY"`
- `"PRIORITY_TXNS_HIGH_WAIT_TARGET"`
- `"PRIORITY_TXNS_MODE"`
- *Oracle Database Administrator's Guide* for more information about Priority Transactions

## 2.316 PRIORITY\_TXNS\_MODE

`PRIORITY_TXNS_MODE` specifies the mode for Priority Transactions.

| Property                   | Description                                            |
|----------------------------|--------------------------------------------------------|
| <b>Parameter type</b>      | String                                                 |
| <b>Syntax</b>              | <code>PRIORITY_TXNS_MODE = { ROLLBACK   TRACK }</code> |
| <b>Default value</b>       | ROLLBACK                                               |
| <b>Modifiable</b>          | ALTER SYSTEM                                           |
| <b>Modifiable in a PDB</b> | Yes                                                    |
| <b>Basic</b>               | No                                                     |
| <b>Oracle RAC</b>          | Multiple instances must have the same value.           |

**Values:**

- **ROLLBACK** - This setting enables Priority Transactions. The database will automatically roll back low-priority transactions that are blocking higher priority transactions from obtaining row locks.

Before enabling Priority Transactions, ensure that the following initialization parameters are configured properly:

- `PRIORITY_TXNS_HIGH_WAIT_TARGET` - Specifies the maximum number of seconds that a **HIGH** priority transaction will wait for a row lock
- `PRIORITY_TXNS_MEDIUM_WAIT_TARGET` - Specifies the maximum number of seconds that a **MEDIUM** priority transaction will wait for a row lock

- `TXN_PRIORITY` - Specifies a priority (`HIGH`, `MEDIUM`, or `LOW`) for all transactions in a user session

When running in `ROLLBACK` mode, you can track the performance of Priority Transactions by monitoring the following statistics:

- `txns rollback priority_txns_high_wait_target`
- `txns rollback priority_txns_medium_wait_target`
- `TRACK` - This setting allows you to track the potential behavior of Priority Transactions. You can use this mode to tune the Priority Transactions initialization parameters before enabling `ROLLBACK` mode.

The database determines when `HIGH` and `MEDIUM` priority transactions would be rolled back, given the current values of the Priority Transactions initialization parameters. However, instead of actually rolling back the transactions, the database only increments the following statistics:

- `txns track mode priority_txns_high_wait_target`
- `txns track mode priority_txns_medium_wait_target`

You can also monitor the following wait events to determine the amount of time transactions are waiting for row locks:

- `enq: TX - row lock (HIGH priority)`
- `enq: TX - row lock (MEDIUM priority)`
- `enq: TX - row lock (LOW priority)`

**Note:**

This parameter is available starting with Oracle Database 23ai.

**See Also:**

- ["PRIORITY\\_TXNS\\_HIGH\\_WAIT\\_TARGET"](#)
- ["PRIORITY\\_TXNS\\_MEDIUM\\_WAIT\\_TARGET"](#)
- ["TXN\\_PRIORITY"](#)
- *Oracle Database Administrator's Guide* for more information about Priority Transactions

## 2.317 PRIVATE\_TEMP\_TABLE\_PREFIX

`PRIVATE_TEMP_TABLE_PREFIX` specifies the prefix that the database uses for private temporary tables.

| Property       | Description |
|----------------|-------------|
| Parameter type | String      |

| Property                   | Description                                        |
|----------------------------|----------------------------------------------------|
| <b>Syntax</b>              | <code>PRIVATE_TEMP_TABLE_PREFIX = string</code>    |
| <b>Default value</b>       | <code>ORA\$PTT_</code>                             |
| <b>Modifiable</b>          | <code>ALTER SYSTEM ... DEFERRED</code>             |
| <b>Modifiable in a PDB</b> | Yes                                                |
| <b>Basic</b>               | No                                                 |
| <b>Oracle RAC</b>          | The same value must be specified on each instance. |

The default value used for the `PRIVATE_TEMP_TABLE_PREFIX` parameter is `ORA$PTT_`.

If you choose to specify a different prefix value, it must begin with the string `ORA$` and must be unique across the database. Use the following SQL query to determine if the prefix value is unique (in the query, replace `prefix-value` with your actual prefix value):

```
select count(*) from obj$ where name like '<prefix-value>%';
```

If the above query returns 0, then the prefix you specified is an appropriate value to set.



#### Note:

After setting the prefix, regular table, view, and object names cannot use the same prefix.



#### See Also:

- ["DBA\\_PRIVATE\\_TEMP\\_TABLES"](#)
- ["USER\\_PRIVATE\\_TEMP\\_TABLES"](#)
- *Oracle Database Administrator's Guide* for an introduction to private temporary tables

## 2.318 PROCESSES

`PROCESSES` specifies the maximum number of operating system user processes that can simultaneously connect to Oracle.

| Property                   | Description                                                                                      |
|----------------------------|--------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | Integer                                                                                          |
| <b>Default value</b>       | The value is derived, and it typically depends on the number of cores reported in the alert log. |
| <b>Modifiable</b>          | No                                                                                               |
| <b>Modifiable in a PDB</b> | No                                                                                               |
| <b>Range of values</b>     | 6 to operating system dependent                                                                  |

| Property   | Description                                   |
|------------|-----------------------------------------------|
| Basic      | Yes                                           |
| Oracle RAC | Multiple instances can have different values. |

The value for this parameter should allow for all background processes such as locks, job queue processes, and parallel execution processes.

The default values of the `SESSIONS` and `TRANSACTIONS` parameters are derived from this parameter. Therefore, if you change the value of `PROCESSES`, you should evaluate whether to adjust the values of those derived parameters.



#### See Also:

- Your operating system-specific Oracle documentation for the range of values
- *Oracle Database Concepts* for an introduction to Oracle database instance processes

## 2.319 PROCESSOR\_GROUP\_NAME

`PROCESSOR_GROUP_NAME` specifies the name of the processor group that this instance should run in.

| Property            | Description                                                                                                                                                                                                                                                                                                                                                              |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parameter type      | String                                                                                                                                                                                                                                                                                                                                                                   |
| Syntax              | <code>PROCESSOR_GROUP_NAME = string</code>                                                                                                                                                                                                                                                                                                                               |
| Default value       | There is no default value                                                                                                                                                                                                                                                                                                                                                |
| Modifiable          | No                                                                                                                                                                                                                                                                                                                                                                       |
| Modifiable in a PDB | No                                                                                                                                                                                                                                                                                                                                                                       |
| Basic               | No                                                                                                                                                                                                                                                                                                                                                                       |
| Oracle RAC          | For Oracle RAC databases, it is recommended that the operating system processor groups for each database instance are all named the same, so that the same <code>PROCESSOR_GROUP_NAME</code> value can be used. However, you can choose to use different names. In this case, you would set the <code>PROCESSOR_GROUP_NAME</code> explicitly for each database instance. |

This initialization parameter is supported on the Linux and Solaris operating systems.

`PROCESSOR_GROUP_NAME` instructs the database instance to run itself within the specified operating system processor group. All Oracle processes will be bound to the CPUs in this group and will only run on these CPUs.

 **Notes:**

- Oracle recommends that this parameter be set only for databases on which the `USE_DEDICATED_BROKER` initialization parameter is also set to `TRUE`.
- For NUMA systems, all SGA and PGA memory allocated by the database instance will be allocated from NUMA nodes within the group.
- Starting with Oracle Database Appliance (ODA) release 19.9, you can use `PROCESSOR_GROUP_NAME` to specify the set of CPU cores on which the database on ODA will run. For more information, refer to *Oracle Database Appliance X8-2 Deployment and User's Guide*.

 **See Also:**

"[USE\\_DEDICATED\\_BROKER](#)"

## 2.320 QUERY\_REWRITE\_ENABLED

Use `QUERY_REWRITE_ENABLED` to enable or disable query rewriting globally for the database.

| Property            | Description                                                                                                                                                                                 |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parameter type      | String                                                                                                                                                                                      |
| Syntax              | <code>QUERY_REWRITE_ENABLED = { false   true   force }</code>                                                                                                                               |
| Default value       | If <code>OPTIMIZER_FEATURES_ENABLE</code> is set to 10.0.0 or higher, then <code>true</code><br>If <code>OPTIMIZER_FEATURES_ENABLE</code> is set to 9.2.0 or lower, then <code>false</code> |
| Modifiable          | <code>ALTER SESSION</code> , <code>ALTER SYSTEM</code>                                                                                                                                      |
| Modifiable in a PDB | Yes                                                                                                                                                                                         |
| Basic               | No                                                                                                                                                                                          |
| Oracle RAC          | Multiple instances can have different values.                                                                                                                                               |

### Values

- `false`  
Oracle does not use rewrite.
- `true`  
Oracle costs the query with rewrite and without rewrite and chooses the method with the lower cost.
- `force`  
Oracle always uses rewrite and does not evaluate the cost before doing so. Use `force` when you know that the query will always benefit from rewrite and when reduction in compile time is important.

To take advantage of query rewrite for a particular materialized view, you must enable query rewrite for that materialized view, and you must enable cost-based optimization.



 **See Also:**

- *Oracle Database Data Warehousing Guide* for information on query rewrite of materialized views
- *Oracle Database SQL Tuning Guide* and "[OPTIMIZER\\_MODE](#)" for information on cost-based optimization

## 2.321 QUERY\_REWRITE\_INTEGRITY

`QUERY_REWRITE_INTEGRITY` determines the degree to which Oracle must enforce query rewriting. At the safest level, Oracle does not use query rewrite transformations that rely on unenforced relationships.

| Property                   | Description                                                                     |
|----------------------------|---------------------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                                          |
| <b>Syntax</b>              | <code>QUERY_REWRITE_INTEGRITY = { enforced   trusted   stale_tolerated }</code> |
| <b>Default value</b>       | <code>enforced</code>                                                           |
| <b>Modifiable</b>          | <code>ALTER SESSION, ALTER SYSTEM</code>                                        |
| <b>Modifiable in a PDB</b> | Yes                                                                             |
| <b>Basic</b>               | No                                                                              |
| <b>Oracle RAC</b>          | Multiple instances can have different values.                                   |

`QUERY_REWRITE_INTEGRITY` is relevant for materialized views as well as for foreign key constraints in `NOVALIDATE` state.

### Values

- `enforced`  
Oracle enforces and guarantees consistency and integrity.
- `trusted`  
Oracle allows rewrites using relationships that have been declared, but that are not enforced by Oracle.
- `stale_tolerated`  
Oracle allows rewrites using unenforced relationships. Materialized views are eligible for rewrite even if they are known to be inconsistent with the underlying detail data. You must set the `QUERY_REWRITE_INTEGRITY` initialization parameter to `stale_tolerated` before querying an external table in the In-Memory Column Store (IM column store).

If a foreign key constraint is in `NOVALIDATE` state, join elimination is not done when `QUERY_REWRITE_INTEGRITY=enforced`. This means that queries with joins over a foreign key constraint that is in `RELY NOVALIDATE` state can potentially take longer to parse and execute as the optimizer does not trust the `RELY`.

 **See Also:**

- `"INMEMORY_CLAUSE_DEFAULT"`
- *Oracle Database Data Warehousing Guide* for more information about query rewrite for materialized views
- *Oracle Database Data Warehousing Guide* for more information about the `QUERY_REWRITE_INTEGRITY` parameter

## 2.322 RDBMS\_SERVER\_DN

`RDBMS_SERVER_DN` specifies the Distinguished Name (DN) of the Oracle server. It is used for retrieving Enterprise Roles from an enterprise directory service.

 **Note:**

Enterprise User Security (EUS) is deprecated with Oracle Database 23ai.

Oracle recommends that you migrate to using Centrally Managed Users (CMU). This feature enables you to directly connect with Microsoft Active Directory without an intervening directory service for enterprise user authentication and authorization to the database. If your Oracle Database is in the cloud, you can also choose to move to one of the newer integrations with a cloud identity provider.

| Property                   | Description                                |
|----------------------------|--------------------------------------------|
| <b>Parameter type</b>      | X.500 Distinguished Name                   |
| <b>Default value</b>       | There is no default value.                 |
| <b>Modifiable</b>          | No                                         |
| <b>Modifiable in a PDB</b> | No                                         |
| <b>Range of values</b>     | All X.500 Distinguished Name format values |
| <b>Basic</b>               | No                                         |

 **Note:**

The `RDBMS_SERVER_DN` parameter is deprecated in Oracle Database 12c Release 1 (12.1.0.2). It is replaced by the `LDAP_DIRECTORY_ACCESS` initialization parameter.

If you do not want to use a directory for enterprise user and privilege management, but prefer to use SSL authentication alone, do not set this parameter.

 **See Also:**

- *Oracle Database Enterprise User Security Administrator's Guide* for more information on enterprise roles and the enterprise directory service
- ["LDAP\\_DIRECTORY\\_ACCESS"](#)

## 2.323 READ\_ONLY

`READ_ONLY` enables or disables read-only mode for a user session.

| Property                   | Description                                   |
|----------------------------|-----------------------------------------------|
| <b>Parameter type</b>      | Boolean                                       |
| <b>Default value</b>       | false                                         |
| <b>Modifiable</b>          | ALTER SESSION                                 |
| <b>Modifiable in a PDB</b> | No                                            |
| <b>Range of values</b>     | true   false                                  |
| <b>Basic</b>               | No                                            |
| <b>Oracle RAC</b>          | Different instances can use different values. |

The `READ_ONLY` parameter allows you to prohibit write operations in a user session, without having to put an entire CDB or container into read-only mode. You can set this parameter in a session created by any type of user, such as a CDB common user, an application common user, or a local user. This parameter is effective in any type of container, such as the CDB root, a PDB, an application root, or an application PDB, when the container is open in read/write mode.

- To enable read-only mode for the current session, set the `READ_ONLY` parameter to `true`. You cannot set this parameter to `true` when there are active transactions in the session.
- To disable read-only mode for the current session, set the `READ_ONLY` parameter to `false`.

The `READ_ONLY` parameter value for a user session does not affect the value of the `OPEN_MODE` column for the session's container, as displayed in views such as `V$CONTAINER_TOPOLOGY`, `V$CONTAINERS`, `V$DATABASE`, and `V$PDBS`.

 **Note:**

This parameter is available starting with Oracle Database 23ai.

## 2.324 READ\_ONLY\_OPEN\_DELAYED

`READ_ONLY_OPEN_DELAYED` determines when datafiles in read-only tablespaces are accessed.

| Property              | Description |
|-----------------------|-------------|
| <b>Parameter type</b> | Boolean     |

| Property            | Description  |
|---------------------|--------------|
| Default value       | false        |
| Modifiable          | No           |
| Modifiable in a PDB | No           |
| Range of values     | true   false |
| Basic               | No           |

#### Values

- true  
The datafiles are accessed for the first time only when an attempt is made to read data stored within them.
- false  
The datafiles are accessed at database open time.

You can use this parameter to speed up some operations (primarily opening the database) for very large databases when substantial portions of the database are stored in read-only tablespaces. Consider setting this parameter to `true` for such databases, especially if portions of the read-only data are stored on slow-access devices or hierarchical storage.



#### See Also:

*Oracle Database Administrator's Guide* for information on the consequences of delaying access of datafiles in read-only tablespaces

## 2.325 RECOVERY\_PARALLELISM

`RECOVERY_PARALLELISM` specifies the number of processes to participate in instance or crash recovery.

| Property            | Description                                                                                             |
|---------------------|---------------------------------------------------------------------------------------------------------|
| Parameter type      | Integer                                                                                                 |
| Default value       | System-determined parallel recovery                                                                     |
| Modifiable          | ALTER SYSTEM                                                                                            |
| Modifiable in a PDB | No                                                                                                      |
| Range of values     | System-determined, but cannot exceed <code>PARALLEL_MAX_SERVERS</code> initialization parameter setting |
| Basic               | No                                                                                                      |

To force serial crash and instance recovery, set the `RECOVERY_PARALLELISM` parameter to 0 or 1. 0 or 1 disable parallel instance and crash recovery on a system that has multiple CPUs. An alert log displays the degree of parallelism that was chosen when the database instance/ recovery starts.

 **See Also:**

- *Oracle Real Application Clusters Administration and Deployment Guide* for information on setting this parameter in an Oracle RAC environment

## 2.326 RECYCLEBIN

RECYCLEBIN is used to control whether the Flashback Drop capability is turned on or off.

| Property            | Description                              |
|---------------------|------------------------------------------|
| Parameter type      | String                                   |
| Syntax              | RECYCLEBIN = { on   off }                |
| Default value       | on                                       |
| Modifiable          | ALTER SESSION, ALTER SYSTEM ... DEFERRED |
| Modifiable in a PDB | Yes                                      |
| Basic               | No                                       |

If the parameter is set to `off`, then dropped tables do not go into the recycle bin. If this parameter is set to `on`, then dropped tables go into the recycle bin and can be recovered.

 **See Also:**

*Oracle Database Administrator's Guide* for more information about using Flashback Drop and managing the recycle bin

## 2.327 REDO\_TRANSPORT\_USER

REDO\_TRANSPORT\_USER specifies the name of the user whose password verifier is used when a remote login password file is used for redo transport authentication. This user must have the SYSOPER privilege and must have the same password in the database that initiates the redo transport session and in the database that is the target of the redo transport session.

| Property            | Description                                                                                     |
|---------------------|-------------------------------------------------------------------------------------------------|
| Parameter type      | String                                                                                          |
| Syntax              | REDO_TRANSPORT_USER = <i>user_name</i>                                                          |
| Default value       | There is no default value.                                                                      |
| Range of values     | Any character string that matches the name of a user who has been granted the SYSOPER privilege |
| Modifiable          | ALTER SYSTEM                                                                                    |
| Modifiable in a PDB | No                                                                                              |
| Basic               | No                                                                                              |
| Oracle RAC          | Every instance should use the same value                                                        |

The value of this parameter is case sensitive and must exactly match the value of the `USERNAME` column of a row in the `V$PWFILE_USERS` view. The value of the `SYSOPER` column of the row must also be `TRUE`.

If this parameter is not specified, then the password verifier of the `SYS` user will be used when a remote login password file is used for redo transport authentication.

**See Also:**

*Oracle Data Guard Concepts and Administration* for more information about this parameter

## 2.328 REMOTE\_DEPENDENCIES\_MODE

`REMOTE_DEPENDENCIES_MODE` specifies how Oracle should handle dependencies upon remote PL/SQL stored procedures.

| Property                   | Description                                                       |
|----------------------------|-------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                            |
| <b>Syntax</b>              | <code>REMOTE_DEPENDENCIES_MODE = { TIMESTAMP   SIGNATURE }</code> |
| <b>Default value</b>       | <code>TIMESTAMP</code>                                            |
| <b>Modifiable</b>          | <code>ALTER SESSION, ALTER SYSTEM</code>                          |
| <b>Modifiable in a PDB</b> | Yes                                                               |
| <b>Basic</b>               | No                                                                |

### Values

- `TIMESTAMP`

The client running the procedure compares the timestamp recorded on the server-side procedure with the current timestamp of the local procedure and executes the procedure only if the timestamps match.

- `SIGNATURE`

Oracle allows the procedure to execute as long as the signatures are considered safe. This setting allows client PL/SQL applications to be run without recompilation.

**See Also:**

*Oracle Database Development Guide* for suggestions for managing dependencies

## 2.329 REMOTE\_LISTENER

`REMOTE_LISTENER` specifies a network name that resolves to an address or address list of Oracle Net remote listeners (that is, listeners that are not running on the same system as this instance). The address or address list is specified in the `TNSNAMES.ORA` file or other address repository as configured for your system.

| Property            | Description                           |
|---------------------|---------------------------------------|
| Parameter type      | String                                |
| Syntax              | REMOTE_LISTENER = <i>network_name</i> |
| Default value       | There is no default value.            |
| Modifiable          | ALTER SYSTEM                          |
| Modifiable in a PDB | Yes                                   |
| Basic               | Yes                                   |

 **See Also:**

- *Oracle Database Concepts* for more information about listener processes and dispatcher processes
- *Oracle Database Net Services Administrator's Guide* and your operating system-specific Oracle documentation for more information about specifying network addresses for the protocols on your system
- *Oracle Clusterware Administration and Deployment Guide* for information about SCAN addresses

## 2.330 REMOTE\_LOGIN\_PASSWORDFILE

REMOTE\_LOGIN\_PASSWORDFILE specifies whether Oracle checks for a password file.

| Property            | Description                                               |
|---------------------|-----------------------------------------------------------|
| Parameter type      | String                                                    |
| Syntax              | REMOTE_LOGIN_PASSWORDFILE = { shared   exclusive   none } |
| Default value       | exclusive                                                 |
| Modifiable          | No                                                        |
| Modifiable in a PDB | No                                                        |
| Basic               | Yes                                                       |
| Oracle RAC          | Multiple instances must have the same value.              |

### Values

- shared

One or more databases can use the password file. The password file can contain SYS and non-SYS users.

When REMOTE\_LOGIN\_PASSWORDFILE is set to shared:

- The SYS password cannot be changed. If you try, the password change operation fails with "ORA-28046: Password change for SYS disallowed."

- The password of any user who has SYS\* admin privileges (SYSDBA, SYSOPER, SYSASM, SYSBACKUP, SYSDG, SYSKM) cannot be changed. If you try, the password change operation fails with "ORA-01999: password file cannot be updated in SHARED mode."
  - Grants of SYS\* admin privileges (SYSDBA, SYSOPER, SYSASM, SYSBACKUP, SYSDG, SYSKM) to individual users are not allowed. For example, `grant sysdba to scott` fails with "ORA-01999: password file cannot be updated in SHARED mode." Similarly, revoke of SYS\* admin privileges fails.
  - If the password file does not exist, then the behavior is the same as setting `REMOTE_LOGIN_PASSWORDFILE` to `none`.
- `exclusive`

The password file can be used by only one database. The password file can contain SYS and non-SYS users.

When `REMOTE_LOGIN_PASSWORDFILE` is set to `exclusive`, if the password file does not exist, then the behavior is the same as setting `REMOTE_LOGIN_PASSWORDFILE` to `none`.

- `none`

Oracle ignores any password file. Therefore, privileged users must be authenticated by the operating system.

**Note:**

If you change `REMOTE_LOGIN_PASSWORDFILE` to `exclusive` or `shared` from `none`, then ensure that the password file is synchronized with the dictionary passwords.

## 2.331 REMOTE\_OS\_ROLES

`REMOTE_OS_ROLES` specifies whether operating system roles are allowed for remote clients.

| Property            | Description  |
|---------------------|--------------|
| Parameter type      | Boolean      |
| Default value       | false        |
| Modifiable          | No           |
| Modifiable in a PDB | No           |
| Range of values     | true   false |
| Basic               | No           |

The default value, `false`, causes Oracle to identify and manage roles for remote clients.

**See Also:**

- *Oracle Database Security Guide* for more information on setting this parameter
- `"OS_ROLES"`



## 2.332 REMOTE\_RECOVERY\_FILE\_DEST

REMOTE\_RECOVERY\_FILE\_DEST specifies a directory from which to read archive log files during a pluggable database (PDB) refresh operation if the source is not available.

| Property                   | Description                                                                                                                                                                     |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                                                                                                                                          |
| <b>Syntax</b>              | REMOTE_RECOVERY_FILE_DEST = string                                                                                                                                              |
| <b>Default value</b>       | None                                                                                                                                                                            |
| <b>Modifiable</b>          | ALTER SYSTEM ... SID='*'                                                                                                                                                        |
| <b>Modifiable in a PDB</b> | Yes                                                                                                                                                                             |
| <b>Basic</b>               | No                                                                                                                                                                              |
| <b>Oracle RAC</b>          | The directory location where archive redo logs are accessible can be different on different instances, so this parameter can be set to different values on different instances. |

For a PDB refresh copy to be in sync with its source, redo is accessed from the source PDB over a database link. Sometimes the source PDB or the CDB to which the source PDB belongs is not accessible when the refresh copy needs to be updated. In those cases, if this parameter is set, an attempt will be made to read archive log files from the directory specified by this parameter.

## 2.333 REPLICATION\_DEPENDENCY\_TRACKING

REPLICATION\_DEPENDENCY\_TRACKING enables or disables dependency tracking for read/write operations to the database.

| Property                   | Description  |
|----------------------------|--------------|
| <b>Parameter type</b>      | Boolean      |
| <b>Default value</b>       | true         |
| <b>Modifiable</b>          | No           |
| <b>Modifiable in a PDB</b> | No           |
| <b>Range of values</b>     | true   false |
| <b>Basic</b>               | No           |

Dependency tracking is essential for propagating changes in a replicated environment in parallel.

### Values

- TRUE  
Enables dependency tracking.
- FALSE

Allows read/write operations to the database to run faster, but does not produce dependency information for Oracle to perform parallel propagation.

 **Note:**

Do not specify this value unless you are sure that your application will not perform any read/write operations to the replicated tables.

## 2.334 RESOURCE\_LIMIT

RESOURCE\_LIMIT determines whether resource limits are enforced in database profiles.

| Property            | Description  |
|---------------------|--------------|
| Parameter type      | Boolean      |
| Default value       | true         |
| Modifiable          | ALTER SYSTEM |
| Modifiable in a PDB | Yes          |
| Range of values     | true   false |
| Basic               | No           |

### Values

- TRUE  
Enables the enforcement of resource limits
- FALSE  
Disables the enforcement of resource limits

 **See Also:**

*Oracle Database Administrator's Guide* and *Oracle Database SQL Language Reference* for more information on setting resource limits for profiles

## 2.335 RESOURCE\_MANAGE\_GOLDENGATE

RESOURCE\_MANAGE\_GOLDENGATE determines whether Oracle GoldenGate apply processes in the database are resource managed.

| Property            | Description  |
|---------------------|--------------|
| Parameter type      | Boolean      |
| Default value       | false        |
| Modifiable          | ALTER SYSTEM |
| Modifiable in a PDB | No           |
| Range of values     | true   false |
| Basic               | No           |

| Property   | Description                              |
|------------|------------------------------------------|
| Oracle RAC | All instances should use the same value. |

To enable Resource Manager, set the `RESOURCE_MANAGER_PLAN` parameter.

By default, Oracle GoldenGate apply processes in the database are not resource managed. Given that replication to a PDB requires a separate Oracle GoldenGate apply process, it is possible that the apply processes for one PDB could end up consuming most of the CPU on the machine, even if there is a CPU resource management plan in place to limit CPU usage per PDB.

You can set the following values for the `RESOURCE_MANAGER_GOLDENGATE` parameter:

- **TRUE:** With this setting, Oracle GoldenGate apply processes in the database are resource managed based on the resources allocated to the GoldenGate apply user.
- **FALSE:** With this setting, Oracle GoldenGate apply processes are not resource managed.

## 2.336 RESOURCE\_MANAGER\_CPU\_ALLOCATION

`RESOURCE_MANAGER_CPU_ALLOCATION` specifies the number of CPUs that the Resource Manager should use. The Resource Manager controls how a system's CPUs are utilized by its database's sessions.

| Property            | Description                                                  |
|---------------------|--------------------------------------------------------------|
| Parameter type      | Integer                                                      |
| Default value       | The number of logical CPUs reported by the operating system. |
| Modifiable          | ALTER SYSTEM                                                 |
| Modifiable in a PDB | No                                                           |
| Range of values     | 0 to operating system-specific                               |
| Basic               | No                                                           |

### Note:

The `RESOURCE_MANAGER_CPU_ALLOCATION` parameter is deprecated. It is retained for backward compatibility only. Use the `CPU_COUNT` parameter instead.

The Resource Manager schedules database sessions on the CPUs according to a resource plan that has been configured and enabled by the DBA. Normally, the Resource Manager schedules enough database sessions to keep all CPUs utilized. However, in some scenarios, a DBA may only want to schedule enough database sessions to keep a subset of the CPUs utilized.

### See Also:

"[CPU\\_COUNT](#)"

## 2.337 RESOURCE\_MANAGER\_CPU\_SCOPE

RESOURCE\_MANAGER\_CPU\_SCOPE controls the scope of CPU resource management.

In previous releases, Oracle offered one method of CPU resource management, which operated within a database instance. Starting with Oracle Database 23ai, Oracle offers an alternative method for CPU resource management, which operates across all database instances on the server. This parameter allows you to choose between the two methods.

| Property            | Description                                                  |
|---------------------|--------------------------------------------------------------|
| Parameter type      | String                                                       |
| Syntax              | RESOURCE_MANAGER_CPU_SCOPE = { SERVER_WIDE   INSTANCE_ONLY } |
| Default value       | INSTANCE_ONLY                                                |
| Modifiable          | No                                                           |
| Modifiable in a PDB | No                                                           |
| Basic               | No                                                           |
| Oracle RAC          | The same value must be used on all instances.                |

### Values:

- **SERVER\_WIDE** - Enables server-level inter-instance CPU resource management

Introduced in Oracle Database 23ai, this method can be used when multiple database instances share a Linux server. It enables CPU resource management across all database instances on the server. With this method, Oracle automatically configures Linux control groups (cgroups) with the desired CPU sharing and CPU utilization limits, and then places database sessions into the appropriate cgroups.

In order to use this method, the following system and database requirements must be met:

- This method requires the Linux operating system. It is supported on Oracle Autonomous Database, Oracle Database Exadata Cloud@Customer, Oracle Database Exadata Cloud Service, and on-premises Oracle Exadata systems. This method is not supported on non-Exadata Linux systems.
- The server operating system must be Unbreakable Enterprise Kernel (UEK) version 5 or later.

You can configure this method as follows:

- Oracle Autonomous Database: All system and database requirements are installed and configured by default. RESOURCE\_MANAGER\_CPU\_SCOPE is set to SERVER\_WIDE by default.
- Oracle Database Exadata Cloud@Customer: All system and database requirements are installed and configured by default. RESOURCE\_MANAGER\_CPU\_SCOPE is set to INSTANCE\_ONLY by default. You must set it to SERVER\_WIDE if you want to use this method.
- Oracle Database Exadata Cloud Service and on-premises Oracle Exadata systems: The Exadata image meets all system and database requirements. RESOURCE\_MANAGER\_CPU\_SCOPE is set to INSTANCE\_ONLY by default. You must set it to SERVER\_WIDE if you want to use this method.

When you specify the SERVER\_WIDE setting, the value of the PROCESSOR\_GROUP\_NAME initialization parameter is ignored.

- `INSTANCE_ONLY` - Enables CPU resource management only within the database instance.

This is the method of CPU resource management used in releases prior to Oracle Database 23ai. It is supported on all Oracle Databases.

 **Note:**

This parameter is available starting with Oracle Database 23ai.

 **See Also:**

*Oracle Database Administrator's Guide* for more information about setting this parameter

## 2.338 RESOURCE\_MANAGER\_PLAN

`RESOURCE_MANAGER_PLAN` specifies the resource plan to use for a database (CDB or non-CDB).

| Property            | Description                                             |
|---------------------|---------------------------------------------------------|
| Parameter type      | String                                                  |
| Syntax              | <code>RESOURCE_MANAGER_PLAN = resource_plan_name</code> |
| Default value       | There is no default value.                              |
| Modifiable          | <code>ALTER SYSTEM</code>                               |
| Modifiable in a PDB | Yes                                                     |
| Range of values     | Any valid character string                              |
| Basic               | No                                                      |

### In a CDB

In the root for a CDB, `RESOURCE_MANAGER_PLAN` specifies the CDB resource plan. A CDB resource plan allocates resources among PDBs.

A CDB resource plan is created using `DBMS_RESOURCE_MANAGER.CREATE_CDB_PLAN` and `CREATE_CDB_PLAN_DIRECTIVE`.

 **See Also:**

- *Oracle Database Administrator's Guide* for more information about using `DBMS_RESOURCE_MANAGER.CREATE_CDB_PLAN` and `DBMS_RESOURCE_MANAGER.CREATE_CDB_PLAN_DIRECTIVE`
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `CREATE_CDB_PLAN` procedure and `CREATE_CDB_PLAN_DIRECTIVE` procedure for the `DBMS_RESOURCE_MANAGER` package

A session must be `root` to change the value of `RESOURCE_MANAGER_PLAN` for a CDB using the `ALTER SYSTEM` statement. For example, to enable and disable a CDB resource plan:

```
SQL> ALTER SYSTEM SET RESOURCE_MANAGER_PLAN = CDB_resource_plan_name;
SQL> ALTER SYSTEM SET RESOURCE_MANAGER_PLAN = '';
```

In a PDB, `RESOURCE_MANAGER_PLAN` specifies the PDB resource plan to use for the PDB.

A session must be in the PDB to enable or disable a PDB resource plan for that PDB. For example, to enable and disable a PDB resource plan:

```
SQL> ALTER SYSTEM SET RESOURCE_MANAGER_PLAN = PDB_resource_plan_name;
SQL> ALTER SYSTEM SET RESOURCE_MANAGER_PLAN = '';
```

In a PDB, the PDB resource plan has some restrictions compared to the resource plan of a non-CDB. The following restrictions apply to PDB resource plans:

- A PDB resource plan cannot have subplans.
- A PDB resource plan can have a maximum of eight consumer groups.
- A PDB resource plan cannot have a multiple-level scheduling policy.

To enforce certain PDB resource plan policies, policies regarding resource allocation among PDBs should exist in the CDB resource plan. Without a CDB resource plan, certain PDB resource plan policies will not be enforced. If a PDB resource plan contains CPU or parallel statement queuing directives and a CDB resource plan is not specified, then Resource Manager will automatically enable the `DEFAULT_CDB_PLAN` plan. To prevent this behavior, set the `RESOURCE_MANAGER_PLAN` parameter at the root level to `ORA$INTERNAL_CDB_PLAN`.

**Note:**

See *Oracle Database Administrator's Guide* for information on CPU, I/O bandwidth, and parallel execution servers requirements in CDB resource plans, and for a description of the results in the PDB resource plans when those requirements are not met.

**In a Non-CDB**

`RESOURCE_MANAGER_PLAN` specifies the top-level resource plan to use for an instance in a non-CDB. The resource manager will load this top-level resource plan along with all its descendants (subplans, directives, and consumer groups). If you do not specify this parameter, the resource manager is off by default.

You can change the setting of this parameter using the `ALTER SYSTEM` statement to turn on the resource manager (if it was previously off) or to turn off the resource manager or change the current resource plan (if it was previously on). If you specify a resource plan that does not exist in the data dictionary, Oracle returns an error message.

 **See Also:**

- *Oracle Database Administrator's Guide* for information on using Oracle Resource Manager
- *Oracle Database PL/SQL Packages and Types Reference* for information on the `DBMS_RESOURCE_MANAGER` package
- *Oracle Database PL/SQL Packages and Types Reference* for information on the `DBMS_RESOURCE_MANAGER_PRIVS` package
- "[DBA\\_RSRC\\_PLANS](#)", "[DBA\\_RSRC\\_PLAN\\_DIRECTIVES](#)", and the various `V$RSRC_*` dynamic performance views in [Dynamic Performance Views](#) for information on existing resource plans

## 2.339 RESULT\_CACHE\_AUTO\_BLOCKLIST

Use `RESULT_CACHE_AUTO_BLOCKLIST` to enable or disable adaptive result cache object exclusion.

| Property                   | Description                                             |
|----------------------------|---------------------------------------------------------|
| <b>Parameter type</b>      | String                                                  |
| <b>Syntax</b>              | <code>RESULT_CACHE_AUTO_BLOCKLIST = { OFF   ON }</code> |
| <b>Default value</b>       | ON                                                      |
| <b>Modifiable</b>          | ALTER SYSTEM                                            |
| <b>Modifiable in a PDB</b> | Yes                                                     |
| <b>Basic</b>               | No                                                      |
| <b>Oracle RAC</b>          | Different instances can use different values.           |

When this parameter is set to `ON`, adaptive result cache object exclusion is enabled.

When this parameter is set to `OFF`, adaptive result cache object exclusion is disabled.

 **Note:**

This parameter is available starting with Oracle Database 23ai.

## 2.340 RESULT\_CACHE\_EXECUTION\_THRESHOLD

`RESULT_CACHE_EXECUTION_THRESHOLD` specifies the maximum number of times a PL/SQL function can be executed before its result is stored in the result cache.

| Property              | Description |
|-----------------------|-------------|
| <b>Parameter type</b> | Integer     |
| <b>Default value</b>  | 2           |

| Property                   | Description                                   |
|----------------------------|-----------------------------------------------|
| <b>Modifiable</b>          | ALTER SYSTEM                                  |
| <b>Modifiable in a PDB</b> | Yes                                           |
| <b>Range of values</b>     | 0 to operating system-dependent               |
| <b>Basic</b>               | No                                            |
| <b>Oracle RAC</b>          | Multiple instances can have different values. |

## 2.341 RESULT\_CACHE\_INTEGRITY

RESULT\_CACHE\_INTEGRITY specifies whether the database enforces result cache integrity.

| Property                   | Description                                                                 |
|----------------------------|-----------------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                                      |
| <b>Syntax</b>              | RESULT_CACHE_INTEGRITY = { ENFORCED   TRUSTED }                             |
| <b>Default value</b>       | Oracle Autonomous Database: ENFORCED<br>All other Oracle databases: TRUSTED |
| <b>Modifiable</b>          | ALTER SYSTEM                                                                |
| <b>Modifiable in a PDB</b> | Yes                                                                         |
| <b>Basic</b>               | No                                                                          |
| <b>Oracle RAC</b>          | Different instances can have different values.                              |

### Values:

- ENFORCED

Regardless of the setting of the RESULT\_CACHE\_MODE initialization parameter or any specified hints, only deterministic constructs will be eligible for result caching. For example, queries using PL/SQL functions that are not explicitly declared as deterministic will not be cached. This setting enforces result cache integrity.

- TRUSTED

The database honors the setting of the RESULT\_CACHE\_MODE initialization parameter and any specified hints, and will consider queries using possibly nondeterministic constructs as candidates for result caching. For example, queries using PL/SQL functions that are not explicitly declared as deterministic may be cached. Results that are certain to be nondeterministic (for example, SYSDATE or constructs involving SYSDATE) will not be cached. This setting does not enforce result cache integrity, which matches the behavior in releases prior to Oracle Database 23ai.



### Note:

This parameter is available starting with Oracle Database 23ai.



**See Also:**["RESULT\\_CACHE\\_MODE"](#)

## 2.342 RESULT\_CACHE\_MAX\_RESULT

RESULT\_CACHE\_MAX\_RESULT specifies the percentage of RESULT\_CACHE\_MAX\_SIZE that any single result can use.

| Property                   | Description                                   |
|----------------------------|-----------------------------------------------|
| <b>Parameter type</b>      | Integer                                       |
| <b>Default value</b>       | 5 percent                                     |
| <b>Modifiable</b>          | ALTER SYSTEM                                  |
| <b>Modifiable in a PDB</b> | Yes                                           |
| <b>Range of values</b>     | 0 to 100                                      |
| <b>Basic</b>               | No                                            |
| <b>Oracle RAC</b>          | Multiple instances can have different values. |

## 2.343 RESULT\_CACHE\_MAX\_SIZE

RESULT\_CACHE\_MAX\_SIZE specifies the maximum amount of SGA memory (in bytes) that can be used by the result cache.

| Property                   | Description                                                                                                                                                                                                |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | Big integer                                                                                                                                                                                                |
| <b>Syntax</b>              | RESULT_CACHE_MAX_SIZE = <i>integer</i> [K   M   G]                                                                                                                                                         |
| <b>Default value</b>       | Derived from the values of SHARED_POOL_SIZE, SGA_TARGET, and MEMORY_TARGET                                                                                                                                 |
| <b>Modifiable</b>          | ALTER SYSTEM                                                                                                                                                                                               |
| <b>Modifiable in a PDB</b> | Yes                                                                                                                                                                                                        |
| <b>Range of values</b>     | 0 to operating system-dependent                                                                                                                                                                            |
| <b>Basic</b>               | No                                                                                                                                                                                                         |
| <b>Oracle RAC</b>          | You must either set this parameter to 0 on all instances to disable the result cache, or use a nonzero value on all instances. Disabling the result cache on some instances may lead to incorrect results. |

Values of this parameter greater than 0 are rounded up to the next multiple of 32 KB. If the value of this parameter is 0, then the feature is disabled.

**See Also:**

*Oracle Database Performance Tuning Guide* for information about tuning the result cache

## 2.344 RESULT\_CACHE\_MAX\_TEMP\_RESULT

`RESULT_CACHE_MAX_TEMP_RESULT` specifies the percentage of `RESULT_CACHE_MAX_TEMP_SIZE` that any single cached query result can consume.

| Property            | Description                                   |
|---------------------|-----------------------------------------------|
| Parameter type      | Integer                                       |
| Default value       | 5 percent                                     |
| Modifiable          | ALTER SYSTEM                                  |
| Modifiable in a PDB | Yes                                           |
| Range of values     | 0 to 100                                      |
| Basic               | No                                            |
| Oracle RAC          | Multiple instances can have different values. |

## 2.345 RESULT\_CACHE\_MAX\_TEMP\_SIZE

`RESULT_CACHE_MAX_TEMP_SIZE` specifies the maximum amount of temporary tablespace (in bytes) that can be consumed by the result cache.

| Property            | Description                                                                                                                                                                                                |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parameter type      | Big integer                                                                                                                                                                                                |
| Syntax              | <code>RESULT_CACHE_MAX_TEMP_SIZE = integer [K   M   G]</code>                                                                                                                                              |
| Default value       | <code>RESULT_CACHE_MAX_SIZE * 10</code>                                                                                                                                                                    |
| Modifiable          | ALTER SYSTEM                                                                                                                                                                                               |
| Modifiable in a PDB | Yes                                                                                                                                                                                                        |
| Range of values     | 0 to operating system-dependent                                                                                                                                                                            |
| Basic               | No                                                                                                                                                                                                         |
| Oracle RAC          | You must either set this parameter to 0 on all instances to disable the result cache, or use a nonzero value on all instances. Disabling the result cache on some instances may lead to incorrect results. |

If you attempt to set this parameter to a value that is less than 5% of the size of the SGA, then this parameter will be set to 5% of the size of the SGA. If you attempt to set this parameter to a value that is more than 10% of the current total unused space available for temporary tablespaces in the `SYS` schema, then this parameter will be set to 10% of the current total unused space available for temporary tablespaces in the `SYS` schema.

If the value of this parameter is 0, then the result cache is disabled for the PDB.

### See Also:

*Oracle Database Performance Tuning Guide* for information about tuning the result cache

## 2.346 RESULT\_CACHE\_MODE

`RESULT_CACHE_MODE` specifies which queries are eligible to store result sets in the result cache. Only query execution plans with the result cache operator will attempt to read from or write to the result cache.

| Property                   | Description                                                                                       |
|----------------------------|---------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                                                            |
| <b>Syntax</b>              | <code>RESULT_CACHE_MODE = { MANUAL   MANUAL_TEMP   FORCE   FORCE_TEMP }</code>                    |
| <b>Default value</b>       | Oracle Autonomous Database: <code>FORCE</code><br>All other Oracle databases: <code>MANUAL</code> |
| <b>Modifiable</b>          | <code>ALTER SESSION</code> , <code>ALTER SYSTEM</code>                                            |
| <b>Modifiable in a PDB</b> | Yes                                                                                               |
| <b>Basic</b>               | No                                                                                                |
| <b>Oracle RAC</b>          | Different instances can have different values.                                                    |

### Values

- `MANUAL`  
Query results can only be stored in the result cache by using a query hint or table annotation.
- `MANUAL_TEMP`  
Query results can only be stored in the result cache by using a query hint or table annotation. All hinted queries are allowed to leverage temporary segments on disk unless explicitly prohibited by using the `/*+ RESULT_CACHE (TEMP=FALSE) */` hint.
- `FORCE`  
All query results are stored in the result cache. If a query result is not in the cache, then the database executes the query and stores the result in the cache. Subsequent executions of the same SQL statement that include the `/*+ RESULT_CACHE */` hint will retrieve data from the cache. Sessions will use these results, if possible. To exclude query results from the cache, use the `/*+ NO_RESULT_CACHE */` hint.
- `FORCE_TEMP`  
All query results are stored in the result cache. All queries are allowed to leverage temporary segments on disk unless explicitly prohibited by a hint.

### Caution:

If this parameter is set to `FORCE` or `FORCE_TEMP`, then Oracle recommends setting the `RESULT_CACHE_INTEGRITY` parameter to `ENFORCED`, which ensures that only deterministic constructs are eligible for result caching. This prevents the caching of nondeterministic constructs, which can potentially cause material changes to results. See "[RESULT\\_CACHE\\_INTEGRITY](#)" for more information.

 **See Also:**

- *Oracle Database SQL Tuning Guide* for more information on how the result cache handles PL/SQL functions before changing the value of this initialization parameter
- *Oracle Database SQL Language Reference* for more information about the `NO_RESULT_CACHE` hint

## 2.347 RESULT\_CACHE\_REMOTE\_EXPIRATION

`RESULT_CACHE_REMOTE_EXPIRATION` specifies the number of minutes that a result using a remote object is allowed to remain valid.

| Property                   | Description                     |
|----------------------------|---------------------------------|
| <b>Parameter type</b>      | Integer                         |
| <b>Default value</b>       | 0                               |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM     |
| <b>Modifiable in a PDB</b> | Yes                             |
| <b>Range of values</b>     | 0 to operating system-dependent |
| <b>Basic</b>               | No                              |

Setting this parameter to 0 implies that results using remote objects should not be cached. Setting this parameter to a nonzero value can produce stale answers (for example, if the remote table used by a result is modified at the remote database).

 **See Also:**

*Oracle Database Performance Tuning Guide* for information about tuning the result cache

## 2.348 RESUMABLE\_TIMEOUT

`RESUMABLE_TIMEOUT` enables or disables resumable statements and specifies resumable timeout at the system level.

| Property                   | Description                    |
|----------------------------|--------------------------------|
| <b>Parameter type</b>      | Integer                        |
| <b>Default value</b>       | 0 (seconds)                    |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM    |
| <b>Modifiable in a PDB</b> | Yes                            |
| <b>Range of values</b>     | 0 to $2^{31} - 1$ (in seconds) |
| <b>Basic</b>               | No                             |

| Property   | Description                                   |
|------------|-----------------------------------------------|
| Oracle RAC | Multiple instances can have different values. |

**See Also:**

*Oracle Database Administrator's Guide* for more information about enabling resumable space allocation, what conditions are correctable, and what statements can be made resumable

## 2.349 ROLLBACK\_SEGMENTS

ROLLBACK\_SEGMENTS allocates one or more rollback segments by name to this instance.

| Property            | Description                                                                                                                                                                                                                                                      |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parameter type      | String                                                                                                                                                                                                                                                           |
| Syntax              | ROLLBACK_SEGMENTS =<br>(segment_name [, segment_name] ... )                                                                                                                                                                                                      |
| Default value       | If you do not specify this parameter, the instance uses public rollback segments by default, unless the UNDO_MANAGEMENT initialization parameter is set to AUTO. In that case, the ROLLBACK_SEGMENTS parameter is ignored and automatic undo management is used. |
| Modifiable          | No                                                                                                                                                                                                                                                               |
| Modifiable in a PDB | Yes                                                                                                                                                                                                                                                              |
| Range of values     | Any rollback segment names listed in DBA_ROLLBACK_SEGS except SYSTEM                                                                                                                                                                                             |
| Basic               | No                                                                                                                                                                                                                                                               |
| Oracle RAC          | Multiple instances must have different values.                                                                                                                                                                                                                   |

If you set this parameter, the instance acquires all of the rollback segments named in this parameter, even if the number of rollback segments exceeds the minimum number required by the instance (calculated as `TRANSACTIONS / TRANSACTIONS_PER_ROLLBACK_SEGMENT`).

You cannot change the value of this parameter dynamically, but you can change its value and then restart the instance. Although this parameter usually specifies private rollback segments, it can also specify public rollback segments if they are not already in use.

To find the name, segment ID number, and status of each rollback segment in the database, query the data dictionary view `DBA_ROLLBACK_SEGS`.

When `UNDO_MANAGEMENT` is set to `AUTO`, `ROLLBACK_SEGMENTS` is ignored.

 **See Also:**

- *Oracle Real Application Clusters Administration and Deployment Guide* for information on setting this parameter in an Oracle RAC environment
- ["DBA\\_ROLLBACK\\_SEGS"](#)

## 2.350 SAGA\_HIST\_RETENTION

SAGA\_HIST\_RETENTION specifies the length of time (in minutes) that completed sagas are retained in the DBA\_HIST\_SAGAS and USER\_HIST\_SAGAS views.

| Property            | Description                                  |
|---------------------|----------------------------------------------|
| Parameter type      | Integer                                      |
| Default value       | 43200 minutes (equivalent to 30 days)        |
| Modifiable          | ALTER SYSTEM                                 |
| Modifiable in a PDB | No                                           |
| Range of values     | 1 - 2147483647 minutes                       |
| Basic               | No                                           |
| Oracle RAC          | Multiple instances must have the same value. |

 **Note:**

This parameter is available starting with Oracle Database 23ai.

 **See Also:**

- ["ALL\\_HIST\\_SAGAS"](#)
- ["DBA\\_HIST\\_SAGAS"](#)
- ["USER\\_HIST\\_SAGAS"](#)

## 2.351 SEC\_MAX\_FAILED\_LOGIN\_ATTEMPTS

SEC\_MAX\_FAILED\_LOGIN\_ATTEMPTS specifies the number of authentication attempts that can be made by a client on a connection to the server process.

| Property       | Description |
|----------------|-------------|
| Parameter type | Integer     |
| Default value  | 3           |
| Modifiable     | No          |

| Property                   | Description                            |
|----------------------------|----------------------------------------|
| <b>Modifiable in a PDB</b> | No                                     |
| <b>Range of values</b>     | An integer greater than or equal to 1. |
| <b>Basic</b>               | No                                     |

These login attempts can be for multiple user accounts in the same connection. After the specified number of failure attempts, the connection will be automatically dropped by the server process, and the server process is terminated.



#### See Also:

*Oracle Database Security Guide* for more information about this parameter

## 2.352 SEC\_PROTOCOL\_ERROR\_FURTHER\_ACTION

`SEC_PROTOCOL_ERROR_FURTHER_ACTION` specifies the further execution of a server process when receiving bad packets from a possibly malicious client.

| Property                   | Description                                                                                        |
|----------------------------|----------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                                                             |
| <b>Syntax</b>              | <code>SEC_PROTOCOL_ERROR_FURTHER_ACTION = { CONTINUE   (DELAY, integer)   (DROP, integer) }</code> |
| <b>Default value</b>       | <code>(DROP, 3)</code>                                                                             |
| <b>Modifiable</b>          | ALTER SYSTEM                                                                                       |
| <b>Modifiable in a PDB</b> | No                                                                                                 |
| <b>Basic</b>               | No                                                                                                 |

#### Values

- `CONTINUE`  
The server process continues execution. The database server may be subject to a Denial of Service (DoS) if bad packets continue to be sent by a malicious client.
- `(DELAY, integer)`  
The client experiences a delay of *integer* seconds before the server process accepts the next request from the same client connection. Malicious clients are prevented from excessive consumption of server resources while legitimate clients experience a degradation in performance but can continue to function.
- `(DROP, integer)`  
The server forcefully terminates the client connection after *integer* cumulative bad packets. The server protects itself at the expense of the client (for example, a client transaction may be lost). The client may reconnect and attempt the same operation.

**See Also:**

*Oracle Database Security Guide* for examples of using this parameter

## 2.353 SEC\_PROTOCOL\_ERROR\_TRACE\_ACTION

SEC\_PROTOCOL\_ERROR\_TRACE\_ACTION specifies the kind of logging the database server does when bad packets are received from a possibly malicious client, apart from the client receiving the error.

| Property                   | Description                                                      |
|----------------------------|------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                           |
| <b>Syntax</b>              | SEC_PROTOCOL_ERROR_TRACE_ACTION = { NONE   TRACE   LOG   ALERT } |
| <b>Default value</b>       | TRACE                                                            |
| <b>Modifiable</b>          | ALTER SYSTEM                                                     |
| <b>Modifiable in a PDB</b> | No                                                               |
| <b>Basic</b>               | No                                                               |

### Values

- NONE  
The database server does not record it in any of the trace files.
- TRACE  
A short entry is made in the alert log file and a detailed incident file is generated. The server trace file also will have an entry about the protocol error and incident file.
- LOG  
The server trace file will have an entry about the protocol violation.
- ALERT  
A short entry is made in the alert log file and in the server trace file about the protocol violation.

## 2.354 SEC\_RETURN\_SERVER\_RELEASE\_BANNER

SEC\_RETURN\_SERVER\_RELEASE\_BANNER specifies whether the server returns complete database software information to unauthenticated clients.

| Property                   | Description |
|----------------------------|-------------|
| <b>Parameter type</b>      | Boolean     |
| <b>Default value</b>       | false       |
| <b>Modifiable</b>          | No          |
| <b>Modifiable in a PDB</b> | No          |



| Property        | Description  |
|-----------------|--------------|
| Range of values | true   false |
| Basic           | No           |

#### Values

- true  
Returns complete database version information to the client.
- false  
Returns a generic version string to the client.



#### See Also:

*Oracle Call Interface Developer's Guide* and *Oracle Database Security Guide* for more information on controlling the display of the database version banner.

## 2.355 SERIAL\_REUSE

**SERIAL\_REUSE** specifies which types of cursors make use of the serial-reusable memory feature. This feature allocates private cursor memory in the SGA so that it can be reused (serially, not concurrently) by sessions executing the same cursor.

| Property            | Description                                                                  |
|---------------------|------------------------------------------------------------------------------|
| Parameter type      | String                                                                       |
| Syntax              | <code>SERIAL_REUSE = { disable   all   select   dml   plsql   force }</code> |
| Default value       | disable                                                                      |
| Modifiable          | No                                                                           |
| Modifiable in a PDB | No                                                                           |
| Basic               | No                                                                           |



#### Note:

The **SERIAL\_REUSE** parameter is deprecated. It is retained for backward compatibility only.

#### Values

- disable  
Disables the option for all SQL statement types. This value overrides any other values included in the list.
- all

Enables the option for both DML and `SELECT` statements. Equivalent to setting `select`, `dml`, and `plsql`.

- `select`

Enables the option for `SELECT` statements.

- `dml`

Enables the option for DML statements.

- `plsql`

Currently has no effect (although PL/SQL packages do support the serial-reuse memory option using PL/SQL pragmas).

**Note:**

If `CURSOR_SPACE_FOR_TIME` is set to `true`, then the value of `SERIAL_REUSE` is ignored and treated as if it were set to `disable`.

**See Also:**

["CURSOR\\_SPACE\\_FOR\\_TIME"](#)

## 2.356 SERVICE\_NAMES

`SERVICE_NAMES` specifies one or more names by which clients can connect to the instance.

| Property                   | Description                                                                                                                                                                                                |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                                                                                                                                                                     |
| <b>Syntax</b>              | <code>SERVICE_NAMES =</code><br><code>db_service_name [, db_service_name [ ... ] ]</code>                                                                                                                  |
| <b>Default value</b>       | <code>DB_UNIQUE_NAME.DB_DOMAIN</code> if defined                                                                                                                                                           |
| <b>Modifiable</b>          | <code>ALTER SYSTEM</code>                                                                                                                                                                                  |
| <b>Modifiable in a PDB</b> | No                                                                                                                                                                                                         |
| <b>Range of values</b>     | Any ASCII string or comma-separated list of string names                                                                                                                                                   |
| <b>Basic</b>               | No                                                                                                                                                                                                         |
| <b>Oracle RAC</b>          | Do not set the <code>SERVICE_NAMES</code> parameter for Oracle RAC environments. Instead, define services using Oracle Enterprise Manager and manage those services using Server Control (SRVCTL) utility. |

The instance registers its service names with the listener. When a client requests a service, the listener determines which instances offer the requested service and routes the client to the appropriate instance.

You can specify multiple service names to distinguish among different uses of the same database. For example:

```
SERVICE_NAMES = sales.example.com, widgetsales.example.com
```

You can also use service names to identify a single service that is available from two different databases through the use of replication.

If you do not qualify the names in this parameter with a domain, Oracle qualifies them with the value of the `DB_DOMAIN` parameter. If `DB_DOMAIN` is not specified, then no domain will be applied to the non-qualified `SERVICE_NAMES` values.

When you specify additional service names with this parameter, the default service name is not overridden. The default service name plus the additional service names specified with this parameter are the service names that clients can use to connect to the database.

 **Note:**

The `SERVICE_NAMES` initialization parameter is deprecated in Oracle Database 19c and may be desupported in a future release.

Use of the `SERVICE_NAMES` parameter is no longer actively supported. It must not be used for high availability (HA) deployments and it is not supported for HA operations. This restriction includes FAN, load balancing, `FAILOVER_TYPE`, `FAILOVER_RESTORE`, `SESSION_STATE_CONSISTENCY`, and any other uses.

To manage your services, Oracle recommends that you instead use the `SRVCTL` command-line utility, the `GDSCCTL` command-line utility, or the `DBMS_SERVICE` PL/SQL package.

 **See Also:**

- *Oracle Database Net Services Administrator's Guide* for more information on this parameter and its settings
- *Oracle Real Application Clusters Administration and Deployment Guide* for information about services administration in an Oracle RAC environment
- ["DB\\_DOMAIN"](#)

## 2.357 SESSION\_CACHED\_CURSORS

`SESSION_CACHED_CURSORS` specifies the number of session cursors to cache.

| Property            | Description                                   |
|---------------------|-----------------------------------------------|
| Parameter type      | Integer                                       |
| Default value       | 50                                            |
| Modifiable          | ALTER SESSION, ALTER SYSTEM ... DEFERRED      |
| Modifiable in a PDB | Yes                                           |
| Range of values     | 0 to operating system-dependent               |
| Basic               | No                                            |
| Oracle RAC          | Multiple instances can have different values. |

Repeated parse calls of the same SQL (including recursive SQL) or PL/SQL statement cause the session cursor for that statement to be moved into the session cursor cache. Oracle uses a least recently used algorithm to remove entries in the session cursor cache to make room for new entries when needed.

 **See Also:**

*Oracle Database Performance Tuning Guide* for information about enabling the session cursor cache

## 2.358 SESSION\_EXIT\_ON\_PACKAGE\_STATE\_ERROR

Use `SESSION_EXIT_ON_PACKAGE_STATE_ERROR` to force a hard session exit when a session's state has been invalidated.

Exiting sessions after state invalidation avoids errors that can occur when applications mishandle an invalid state.

| Property            | Description                                   |
|---------------------|-----------------------------------------------|
| Parameter type      | Boolean                                       |
| Default value       | FALSE                                         |
| Modifiable          | ALTER SESSION, ALTER SYSTEM                   |
| Modifiable in a PDB | Yes                                           |
| Range of values     | TRUE   FALSE                                  |
| Basic               | No                                            |
| Oracle RAC          | Different instances can use different values. |

Set `SESSION_EXIT_ON_PACKAGE_STATE_ERROR` to `TRUE` to force a hard session exit under the following circumstances:

- When a stateful PL/SQL package undergoes modification, the sessions that have an active instantiation of the package receive an `ORA-4068` error when they attempt to run it. When `SESSION_EXIT_ON_PACKAGE_STATE_ERROR` is set to `TRUE`, the session immediately exits instead of raising `ORA-04068`. This can be advantageous because many applications are better equipped to handle a session being discarded, and failing to catch errors related to session state, such as `ORA-04068`, can lead to silent data corruption.
- When an Oracle Database Multilingual Engine (MLE) module or environment is modified via DDL, sessions that have an active instantiation of the object receive an `ORA-4106` or `ORA-4107` error. Setting `SESSION_EXIT_ON_PACKAGE_STATE_ERROR` to `TRUE` forces sessions to be disconnected if the session state is invalidated. Because many applications capture session disconnect, this option can help simplify the recovery from the invalidation of an existing session state.

 **Note:**

This parameter is available starting with Oracle Database 23ai.

## 2.359 SESSION\_MAX\_OPEN\_FILES

`SESSION_MAX_OPEN_FILES` specifies the maximum number of BFILEs that can be opened in any session. Once this number is reached, subsequent attempts to open more files in the session by using `DBMS_LOB.FILEOPEN()` or `OCIlobFileOpen()` will fail. The maximum value for this parameter depends on the equivalent parameter defined for the underlying operating system.

| Property            | Description                                                                                                         |
|---------------------|---------------------------------------------------------------------------------------------------------------------|
| Parameter type      | Integer                                                                                                             |
| Default value       | 10                                                                                                                  |
| Modifiable          | No                                                                                                                  |
| Modifiable in a PDB | No                                                                                                                  |
| Range of values     | 1 to either 50 or the value of <code>MAX_OPEN_FILES</code> defined at the operating system level, whichever is less |
| Basic               | No                                                                                                                  |

### See Also:

- *Oracle Database SecureFiles and Large Objects Developer's Guide* for information on LOBs in general
- *Oracle Database SecureFiles and Large Objects Developer's Guide* for information on BFILEs
- *Oracle Database PL/SQL Packages and Types Reference* for information on the `DBMS_LOB.FILEOPEN()` procedure
- *Oracle Call Interface Developer's Guide* for information on the `OCIlobFileOpen()` procedure

## 2.360 SESSIONS

`SESSIONS` specifies the maximum number of sessions that can be created in the system.

| Property            | Description                                                                                                                                                                                                                                                                |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parameter type      | Integer                                                                                                                                                                                                                                                                    |
| Default value       | Derived: $(1.5 * PROCESSES) + 22$                                                                                                                                                                                                                                          |
| Modifiable          | <code>ALTER SYSTEM</code> can be used in a PDB only to change the value of the <code>SESSIONS</code> parameter for that PDB.<br><code>ALTER SYSTEM</code> <i>cannot</i> be used to change the value of the <code>SESSIONS</code> parameter in a non-CDB or in a CDB\$ROOT. |
| Modifiable in a PDB | Yes                                                                                                                                                                                                                                                                        |
| Range of values     | 1 to $2^{16}$ (which is 1 to 65536)                                                                                                                                                                                                                                        |
| Basic               | Yes                                                                                                                                                                                                                                                                        |

Because every login requires a session, this parameter effectively determines the maximum number of concurrent users in the system. You should always set this parameter explicitly to a value equivalent to your estimate of the maximum number of concurrent users, plus the number of background processes, plus approximately 10% for recursive sessions.

Oracle uses the default value of this parameter as its minimum. Values between 1 and the default do not trigger errors, but Oracle ignores them and uses the default instead.

The default values of the `ENQUEUE_RESOURCES` and `TRANSACTIONS` parameters are derived from `SESSIONS`. Therefore, if you increase the value of `SESSIONS`, you should consider whether to adjust the values of `ENQUEUE_RESOURCES` and `TRANSACTIONS` as well. (Note that `ENQUEUE_RESOURCES` is obsolete as of Oracle Database 10g release 2 (10.2).)

In a shared server environment, the value of `PROCESSES` can be quite small. Therefore, Oracle recommends that you adjust the value of `SESSIONS` to approximately  $1.1 \times$  total number of *connections*.

For a CDB, the root container's `SESSIONS` parameter specifies the total number of sessions for the database.

The `SESSIONS` parameter for a PDB specifies the total number of sessions that can be used by that PDB. Its value defaults to the root container's `SESSIONS` value. If the PDB tries to use more sessions than configured by its `SESSIONS` parameter, an `ORA-00018` error message is generated. For PDBs, the `SESSIONS` parameter does not count recursive sessions and hence does not require the 10% adjustment.

The `SESSIONS` parameter for a PDB can only be modified by the PDB. It cannot be set higher than the CDB's `SESSIONS` value.

#### See Also:

- *Oracle Database Concepts* for more information on memory structures
- *Oracle Database Concepts* for more information on processes
- *Oracle Multitenant Administrator's Guide* for more information about CDBs and PDBs

## 2.361 SGA\_MAX\_SIZE

`SGA_MAX_SIZE` specifies the maximum size of the SGA for the lifetime of the instance.

| Property                   | Description                                                                                                                                     |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | Big integer                                                                                                                                     |
| <b>Syntax</b>              | <code>SGA_MAX_SIZE = integer [K   M   G]</code>                                                                                                 |
| <b>Default value</b>       | Initial size of SGA at startup, dependent on the sizes of different pools in the SGA, such as buffer cache, shared pool, large pool, and so on. |
| <b>Modifiable</b>          | No                                                                                                                                              |
| <b>Modifiable in a PDB</b> | No                                                                                                                                              |
| <b>Range of values</b>     | 0 to operating system-dependent                                                                                                                 |

On 64-bit platforms and non-Windows 32-bit platforms, when either `MEMORY_TARGET` or `MEMORY_MAX_TARGET` is specified, the default value of `SGA_MAX_SIZE` is set to the larger of the two parameters. This causes more address space to be reserved for expansion of the SGA.

On Windows 32-bit platforms, the default value of `SGA_MAX_SIZE` is the largest of the following values:

- 60% of `MEMORY_TARGET`, if specified
- 60% of `MEMORY_MAX_TARGET`, if specified
- 25% of the total available virtual address space

**See Also:**

*Oracle Database Performance Tuning Guide* for more information about this parameter

## 2.362 SGA\_MIN\_SIZE

`SGA_MIN_SIZE` indicates a possible minimum value for SGA usage of a pluggable database (PDB).

| Property                   | Description                                     |
|----------------------------|-------------------------------------------------|
| <b>Parameter type</b>      | Big integer                                     |
| <b>Syntax</b>              | <code>SGA_MIN_SIZE = integer [K   M   G]</code> |
| <b>Default value</b>       | 0                                               |
| <b>Modifiable</b>          | ALTER SYSTEM                                    |
| <b>Modifiable in a PDB</b> | Yes                                             |
| <b>Range of values</b>     | 0 to 50% of <code>SGA_TARGET</code>             |
| <b>Basic</b>               | No                                              |
| <b>Oracle RAC</b>          | The same value must be used for all instances.  |

Setting this parameter at the CDB level has no effect.

**Note:**

To be able to use Resource Manager in a CDB to control the amount of memory each PDB can use:

- The `NONCDB_COMPATIBLE` initialization parameter must be set to `FALSE` at the CDB level (in the root of the CDB).
- The `MEMORY_TARGET` initialization parameter must not be set at the CDB level.
- A value for `SGA_TARGET` must be set at the CDB level.

If `SGA_TARGET` is not set at the CDB level, then setting `SGA_MIN_SIZE` in a PDB has no effect. You will not receive an error message, and the PDB's `SGA_MIN_SIZE` value will not be enforced.

- You must set the `SGA_MIN_SIZE` value to a value that meets these requirements:
  - In a PDB, to a value that is less than or equal to 50% of the value of `SGA_TARGET` in the PDB
  - In a PDB, to a value that is less than or equal to 50% of the value of `SGA_TARGET` at the CDB level
  - In a PDB, to a value that is less than the value of `SGA_MAX_SIZE` at the CDB level
  - Across all the open PDBs in a CDB, the sum of `SGA_MIN_SIZE` values must be less than or equal to 50% of the managed SGA total at the CDB level. Managed SGA is `DB_CACHE_SIZE` plus `SHARED_POOL_SIZE`.

When you set `SGA_MIN_SIZE` in a PDB to a value that does not meet these requirements, you receive an error.

**See Also:**

*Oracle Multitenant Administrator's Guide* for more information about the initialization parameters that control the memory usage of PDBs

## 2.363 SGA\_TARGET

`SGA_TARGET` specifies the total size of all SGA components.

| Property            | Description                                                                                                                                        |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Parameter type      | Big integer                                                                                                                                        |
| Syntax              | <code>SGA_TARGET = integer [K   M   G]</code>                                                                                                      |
| Default value       | 0 (SGA autotuning is disabled for <code>DEFERRED</code> mode autotuning requests, but allowed for <code>IMMEDIATE</code> mode autotuning requests) |
| Modifiable          | <code>ALTER SYSTEM</code>                                                                                                                          |
| Modifiable in a PDB | Yes                                                                                                                                                |



| Property        | Description                                                                                                                                      |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Range of values | 64 MB to SGA_MAX_SIZE<br><br>Note that if MEMORY_MAX_TARGET > 0, then the value of SGA_TARGET also cannot exceed the value of MEMORY_MAX_TARGET. |
| Basic           | Yes                                                                                                                                              |

If SGA\_TARGET is specified, then the following memory pools are automatically sized:

- Buffer cache (DB\_CACHE\_SIZE)
- Shared pool (SHARED\_POOL\_SIZE)
- Large pool (LARGE\_POOL\_SIZE)
- Java pool (JAVA\_POOL\_SIZE)
- Streams pool (STREAMS\_POOL\_SIZE)
- Data transfer cache (DATA\_TRANSFER\_CACHE\_SIZE)

If these automatically tuned memory pools are set to nonzero values, then those values are used as minimum levels by Automatic Shared Memory Management. You would set minimum values if an application component needs a minimum amount of memory to function properly.

The following pools are manually sized components and are not affected by Automatic Shared Memory Management:

- Log buffer
- Other buffer caches, such as KEEP, RECYCLE, and other block sizes
- Fixed SGA and other internal allocations

The memory allocated to these pools is deducted from the total available for SGA\_TARGET when Automatic Shared Memory Management computes the values of the automatically tuned memory pools.

In the **Default value** field, IMMEDIATE mode autotuning requests are necessary to avoid ORA-04031 errors. The DEFERRED and IMMEDIATE modes are reflected in the OPER\_MODE column of the V\$MEMORY\_RESIZE\_OPS view.

If Automatic Memory Management is enabled (MEMORY\_TARGET is set to a positive value) and SGA\_TARGET is also set to a positive value, the SGA\_TARGET value acts as the minimum value for the size of the SGA.

 **Note:**

This parameter is optional for pluggable databases (PDBs). When this parameter is set for a PDB, it specifies the maximum SGA that the PDB can use at any time. When this parameter is not set at the PDB level, the PDB has no limit for the amount of SGA it can use, other than the CDB's SGA size.

To be able to use Resource Manager in a CDB to control the amount of memory each PDB can use:

- The `NONCDB_COMPATIBLE` initialization parameter must be set to `FALSE` at the CDB level (in the root of the CDB).
- The `MEMORY_TARGET` initialization parameter must not be set at the CDB level.
- You must set the `SGA_TARGET` initialization parameter at the CDB level.
- You must set `SGA_TARGET` in a PDB.

If you set a PDB's `SGA_TARGET` value and `SGA_TARGET` is not set at the CDB level, you will not receive an error message and the PDB's `SGA_TARGET` value will not be enforced.

- When setting `SGA_TARGET` in a PDB, the following requirements must be met:
  - The value of `SGA_TARGET` in the PDB must be less than or equal to the `SGA_TARGET` value at the CDB level.
  - The value of `SGA_TARGET` in the PDB must be less than or equal to the `SGA_MAX_SIZE` value at the CDB level.
  - The value of `SGA_TARGET` in the PDB must be twice the PDB's `DB_CACHE_SIZE` value, if the PDB's `DB_CACHE_SIZE` value is set.
  - The value of `SGA_TARGET` in the PDB must be twice the PDB's `SHARED_POOL_SIZE` value, if the PDB's `SHARED_POOL_SIZE` value is set.
  - The value of `SGA_TARGET` in the PDB must be twice the PDB's `SGA_MIN_SIZE` value, if the PDB's `SGA_MIN_SIZE` value is set.

When you set `SGA_TARGET` in a PDB to a value that does not meet these requirements, you receive an error.

**See Also:**

- "DB\_CACHE\_SIZE"
- "SHARED\_POOL\_SIZE"
- "LARGE\_POOL\_SIZE"
- "JAVA\_POOL\_SIZE"
- "STREAMS\_POOL\_SIZE"
- "V\$MEMORY\_RESIZE\_OPS"
- "MEMORY\_TARGET"
- "PGA\_AGGREGATE\_TARGET"
- *Oracle Multitenant Administrator's Guide* for more information about the initialization parameters that control the memory usage of PDBs
- *Oracle Database Administrator's Guide* for information on automatic memory management
- *Oracle Database Administrator's Guide* for information on managing the SGA manually

## 2.364 SHADOW\_CORE\_DUMP

SHADOW\_CORE\_DUMP specifies whether Oracle includes the SGA in the core file for foreground (client) processes.

| Property                   | Description                                     |
|----------------------------|-------------------------------------------------|
| <b>Parameter type</b>      | String                                          |
| <b>Syntax</b>              | SHADOW_CORE_DUMP = { partial   full   none }    |
| <b>Default value</b>       | partial. On Windows, the default value is none. |
| <b>Modifiable</b>          | ALTER SYSTEM                                    |
| <b>Modifiable in a PDB</b> | Yes                                             |
| <b>Basic</b>               | No                                              |

**Values**

- `partial`  
Oracle does not include the SGA in the core dump.
- `full`  
Oracle includes the SGA in the core dump.
- `none`  
No core files will be generated for foreground processes.

**See Also:**["BACKGROUND\\_CORE\\_DUMP"](#)

## 2.365 SHARD\_ENABLE\_RAFT\_FOLLOWER\_READ

Use `SHARD_ENABLE_RAFT_FOLLOWER_READ` to enable or disable reads from follower replication units in a shard.

| Property                   | Description                 |
|----------------------------|-----------------------------|
| <b>Parameter type</b>      | Boolean                     |
| <b>Default value</b>       | false                       |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM |
| <b>Modifiable in a PDB</b> | Yes                         |
| <b>Range of values</b>     | true   false                |
| <b>Basic</b>               | No                          |

**Note:**

This parameter is available starting with Oracle Database 23ai.

## 2.366 SHARD\_RAFT\_LOGFILE\_SIZE

`SHARD_RAFT_LOGFILE_SIZE` specifies (in bytes) the size of Raft log files.

| Property                   | Description                                                |
|----------------------------|------------------------------------------------------------|
| <b>Parameter type</b>      | Big integer                                                |
| <b>Syntax</b>              | <code>SHARD_RAFT_LOGFILE_SIZE = integer [K   M   G]</code> |
| <b>Default value</b>       | 1G                                                         |
| <b>Modifiable</b>          | ALTER SYSTEM                                               |
| <b>Modifiable in a PDB</b> | Yes                                                        |
| <b>Range of values</b>     | 0 to operating system-dependent                            |
| <b>Basic</b>               | No                                                         |
| <b>Oracle RAC</b>          | Different instances can use different values.              |

Each replication unit (RU) has 3 Raft log files. Therefore, the log capacity of an RU is 3 times the value of this parameter.

When you modify the value of this parameter in the current instance, the change takes effect the first time a Raft log file is subsequently overwritten.

**Note:**

This parameter is available starting with Oracle Database 23ai.

## 2.367 SHARED\_MEMORY\_ADDRESS

`SHARED_MEMORY_ADDRESS` and `HI_SHARED_MEMORY_ADDRESS` specify the starting address at run time of the system global area (SGA). This parameter is ignored on the many platforms that specify the SGA's starting address at linktime.

| Property                   | Description |
|----------------------------|-------------|
| <b>Parameter type</b>      | Integer     |
| <b>Default value</b>       | 0           |
| <b>Modifiable</b>          | No          |
| <b>Modifiable in a PDB</b> | No          |
| <b>Basic</b>               | No          |

Use this parameter to specify the entire address on 32-bit platforms and to specify the low-order 32 bits of a 64-bit address on 64-bit platforms. Use `HI_SHARED_MEMORY_ADDRESS` to specify the high-order 32 bits of a 64-bit address on 64-bit platforms. If both parameters are 0 or unspecified, the SGA address defaults to a platform-specific location.

**See Also:**

["HI\\_SHARED\\_MEMORY\\_ADDRESS"](#)

## 2.368 SHARED\_POOL\_RESERVED\_SIZE

`SHARED_POOL_RESERVED_SIZE` specifies (in bytes) the shared pool space that is reserved for large contiguous requests for shared pool memory.

| Property                   | Description                                                                  |
|----------------------------|------------------------------------------------------------------------------|
| <b>Parameter type</b>      | Big integer                                                                  |
| <b>Syntax</b>              | <code>SHARED_POOL_RESERVED_SIZE = integer [K   M   G]</code>                 |
| <b>Default value</b>       | 5% of the value of <code>SHARED_POOL_SIZE</code>                             |
| <b>Modifiable</b>          | No                                                                           |
| <b>Modifiable in a PDB</b> | No                                                                           |
| <b>Range of values</b>     | Minimum: 5000<br>Maximum: half of the value of <code>SHARED_POOL_SIZE</code> |
| <b>Basic</b>               | No                                                                           |

You can use this parameter to avoid performance degradation in the shared pool in situations where pool fragmentation forces Oracle to search for and free chunks of unused pool to satisfy the current request.

**See Also:**

- ["SHARED\\_POOL\\_SIZE"](#)
- *Oracle Database Performance Tuning Guide* for information on sizing the shared pool

## 2.369 SHARED\_POOL\_SIZE

SHARED\_POOL\_SIZE specifies (in bytes) the size of the shared pool.

| Property                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | Big integer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Syntax</b>              | SHARED_POOL_SIZE = <i>integer</i> [K   M   G]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Default value</b>       | If SGA_TARGET is set: If the parameter is not specified, then the default is 0 (internally determined by the Oracle Database). If the parameter is specified, then the user-specified value indicates a minimum value for the memory pool.<br><br>If SGA_TARGET is not set (32-bit platforms): 64 MB, rounded up to the nearest granule size.<br><br>If SGA_TARGET is not set (64-bit platforms): 128 MB, rounded up to the nearest granule size.<br><br>For considerations when dealing with database instances using Oracle ASM, see <a href="#">"SHARED_POOL_SIZE and Automatic Storage Management"</a> . |
| <b>Modifiable</b>          | ALTER SYSTEM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Modifiable in a PDB</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Range of values</b>     | Minimum: the granule size<br>Maximum: operating system-dependent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Basic</b>               | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

The shared pool contains shared cursors, stored procedures, control structures, and other structures. If SGA\_TARGET is not set, then Oracle also allocates parallel execution message buffers from the shared pool. Larger values improve performance in multiuser systems. Smaller values use less memory.

You can monitor utilization of the shared pool by querying the view V\$SGASTAT.

 **Note:**

This parameter is optional for pluggable databases (PDBs). When this parameter is set for a PDB, it indicates a possible minimum value for the PDB usage of the memory pool.

To be able to use Resource Manager in a CDB to control the amount of memory each PDB can use:

- The `NONCDB_COMPATIBLE` initialization parameter must be set to `FALSE` at the CDB level (in the root of the CDB).
- The `MEMORY_TARGET` initialization parameter must not be set at the CDB level.
- If the `SGA_TARGET` initialization parameter is set at the CDB level, then the following requirement must be met:
  - The value of `SHARED_POOL_SIZE` set in a PDB must be less than or equal to 50% of the `SGA_TARGET` value at the CDB level.
- If the `SGA_TARGET` initialization parameter is set at the PDB level, then the following requirement must be met:
  - The value of `SHARED_POOL_SIZE` set in a PDB must be less than or equal to 50% of the `SGA_TARGET` value at the PDB level.
- If the `SGA_TARGET` initialization parameter is not set, but the `SHARED_POOL_SIZE` initialization parameter is set at the CDB level, then the following requirement must be met:
  - The value of `SHARED_POOL_SIZE` set in a PDB must be less than or equal to 50% of the `SHARED_POOL_SIZE` value at the CDB level.

When you set `SHARED_POOL_SIZE` in a PDB to a value that does not meet these requirements, you receive an error.

 **See Also:**

- `"V$SGASTAT"`
- *Oracle Multitenant Administrator's Guide* for more information about the initialization parameters that control the memory usage of PDBs
- *Oracle Database Performance Tuning Guide* for more information on setting this parameter

## SHARED\_POOL\_SIZE and Automatic Storage Management

On a database instance using Oracle Automatic Storage Management (Oracle ASM), additional memory is required to store extent maps. As a general guideline, you can aggregate the values from the following queries to obtain current database storage size that is either already on Oracle ASM or will be stored in Oracle ASM. Then determine the redundancy type that is used (or will be used), and calculate the value for `SHARED_POOL_SIZE`, using the aggregated value as input.

```
SELECT SUM(BYTES)/(1024*1024*1024) FROM V$DATAFILE;
SELECT SUM(BYTES)/(1024*1024*1024) FROM V$LOGFILE a, V$LOG b
WHERE a.group#=b.group#;
SELECT SUM(BYTES)/(1024*1024*1024) FROM V$TEMPFILE WHERE
status='ONLINE';
```

Additionally, keep the following guidelines in mind:

- For disk groups using external redundancy:  
(Every 100G of space needs 1M of extra shared pool) + 2M
- For disk groups using normal redundancy:  
(Every 50G of space needs 1M of extra shared pool) + 4M
- For disk groups using high redundancy:  
(Every 33G of space needs 1M of extra shared pool) + 6M

## 2.370 SHARED\_SERVER\_SESSIONS

SHARED\_SERVER\_SESSIONS specifies the total number of shared server sessions to allow.

| Property            | Description                                                                                                                                                                                                    |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parameter type      | Integer                                                                                                                                                                                                        |
| Default value       | There is no default value.                                                                                                                                                                                     |
| Modifiable          | ALTER SYSTEM                                                                                                                                                                                                   |
| Modifiable in a PDB | No                                                                                                                                                                                                             |
| Range of values     | If SHARED_SERVER_SESSIONS is specified, then it should be less than SESSIONS. If SHARED_SERVER_SESSIONS is not specified, then a shared server session may be created as long as there is a free session slot. |
| Basic               | No                                                                                                                                                                                                             |

Setting this parameter enables you to reserve user sessions for dedicated servers.



### See Also:

*Oracle Database Concepts* for more information on sessions

## 2.371 SHARED\_SERVERS

SHARED\_SERVERS specifies the number of server processes that you want to create when an instance is started. If system load decreases, then this minimum number of servers is maintained. Therefore, you should take care not to set SHARED\_SERVERS too high at system startup.

| Property       | Description |
|----------------|-------------|
| Parameter type | Integer     |



| Property                   | Description                                                                                                                                                                                                                                                                     |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Default value</b>       | 0, meaning that shared server is not on.<br><br>If you are using shared server architecture or if the <code>DISPATCHERS</code> parameter is set such that the total number of dispatchers is more than 0, then the default value is 1.                                          |
| <b>Modifiable</b>          | <code>ALTER SYSTEM</code>                                                                                                                                                                                                                                                       |
| <b>Modifiable in a PDB</b> | Yes                                                                                                                                                                                                                                                                             |
| <b>Range of values</b>     | The value of this parameter should be less than <code>MAX_SHARED_SERVERS</code> . If it is greater than or equal to <code>MAX_SHARED_SERVERS</code> , then the number of servers will not be self-tuned but will remain constant, as specified by <code>SHARED_SERVERS</code> . |
| <b>Basic</b>               | Yes                                                                                                                                                                                                                                                                             |

Starting with Oracle Database 12c Release 1 (12.1.0.2), the `SHARED_SERVERS` parameter can be set on PDBs. However, unlike most other parameters that can be set on a PDB, this parameter can only be used within a PDB to enable or disable use of shared servers for that PDB. Therefore, in a PDB, the DBA can either set `SHARED_SERVERS` to 0 to disable use of shared servers for that PDB or use `ALTER SYSTEM RESET SHARED_SERVERS` to re-enable shared servers for the PDB. The configuration of shared servers for the CDB can only be done in the root.



#### See Also:

- ["DISPATCHERS"](#)
- ["MAX\\_SHARED\\_SERVERS"](#)
- *Oracle Database Administrator's Guide* for more information on setting this parameter

## 2.372 SHRD\_DUPL\_TABLE\_REFRESH\_RATE

`SHRD_DUPL_TABLE_REFRESH_RATE` displays the duplicated table refresh rate (in seconds).

| Property                   | Description                                            |
|----------------------------|--------------------------------------------------------|
| <b>Parameter type</b>      | Integer                                                |
| <b>Default value</b>       | 60                                                     |
| <b>Modifiable</b>          | <code>ALTER SESSION</code> , <code>ALTER SYSTEM</code> |
| <b>Modifiable in a PDB</b> | Yes                                                    |
| <b>Range of values</b>     | 20 to $2^{31} - 1$                                     |
| <b>Basic</b>               | No                                                     |
| <b>Oracle RAC</b>          | All instances should use the same instance.            |

You can change the value of this parameter to change the duplicated table refresh rate.

A duplicated table is a table that has the same contents on all shards in a sharded database. Duplicated tables are implemented using materialized views that are refreshed at a certain rate.

 **See Also:**

- *Oracle Globally Distributed Database Guide* for an introduction to sharding
- *Oracle Globally Distributed Database Guide* for more information about duplicated tables

## 2.373 SKIP\_UNUSABLE\_INDEXES

SKIP\_UNUSABLE\_INDEXES enables or disables the use and reporting of tables with unusable indexes or index partitions.

| Property                   | Description                 |
|----------------------------|-----------------------------|
| <b>Parameter type</b>      | Boolean                     |
| <b>Default value</b>       | true                        |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM |
| <b>Modifiable in a PDB</b> | Yes                         |
| <b>Range of values</b>     | true   false                |
| <b>Basic</b>               | No                          |

If a SQL statement uses a hint that forces the usage of an unusable index, then this hint takes precedence over initialization parameter settings, including SKIP\_UNUSABLE\_INDEXES. If the optimizer chooses an unusable index, then an ORA-01502 error will result. (See *Oracle Database Administrator's Guide* for more information about using hints.)

### Values

- true

Disables error reporting of indexes and index partitions marked UNUSABLE. This setting allows all operations (inserts, deletes, updates, and selects) on tables with unusable indexes or index partitions.

 **Note:**

If an index is used to enforce a UNIQUE constraint on a table, then allowing insert and update operations on the table might violate the constraint. Therefore, this setting does not disable error reporting for unusable indexes that are unique.

- false

Enables error reporting of indexes marked UNUSABLE. This setting does not allow inserts, deletes, and updates on tables with unusable indexes or index partitions.

**See Also:**

*Oracle Database SQL Language Reference* for more information about hints

## 2.374 SMTP\_OUT\_SERVER

SMTP\_OUT\_SERVER specifies the SMTP host and port to which UTL\_MAIL delivers out-bound E-mail.

| Property                   | Description                                                          |
|----------------------------|----------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                               |
| <b>Syntax</b>              | SMTP_OUT_SERVER = <i>server_clause</i> [, <i>server_clause</i> ] ... |
| <b>Syntax</b>              | <b>server_clause</b> ::=<br><i>host_name</i> [: <i>port</i> ]        |
| <b>Default value</b>       | There is no default value.                                           |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                                          |
| <b>Modifiable in a PDB</b> | Yes                                                                  |
| <b>Basic</b>               | No                                                                   |

Multiple servers may be specified, separated by commas.

If the first server in the list is unavailable, then UTL\_MAIL tries the second server, and so on.

If SMTP\_OUT\_SERVER is not specified, then the SMTP server name defaults to the value of DB\_DOMAIN, the port number defaults to 25, and the SMTP domain defaults to the suffix of DB\_DOMAIN.

**See Also:**

*Oracle Database PL/SQL Packages and Types Reference* for information on the UTL\_MAIL package

## 2.375 SORT\_AREA\_RETAINED\_SIZE

SORT\_AREA\_RETAINED\_SIZE specifies (in bytes) the maximum amount of the user global area (UGA) memory retained after a sort run completes. The retained size controls the size of the read buffer, which Oracle uses to maintain a portion of the sort in memory. This memory is released back to the UGA, not to the operating system, after the last row is fetched from the sort space.

| Property              | Description                              |
|-----------------------|------------------------------------------|
| <b>Parameter type</b> | Integer                                  |
| <b>Default value</b>  | Derived from SORT_AREA_SIZE              |
| <b>Modifiable</b>     | ALTER SESSION, ALTER SYSTEM ... DEFERRED |

| Property            | Description                                                                     |
|---------------------|---------------------------------------------------------------------------------|
| Modifiable in a PDB | Yes                                                                             |
| Range of values     | From the value equivalent of two database blocks to the value of SORT_AREA_SIZE |
| Basic               | No                                                                              |

**Note:**

Oracle does not recommend using the `SORT_AREA_RETAINED_SIZE` parameter unless the instance is configured with the shared server option. Oracle recommends that you enable automatic sizing of SQL working areas by setting `PGA_AGGREGATE_TARGET` instead. `SORT_AREA_RETAINED_SIZE` is retained for backward compatibility.

Oracle may allocate multiple sort spaces of this size for each query. Usually, only one or two sorts occur simultaneously, even for complex queries. In some cases, however, additional concurrent sorts are required, and each sort keeps its own memory area. If the shared server is used, allocation is to the SGA until the value in `SORT_AREA_RETAINED_SIZE` is reached. The difference between `SORT_AREA_RETAINED_SIZE` and `SORT_AREA_SIZE` is allocated to the PGA.

**Note:**

The default value as reflected in the `V$PARAMETER` dynamic performance view is 0. However, if you do not explicitly set this parameter, Oracle actually uses the value of the `SORT_AREA_SIZE` parameter.

**See Also:**

- ["SORT\\_AREA\\_SIZE"](#)
- *Oracle Database Performance Tuning Guide* for information on setting the values of this parameter and the `SORT_AREA_SIZE` parameter to tune sort operations using shared servers

## 2.376 SORT\_AREA\_SIZE

`SORT_AREA_SIZE` specifies (in bytes) the maximum amount of memory Oracle will use for a sort.

| Property            | Description                              |
|---------------------|------------------------------------------|
| Parameter type      | Integer                                  |
| Default value       | 65536                                    |
| Modifiable          | ALTER SESSION, ALTER SYSTEM ... DEFERRED |
| Modifiable in a PDB | Yes                                      |

| Property        | Description                                                                                 |
|-----------------|---------------------------------------------------------------------------------------------|
| Range of values | Minimum: the value equivalent of six database blocks<br>Maximum: operating system-dependent |
| Basic           | No                                                                                          |

**Note:**

Oracle does not recommend using the `SORT_AREA_SIZE` parameter unless the instance is configured with the shared server option. Oracle recommends that you enable automatic sizing of SQL working areas by setting `PGA_AGGREGATE_TARGET` instead. `SORT_AREA_SIZE` is retained for backward compatibility.

After the sort is complete, but before the rows are returned, Oracle releases all of the memory allocated for the sort, except the amount specified by the `SORT_AREA_RETAINED_SIZE` parameter. After the last row is returned, Oracle releases the remainder of the memory.

Increasing `SORT_AREA_SIZE` size improves the efficiency of large sorts.

Each sort in a query can consume memory up to the amount specified by `SORT_AREA_SIZE`, and there can be multiple sorts in a query. Also, if a query is executed in parallel, each PX server can consume memory up to the amount specified by `SORT_AREA_SIZE` for each sort it does.

`SORT_AREA_SIZE` is also used for inserts and updates to bitmap indexes. Setting this value appropriately results in a bitmap segment being updated only once for each DML operation, even if more than one row in that segment changes.

Larger values of `SORT_AREA_SIZE` permit more sorts to be performed in memory. If more space is required to complete the sort than will fit into the memory provided, then temporary segments on disk are used to hold the intermediate sort runs.

The default is adequate for most OLTP operations. You might want to adjust this parameter for decision support systems, batch jobs, or large `CREATE INDEX` operations.

**See Also:**

- *Oracle Database Concepts* for information on sort areas
- Your operating system-specific Oracle documentation for the default value on your system
- "[SORT\\_AREA\\_RETAINED\\_SIZE](#)"

## 2.377 SPATIAL\_VECTOR\_ACCELERATION

`SPATIAL_VECTOR_ACCELERATION` enables or disables the spatial vector acceleration.

| Property            | Description                                  |
|---------------------|----------------------------------------------|
| Parameter type      | Boolean                                      |
| Default value       | true                                         |
| Modifiable          | ALTER SESSION, ALTER SYSTEM                  |
| Modifiable in a PDB | Yes                                          |
| Range of values     | true   false                                 |
| Basic               | No                                           |
| Oracle RAC          | Multiple instances should use the same value |

The setting of `true` for this parameter improves spatial vector query performance.



#### See Also:

*Oracle Spatial Developer's Guide* for more information about this parameter

## 2.378 SPFILE

The value of this parameter is the name of the current server parameter file (`SPFILE`) in use.

| Property            | Description                                    |
|---------------------|------------------------------------------------|
| Parameter type      | String                                         |
| Syntax              | <code>SPFILE = spfile_name</code>              |
| Default value       | <code>ORACLE_BASE_CONFIG/dbs/spfile.ora</code> |
| Modifiable          | No                                             |
| Modifiable in a PDB | No                                             |
| Range of values     | Any valid <code>SPFILE</code>                  |
| Basic               | No                                             |
| Oracle RAC          | Multiple instances must have the same value.   |

This parameter can be defined in a client side `PFILE` to indicate the name of the server parameter file to use.

When the default server parameter file is used by the server, the value of `SPFILE` is internally set by the server.

The `SPFILE` resides in the `ORACLE_BASE_CONFIG/dbs` directory; however, users can place it anywhere on their system as long as it is specified in an initialization parameter file.



#### See Also:

*Oracle Database Administrator's Guide* for more information about creating the server parameter file

## 2.379 SQL\_ERROR\_MITIGATION

Use `SQL_ERROR_MITIGATION` to enable or disable automatic error mitigation for SQL statements.

| Property                   | Description                                      |
|----------------------------|--------------------------------------------------|
| <b>Parameter type</b>      | String                                           |
| <b>Syntax</b>              | <code>SQL_ERROR_MITIGATION = { ON   OFF }</code> |
| <b>Default value</b>       | ON                                               |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                      |
| <b>Modifiable in a PDB</b> | Yes                                              |
| <b>Basic</b>               | No                                               |
| <b>Oracle RAC</b>          | Different instances can use different values.    |

Set this parameter to `ON` to enable automatic error mitigation for SQL statements; set it to `OFF` to disable automatic error mitigation for SQL statements.



### Note:

This parameter is available starting with Oracle Database 23ai.

## 2.380 SQL\_HISTORY\_ENABLED

Use `SQL_HISTORY_ENABLED` to enable or disable SQL history monitoring.

| Property                   | Description                                   |
|----------------------------|-----------------------------------------------|
| <b>Parameter type</b>      | Boolean                                       |
| <b>Default value</b>       | false                                         |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                   |
| <b>Modifiable in a PDB</b> | Yes                                           |
| <b>Range of values</b>     | true   false                                  |
| <b>Basic</b>               | No                                            |
| <b>Oracle RAC</b>          | Different instances can use different values. |

To enable SQL history monitoring, set this parameter to `true`. This feature monitors user-issued SQL statements in each user session on a best effort, depending on memory capacity. DDL, DML, and query statements are monitored; SQL statements issued in the background and recursive SQL statements are excluded. The monitored information is exposed by the `V$SQL_HISTORY` dynamic performance view.

To disable SQL history monitoring, set this parameter to `false`.

**Note:**

This parameter is available starting with Oracle Database 23ai.

**See Also:**

"V\$SQL\_HISTORY"

## 2.381 SQL\_TRACE

SQL\_TRACE enables or disables the SQL trace facility.

| Property            | Description                 |
|---------------------|-----------------------------|
| Parameter type      | Boolean                     |
| Default value       | false                       |
| Modifiable          | ALTER SESSION, ALTER SYSTEM |
| Modifiable in a PDB | Yes                         |
| Range of values     | true   false                |
| Basic               | No                          |

Setting this parameter to `true` provides information on tuning that you can use to improve performance.

**Note:**

Using this initialization parameter to enable the SQL trace facility for the entire instance can have a severe performance impact. Enable the facility for specific sessions using the `ALTER SESSION` statement. If you must enable the facility on an entire production environment, then you can minimize performance impact by:

- Maintaining at least 25% idle CPU capacity
- Maintaining adequate disk space for the `USER_DUMP_DEST` location
- Striping disk space over sufficient disks

**Note:**

The `SQL_TRACE` parameter is deprecated. Oracle recommends that you use the `DBMS_MONITOR` and `DBMS_SESSION` packages instead. `SQL_TRACE` is retained for backward compatibility only.



 **See Also:**

- `"USER_DUMP_DEST"`
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_MONITOR` package
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_SESSION` package
- *Oracle Database Performance Tuning Guide* for more information about performance diagnostic tools

## 2.382 SQL\_TRANSPILER

`SQL_TRANSPILER` enables or disables the SQL Transpiler.

| Property            | Description                                   |
|---------------------|-----------------------------------------------|
| Parameter type      | String                                        |
| Syntax              | <code>SQL_TRANSPILER = { ON   OFF }</code>    |
| Default value       | <code>OFF</code>                              |
| Modifiable          | <code>ALTER SESSION, ALTER SYSTEM</code>      |
| Modifiable in a PDB | Yes                                           |
| Basic               | No                                            |
| Oracle RAC          | Different instances can use different values. |

When this parameter is set to `ON`, the SQL Transpiler feature is enabled and PL/SQL functions are automatically transpiled into SQL expressions whenever possible, without user intervention. When this parameter is set to `OFF`, the SQL Transpiler feature is disabled.

 **Note:**

This parameter is available starting with Oracle Database 23ai.

## 2.383 SQL92\_SECURITY

`SQL92_SECURITY` specifies whether users must have been granted the `SELECT` privilege on a table to execute an `UPDATE` or `DELETE` statement that references table column values in a `WHERE` or `SET` clause.

| Property            | Description       |
|---------------------|-------------------|
| Parameter type      | Boolean           |
| Default value       | <code>true</code> |
| Modifiable          | No                |
| Modifiable in a PDB | Yes               |

| Property        | Description  |
|-----------------|--------------|
| Range of values | true   false |
| Basic           | No           |

The SQL standard specifies that security administrators should be able to require that users have `SELECT` privilege on a table when executing an `UPDATE` or `DELETE` statement that references table column values in a `WHERE` or `SET` clause.

#### Values

- true

The user must have `SELECT` privilege on a column to reference it in the `WHERE` clause of a `DELETE` or `UPDATE` statement, on the right hand side of an assignment in the `SET` clause of an `UPDATE` statement.

- false

A user with `DELETE` privilege on the target table of a `DELETE` statement may reference any column of that target table in the `WHERE` clause. A user with `UPDATE` privilege on the target table of an `UPDATE` statement may reference any column of that target in the `WHERE` clause or on the right hand side of any assignment in the `SET` clause of the `UPDATE` statement.

## 2.384 SQLTUNE\_CATEGORY

`SQLTUNE_CATEGORY` specifies the category name for use by sessions to qualify the lookup of SQL profiles during SQL compilation.

| Property            | Description                                   |
|---------------------|-----------------------------------------------|
| Parameter type      | String                                        |
| Syntax              | <code>SQLTUNE_CATEGORY = category_name</code> |
| Default value       | DEFAULT                                       |
| Modifiable          | ALTER SESSION, ALTER SYSTEM                   |
| Modifiable in a PDB | Yes                                           |
| Basic               | No                                            |

#### See Also:

*Oracle Database PL/SQL Packages and Types Reference* for information on the `DBMS_SQLTUNE` package

## 2.385 STANDBY\_DB\_PRESERVE\_STATES

`STANDBY_DB_PRESERVE_STATES` controls whether user sessions, buffers, and other internal states of the instance are retained when a readable physical standby database is converted to

a primary database. This parameter is meaningful on a physical standby database that is open in real-time query mode.

| Property                   | Description                                                    |
|----------------------------|----------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                         |
| <b>Syntax</b>              | STANDBY_DB_PRESERVE_STATES = { NONE   SESSION   BUFFER   ALL } |
| <b>Default value</b>       | NONE                                                           |
| <b>Modifiable</b>          | No                                                             |
| <b>Modifiable in a PDB</b> | No                                                             |
| <b>Basic</b>               | No                                                             |
| <b>Oracle RAC</b>          | The same value must be used on all instances.                  |

### Values

- **NONE**  
Nothing is retained. All sessions are disconnected and all buffers are flushed. This is the default value.
- **SESSION**  
User sessions are retained. When the database is reopened as the primary, the retained sessions resume their operations as if nothing had happened. If the database (or an individual PDB) is not opened in the primary role, the sessions will be terminated.
- **BUFFER**  
All current buffers are retained. Media recovery buffers are converted to current buffers and retained, if possible. When the database is reopened as the primary, the retained buffers are available for use, which may enable queries to run faster during the first few minutes of operation. If the database (or an individual PDB) is not opened in the primary role, the buffers will be flushed.
- **ALL**  
This value is equivalent to setting both the `SESSION` and `BUFFER` values.



#### Note:

Sessions that have long running queries or are using database links will not be retained regardless of the setting of this parameter.



#### See Also:

- *Oracle Data Guard Concepts and Administration* for more information about real-time query mode
- *Oracle Data Guard Concepts and Administration* for more information about preserving user sessions and buffers when a standby database is converted to a primary database

## 2.386 STANDBY\_FILE\_MANAGEMENT

STANDBY\_FILE\_MANAGEMENT enables or disables automatic standby file management.

| Property            | Description                                 |
|---------------------|---------------------------------------------|
| Parameter type      | String                                      |
| Syntax              | STANDBY_FILE_MANAGEMENT = { MANUAL   AUTO } |
| Default value       | MANUAL                                      |
| Modifiable          | ALTER SYSTEM                                |
| Modifiable in a PDB | No                                          |
| Basic               | No                                          |

When automatic standby file management is enabled, operating system file additions and deletions on the primary database are replicated on the standby database.

STANDBY\_FILE\_MANAGEMENT is only applicable to physical standby databases.

### Values

- MANUAL  
Disables automatic standby file management
- AUTO  
Enables automatic standby file management

Setting STANDBY\_FILE\_MANAGEMENT to AUTO causes Oracle to automatically create files on the standby database and, in some cases, overwrite existing files. Care must be taken when setting STANDBY\_FILE\_MANAGEMENT and DB\_FILE\_NAME\_CONVERT so that existing standby files will not be accidentally overwritten.

If the standby database is on the same system as the primary database, then ensure that the primary and standby systems do not point to the same files.



### See Also:

*Oracle Data Guard Concepts and Administration* for more information about setting this parameter

## 2.387 STANDBY\_PDB\_SOURCE\_FILE\_DBLINK

STANDBY\_PDB\_SOURCE\_FILE\_DBLINK specifies the name of a database link that will be used to try to copy the datafiles from a source PDB to which the database link points.

| Property       | Description                                    |
|----------------|------------------------------------------------|
| Parameter type | String                                         |
| Syntax         | STANDBY_PDB_SOURCE_FILE_DBLINK = database-link |
| Default value  | NULL                                           |

| Property                   | Description                                         |
|----------------------------|-----------------------------------------------------|
| <b>Modifiable</b>          | ALTER SYSTEM                                        |
| <b>Modifiable in a PDB</b> | No                                                  |
| <b>Basic</b>               | No                                                  |
| <b>Oracle RAC</b>          | Different values can be set on different instances. |

In Oracle Database releases prior to Oracle Database 18c, if a PDB was created by cloning a PDB from the same CDB (a local clone), on a standby the datafiles were automatically copied from the source PDB. However, when the PDB was created as a remote clone, the user was responsible for copying datafiles to the Oracle Managed Files (OMF) location on the standby.

To address that deficiency, the `STANDBY_PDB_SOURCE_FILE_DBLINK` parameter specifies the name of a database link that will be used to try to copy the datafiles from a source PDB to which the database link points. The file copy is done only if the database link points to the source PDB and the source PDB is open in read only mode. Otherwise, the user is still responsible for copying datafiles to the OMF location on the standby.

This parameter can also be used to try to copy files in cases where the source PDB's files are not present on the standby. For example, the source PDB could have been created with `standbys=NONE`. In this case, the `STANDBY_PDB_SOURCE_FILE_DBLINK` parameter can enable the standby to copy files from the primary if there is a database link set up to the primary.



**See Also:**

"[STANDBY\\_PDB\\_SOURCE\\_FILE\\_DIRECTORY](#)"

## 2.388 STANDBY\_PDB\_SOURCE\_FILE\_DIRECTORY

`STANDBY_PDB_SOURCE_FILE_DIRECTORY` specifies a directory location on the standby where source datafiles for instantiating the standby PDB may be found.

| Property                   | Description                                                          |
|----------------------------|----------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                               |
| <b>Syntax</b>              | <code>STANDBY_PDB_SOURCE_FILE_DIRECTORY = datafiles-directory</code> |
| <b>Default value</b>       | NULL                                                                 |
| <b>Modifiable</b>          | ALTER SYSTEM                                                         |
| <b>Modifiable in a PDB</b> | No                                                                   |
| <b>Basic</b>               | No                                                                   |
| <b>Oracle RAC</b>          | Different values can be set on different instances.                  |

In Oracle Database releases prior to Oracle Database 18c, if a PDB was plugged into a CDB, on a standby, the datafiles were expected to be in PDB's Oracle Managed Files (OMF) directory location. If they were not found there, the user had to copy the datafiles to the OMF location and then restart redo apply on the standby.

To address that deficiency, the `STANDBY_PDB_SOURCE_FILE_DIRECTORY` specifies a directory location on the standby where source datafiles for instantiating the PDB may be found. If the

datafiles are not found there, an attempt will be made to locate them in the OMF location on the standby.

This parameter can also be used to try to copy files in cases where the source PDB's files are not present on the standby. For example, the source PDB could have been created with `standbys=NONE`. In this case, the `STANDBY_PDB_SOURCE_FILE_DIRECTORY` parameter can enable the standby to copy files from a location if they are made available.

**See Also:**

["STANDBY\\_PDB\\_SOURCE\\_FILE\\_DBLINK"](#)

## 2.389 STAR\_TRANSFORMATION\_ENABLED

`STAR_TRANSFORMATION_ENABLED` determines whether a cost-based query transformation will be applied to star queries.

| Property            | Description                                                                |
|---------------------|----------------------------------------------------------------------------|
| Parameter type      | String                                                                     |
| Syntax              | <code>STAR_TRANSFORMATION_ENABLED = { FALSE   TRUE   TEMP_DISABLE }</code> |
| Default value       | FALSE                                                                      |
| Modifiable          | ALTER SESSION, ALTER SYSTEM                                                |
| Modifiable in a PDB | Yes                                                                        |
| Basic               | Yes                                                                        |

### Values

- FALSE  
The transformation will not be applied.
- TRUE  
The optimizer will consider performing a cost-based query transformation on the star query.
- TEMP\_DISABLE  
The optimizer will consider performing a cost-based query transformation on the star query but will not use temporary tables in the star transformation.

**See Also:**

- *Oracle Database SQL Tuning Guide* for information on enabling star queries

## 2.390 STATISTICS\_LEVEL

`STATISTICS_LEVEL` specifies the level of collection for database and operating system statistics. The Oracle Database collects these statistics for a variety of purposes, including making self-management decisions.

| Property                   | Description                                               |
|----------------------------|-----------------------------------------------------------|
| <b>Parameter type</b>      | String                                                    |
| <b>Syntax</b>              | <code>STATISTICS_LEVEL = { ALL   TYPICAL   BASIC }</code> |
| <b>Default value</b>       | <code>TYPICAL</code>                                      |
| <b>Modifiable</b>          | <code>ALTER SESSION, ALTER SYSTEM</code>                  |
| <b>Modifiable in a PDB</b> | Yes                                                       |
| <b>Basic</b>               | No                                                        |

The default setting of `TYPICAL` ensures collection of all major statistics required for database self-management functionality and provides best overall performance. The default value should be adequate for most environments.

When the `STATISTICS_LEVEL` parameter is set to `ALL`, additional statistics are added to the set of statistics collected with the `TYPICAL` setting. The additional statistics are timed operating system statistics and plan execution statistics.

Setting the `STATISTICS_LEVEL` parameter to `BASIC` disables the collection of many of the important statistics required by Oracle Database features and functionality, including:

- All server-generated alerts
- Automatic Database Diagnostic Monitor (ADDM)
- Automatic optimizer statistics collection
- Automatic SGA Memory Management
- Automatic Workload Repository (AWR) Snapshots
- Buffer cache advisory
- Database time distribution statistics (`V$SESS_TIME_MODEL` and `V$SYS_TIME_MODEL`)
- End to End Application Tracing (`V$CLIENT_STATS`)
- Monitoring of statistics
- MTTR advisory
- Object Activity Tracking System (OATS)
- Object level statistics
- PGA Target advisory
- Segment level statistics
- Service level statistics
- Shared pool sizing advisory
- Timed statistics

**Note:**

Oracle strongly recommends that you do not disable these important features and functionality.

When the `STATISTICS_LEVEL` parameter is modified by `ALTER SYSTEM`, all advisories or statistics are dynamically turned on or off, depending on the new value of `STATISTICS_LEVEL`. When modified by `ALTER SESSION`, the following advisories or statistics are turned on or off in the local session only. Their systemwide state is not changed:

- Timed statistics
- Timed operating system statistics
- Plan execution statistics

The `V$STATISTICS_LEVEL` view displays information about the status of the statistics or advisories controlled by the `STATISTICS_LEVEL` parameter. See "[V\\$STATISTICS\\_LEVEL](#)".

**See Also:**

*Oracle Database Performance Tuning Guide* for more information about this parameter

## 2.391 STREAMS\_POOL\_SIZE

The `STREAMS_POOL_SIZE` value helps determine the size of the Streams pool.

| Property                   | Description                                                                                                             |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | Big integer                                                                                                             |
| <b>Syntax</b>              | <code>STREAMS_POOL_SIZE = integer [K   M   G]</code>                                                                    |
| <b>Default value</b>       | 0                                                                                                                       |
| <b>Modifiable</b>          | <code>ALTER SYSTEM</code>                                                                                               |
| <b>Modifiable in a PDB</b> | No                                                                                                                      |
| <b>Range of values</b>     | Minimum: 0 (values greater than zero are rounded up to the nearest granule size)<br>Maximum: operating system-dependent |
| <b>Basic</b>               | No                                                                                                                      |

Oracle's Automatic Shared Memory Management feature manages the size of the Streams pool when the `SGA_TARGET` initialization parameter is set to a nonzero value. If the `STREAMS_POOL_SIZE` initialization parameter also is set to a nonzero value, then Automatic Shared Memory Management uses this value as a minimum for the Streams pool.

If `SGA_TARGET` is set to a nonzero value and `STREAMS_POOL_SIZE` is not specified or is set to a null value, Automatic Shared Memory Management uses 0 (zero) bytes as a minimum for the Streams pool.



If the `STREAMS_POOL_SIZE` initialization parameter is set to a nonzero value, and the `SGA_TARGET` parameter is set to 0 (zero), then the Streams pool size is the value specified by the `STREAMS_POOL_SIZE` parameter, in bytes.

If both the `STREAMS_POOL_SIZE` and the `SGA_TARGET` initialization parameters are set to 0 (zero), then, by default, on the first request for Streams pool memory in a database, an amount of memory equal to 10% of the shared pool is transferred from the buffer cache to the Streams pool. Products and features that use the Streams pool include Oracle GoldenGate, XStream, Oracle Advanced Queuing, and Oracle Data Pump.

The Streams pool is a shared resource, and the amount of memory a process can use from the Streams pool is determined by the application. The capture or apply parameter `MAX_SGA_SIZE` can be controlled for Oracle GoldenGate or XStream. For Oracle Advanced Queuing, use the procedures in the `dbms_aqadm` package to control the amount of Streams Pool needed.

 **See Also:**

- *Oracle Database XStream Guide* for information on configuring the Streams pool for an XStream Out configuration
- *Oracle Database XStream Guide* for information on configuring the Streams pool for an XStream In configuration
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `dbms_aqadm` package

## 2.392 SYSDATE\_AT\_DBTIMEZONE

`SYSDATE_AT_DBTIMEZONE` enables special handling for the date and time value returned in calls to `SYSDATE` and `SYSTIMESTAMP`.

Depending on the value of `SYSDATE_AT_DBTIMEZONE`, you see either the date and time based on the default Autonomous Database time zone, Coordinated Universal Time (UTC), or based on the time zone that you set in your database.

 **Note:**

This parameter is valid only for Oracle Autonomous Database Serverless. On other types of Oracle databases, the value of this parameter is ignored.

 **See Also:**

*Using Oracle Autonomous Database Serverless* for more information about this parameter

## 2.393 TABLESPACE\_ENCRYPTION

TABLESPACE\_ENCRYPTION specifies the tablespace encryption policy for a database.

| Property                   | Description                                                            |
|----------------------------|------------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                                 |
| <b>Syntax</b>              | TABLESPACE_ENCRYPTION = { AUTO_ENABLE   MANUAL_ENABLE   DECRYPT_ONLY } |
| <b>Default value</b>       | Cloud databases: AUTO_ENABLE<br>On-premises databases: MANUAL_ENABLE   |
| <b>Modifiable</b>          | No                                                                     |
| <b>Modifiable in a PDB</b> | No                                                                     |
| <b>Basic</b>               | No                                                                     |
| <b>Oracle RAC</b>          | The same value should be specified for all instances.                  |

The TABLESPACE\_ENCRYPTION parameter is an alternative to the deprecated ENCRYPT\_NEW\_TABLESPACES parameter. Similar to ENCRYPT\_NEW\_TABLESPACES, this parameter allows you to specify whether to encrypt newly created user tablespaces. However, the TABLESPACE\_ENCRYPTION parameter offers an additional benefit in Data Guard environments. In previous releases, tablespaces in Data Guard environments were required to use the same encryption policy on the primary and standby databases. For example, if all tablespaces were encrypted on the primary database, then all tablespaces were required to be encrypted on the standby database. The TABLESPACE\_ENCRYPTION parameter eliminates this requirement and allows you to use different tablespace encryption policies on primary and standby databases. See *Oracle Database Transparent Data Encryption Guide* for more information.

If the behavior specified by the ENCRYPT\_NEW\_TABLESPACES setting conflicts with the behavior specified by the TABLESPACE\_ENCRYPTION setting, then the TABLESPACE\_ENCRYPTION behavior takes precedence.

### Values:

- AUTO\_ENABLE

Use this setting if you would like to encrypt all tablespaces in the database.

All newly created tablespaces will be encrypted. In the CREATE TABLESPACE statement, if you specify the DECRYPT clause, it will be ignored and the tablespace will be encrypted. If you specify the ENCRYPTION USING *algorithm* ENCRYPT clause, the specified algorithm will be used to encrypt the tablespace. If you specify the ENCRYPTION ENCRYPT clause and do not specify an algorithm, the tablespace will be encrypted with the algorithm specified by the TABLESPACE\_ENCRYPTION\_DEFAULT\_ALGORITHM parameter.

If an existing tablespace is unencrypted, the database writes a warning to the alert log. See *Oracle Database Transparent Data Encryption Guide* for information about encrypting existing tablespaces.

If you attempt to decrypt an existing encrypted tablespace, an error will occur.

This is the default setting for Cloud databases. Moreover, because all tablespaces must be encrypted in the Cloud, setting this parameter to MANUAL\_ENABLE or DECRYPT\_ONLY for a Cloud database will be ignored and the Cloud database will behave as if the setting is AUTO\_ENABLE.

- MANUAL\_ENABLE

Use this setting if you would like to manually control which tablespaces are encrypted.

To encrypt a tablespace, specify the `ENCRYPTION ... ENCRYPT` clause in the `CREATE TABLESPACE` statement. If you specify the `ENCRYPTION USING algorithm ENCRYPT` clause, the specified algorithm will be used to encrypt the tablespace. If you specify the `ENCRYPTION ENCRYPT` clause and do not specify an algorithm, the tablespace will be encrypted with the algorithm specified by the `TABLESPACE_ENCRYPTION_DEFAULT_ALGORITHM` parameter.

This is the default setting for on-premises databases. This setting is ignored for Cloud databases.

- DECRYPT\_ONLY

Use this setting if you do not want any encrypted tablespaces in the database.

All newly created tablespaces must be unencrypted. If you specify the `ENCRYPT` clause in the `CREATE TABLESPACE` statement, an error will occur.

If an existing tablespace is encrypted, the database writes a warning to the alert log. See *Oracle Database Transparent Data Encryption Guide* for information about decrypting existing tablespaces.

If you attempt to encrypt an existing unencrypted tablespace, an error will occur.

This setting is valid only for on-premises databases. This setting is ignored for Cloud databases.



#### See Also:

"[ENCRYPT\\_NEW\\_TABLESPACES](#)"

## 2.394 TABLESPACE\_ENCRYPTION\_DEFAULT\_ALGORITHM

`TABLESPACE_ENCRYPTION_DEFAULT_ALGORITHM` specifies the default algorithm the database uses when encrypting a tablespace.

| Property                   | Description                                                                                                                                                                                                                                             |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                                                                                                                                                                                                                  |
| <b>Syntax</b>              | <code>TABLESPACE_ENCRYPTION_DEFAULT_ALGORITHM = { AES128   AES192   AES256   ARIA128   ARIA192   ARIA256   3DES168 }</code><br><b>Note:</b> 3DES168 must be enclosed in single quotation marks when specified in the <code>ALTER SYSTEM</code> command. |
| <b>Default value</b>       | AES256                                                                                                                                                                                                                                                  |
| <b>Modifiable</b>          | ALTER SYSTEM                                                                                                                                                                                                                                            |
| <b>Modifiable in a PDB</b> | Yes                                                                                                                                                                                                                                                     |
| <b>Basic</b>               | No                                                                                                                                                                                                                                                      |
| <b>Oracle RAC</b>          | The same value should be specified for all instances.                                                                                                                                                                                                   |

The value of this initialization parameter determines the algorithm the database uses if an encryption algorithm is not specified when creating an encrypted tablespace or when encrypting an existing tablespace. For example, the value of this parameter takes effect when:

- You create a tablespace with the `CREATE TABLESPACE` statement and you specify the `ENCRYPTION ... ENCRYPT` clause, but you do not specify the `USING` keyword and an algorithm.
- You create a tablespace with the `CREATE TABLESPACE` statement and you do not specify the `ENCRYPTION ... ENCRYPT` clause. However, the value of the `ENCRYPT_NEW_TABLESPACES` initialization parameter instructs the database to encrypt the tablespace.
- You encrypt an existing tablespace with the `ALTER TABLESPACE` statement, either by specifying the `ENCRYPTION OFFLINE ENCRYPT` clause or the `ENCRYPTION ONLINE ... ENCRYPT` clause, and you do not specify the `USING` keyword and an algorithm.

 **Note:**

GOST 28147-89 has been deprecated by the Russian government, and SEED has been deprecated by the South Korean government. If you need South Korean government-approved TDE cryptography, then use ARIA instead. If you are using GOST 28147-89, then you must decrypt and encrypt with another supported TDE algorithm. The decryption algorithms for GOST 28147-89 and SEED are included in Oracle Database 23ai, but are deprecated, and the GOST encryption algorithm is desupported with Oracle Database 23ai. If you are using GOST or SEED for TDE encryption, then Oracle recommends that you online re-key to another algorithm before upgrading to Oracle Database 23ai. However, with the exception of the HP Itanium platform, the GOST and SEED decryption libraries are available with Oracle Database 23ai, so you can also decrypt after upgrading.

 **See Also:**

- ["ENCRYPT\\_NEW\\_TABLESPACES"](#)
- *Oracle Database SQL Language Reference* for more information about the `CREATE TABLESPACE` statement
- *Oracle Database SQL Language Reference* for more information about the `ALTER TABLESPACE` statement

## 2.395 TAPE\_ASYNC\_IO

`TAPE_ASYNC_IO` controls whether I/O to sequential devices (for example, backup or restore of Oracle data to or from tape) is asynchronous—that is, whether parallel server processes can overlap I/O requests with CPU processing during table scans.

| Property            | Description  |
|---------------------|--------------|
| Parameter type      | Boolean      |
| Default value       | true         |
| Modifiable          | No           |
| Modifiable in a PDB | No           |
| Range of values     | true   false |

| Property | Description |
|----------|-------------|
| Basic    | No          |

If your platform supports asynchronous I/O to sequential devices, Oracle recommends that you leave this parameter set to its default. However, if the asynchronous I/O implementation is not stable, you can set `TAPE_ASYNC_IO` to `false` to disable asynchronous I/O. If your platform does not support asynchronous I/O to sequential devices, this parameter has no effect.

**See Also:**

*Oracle Database VLDB and Partitioning Guide* for more information about this parameter

## 2.396 TDE\_CONFIGURATION

Use `TDE_CONFIGURATION` to set the type of keystore that is used for Transparent Data Encryption (TDE) by the root container; united PDBs inherit the value from the root container, isolated PDBs can be set individually.

Before Oracle Database 18c, each PDB stored its separate encryption keys in the CDB's keystore (united mode). Starting with Oracle Database 18c Cloud environments, a PDB can optionally store its encryption keys in a separate keystore (isolated mode), thus allowing protection by a separate keystore password. Starting with Oracle Database 19c, version 19.14, isolated mode is available for all Oracle database deployments, including on-premises databases, legacy deployments, and engineered systems.

The `WALLET_ROOT` initialization parameter must be set in order for `TDE_CONFIGURATION` to take effect.

| Property       | Description                                                                                    |
|----------------|------------------------------------------------------------------------------------------------|
| Parameter type | String                                                                                         |
| Syntax         | <code>TDE_CONFIGURATION = "{ KEYSTORE_CONFIGURATION = value [; CONTAINER = pdb-name] }"</code> |

| Property                   | Description                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Syntax</b>              | <b>value ::=</b><br><pre>{ FILE   OKV   HSM   FILE OKV   FILE HSM   OKV FILE   HSM FILE }</pre> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>The KEYSTORE_CONFIGURATION value is case-insensitive. For example, you can specify FILE or file.</li> <li>FILE OKV, FILE HSM, OKV FILE, and HSM FILE are values. The vertical bars they contain are not separators in the syntax shown above.</li> </ul> |
| <b>Default value</b>       | None                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Modifiable</b>          | ALTER SYSTEM <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Modifiable in a PDB</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Basic</b>               | No                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Oracle RAC</b>          | The same value must be specified on all instances using the ALTER SYSTEM SET TDE_CONFIGURATION="KEYSTORE_CONFIGURATION=value" SCOPE=BOTH SID='*'; statement.                                                                                                                                                                                                                                                         |

<sup>1</sup> In some cases, when this parameter is set using ALTER SYSTEM SCOPE=SPFILE, the SHOW PARAMETER TDE\_CONFIGURATION statement does not show the correct value. However, the value set for TDE\_CONFIGURATION can be derived from information shown in the V\$ENCRYPTION\_WALLET view.

The following attributes can be specified:

- KEYSTORE\_CONFIGURATION attribute. This attribute is required. The value specified with this attribute configures the keystore type for the specified PDB. The following values can be specified for this attribute:
  - FILE: This value configures a wallet keystore.
  - OKV: This value configures the database to use Oracle Key Vault (OKV) for TDE key management.  
  
This value is also used to disable an auto-login OKV configuration and cause any existing cwallet.sso files, containing the credentials to the OKV server as the OKV\_PASSWORD client secret, to be ignored.
  - HSM: This value configures a hardware security module (HSM).  
  
Oracle does not support the use of HSMs for TDE key management. For more information, see My Oracle Support note 2310066.1 "Oracle TDE Support With 3rd Party HSM Vendors" at the following URL: <https://support.oracle.com/rs?type=doc&id=2310066.1>
  - FILE|OKV: This value configures a reverse migration from OKV to a wallet keystore.
  - FILE|HSM: This value configures a reverse migration from a HSM to a wallet keystore.

- OKV|FILE: This value configures a migration from a wallet to OKV.

This value is also used in an auto-login OKV configuration, because in this configuration a `cwallet.sso` file, containing the `OKV_PASSWORD` client secret, must be used by the Oracle server to obtain the credentials to log in to the OKV server.

- HSM|FILE: This value configures a migration from a wallet to a HSM.

Oracle does not support the use of HSMs for TDE key management. For more information, see My Oracle Support note 2310066.1 "Oracle TDE Support With 3rd Party HSM Vendors" at the following URL: <https://support.oracle.com/rs?type=doc&id=2310066.1>

Some of the `KEystore_CONFIGURATION` attribute values consist of a single word, for example, the `FILE`, `OKV`, and `HSM` values. The other `KEystore_CONFIGURATION` attribute values consist of two words separated by the "|" character that is a required part of the value's syntax, for example, the `FILE|OKV`, `FILE|HSM`, `OKV|FILE`, and `HSM|FILE` values.

- **CONTAINER attribute:** This optional attribute can be used only when setting the parameter in the `CDB$ROOT` of a CDB. The `CONTAINER` attribute can be specified only when the `CDB$ROOT` is in `MOUNTED` state. With this attribute, you must specify the name of the PDB for which you are setting the parameter. When you specify the `CONTAINER` attribute, you must use a semicolon ";" as the separation character between the `KEystore_CONFIGURATION` and `CONTAINER` attributes.

## Examples

The following statement configures a wallet keystore for the open PDB from which the statement is issued:

```
ALTER SYSTEM SET TDE_CONFIGURATION="KEystore_CONFIGURATION=FILE" SCOPE=BOTH SID='*';
```

The following statement configures an OKV keystore for the PDB in `MOUNTED` state from which the statement is issued:

```
ALTER SYSTEM SET TDE_CONFIGURATION="KEystore_CONFIGURATION=OKV" SCOPE=SPFILE SID='*';
```

The following statement configures an isolated standby PDB for an auto-open Oracle Key Vault setup; standby PDBs are `MOUNTED`, so the command must be executed in the standby root CDB:

```
ALTER SYSTEM SET TDE_CONFIGURATION="KEystore_CONFIGURATION=OKV|FILE;
CONTAINER=FINANCIALS" SCOPE=both SID='*';
```

### See Also:

- [WALLET\\_ROOT](#)
- [V\\$ENCRYPTION\\_WALLET](#)
- *Oracle Database Transparent Data Encryption Guide* for information about managing keystores and encryption keys in united mode
- *Oracle Database Transparent Data Encryption Guide* for information about managing keystores and encryption keys in isolated mode

## 2.397 TDE\_KEY\_CACHE

Use `TDE_KEY_CACHE` to enable or disable sharing of Transparent Data Encryption (TDE) master encryption keys across Oracle processes.



### Note:

This parameter is available only for databases in Oracle Cloud Infrastructure (OCI) that use the OCI Key Management Service (KMS) for TDE key management.

| Property            | Description                                   |
|---------------------|-----------------------------------------------|
| Parameter type      | Boolean                                       |
| Default value       | false                                         |
| Modifiable          | ALTER SESSION, ALTER SYSTEM                   |
| Modifiable in a PDB | Yes                                           |
| Range of values     | true   false                                  |
| Basic               | No                                            |
| Oracle RAC          | The same value must be used on all instances. |

### Values:

- `true`  
Enables sharing of TDE master encryption keys across Oracle processes
- `false`  
Disables sharing of TDE master encryption keys across Oracle processes



### See Also:

- *Oracle Database Transparent Data Encryption Guide* for more information about setting the TDE master encryption key in a hardware keystore in united mode
- *Oracle Database Transparent Data Encryption Guide* for more information about setting the TDE master encryption key in a hardware keystore in isolated mode

## 2.398 TEMP\_UNDO\_ENABLED

`TEMP_UNDO_ENABLED` determines whether transactions within a particular session can have a temporary undo log.

| Property       | Description |
|----------------|-------------|
| Parameter type | Boolean     |
| Default value  | false       |



| Property                   | Description                                                                      |
|----------------------------|----------------------------------------------------------------------------------|
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                                                      |
| <b>Modifiable in a PDB</b> | Yes                                                                              |
| <b>Range of values</b>     | true   false                                                                     |
| <b>Basic</b>               | No                                                                               |
| <b>Oracle RAC</b>          | Each session of each instance can have its own value or not set any value at all |

The default choice for database transactions has been to have a single undo log per transaction. This parameter, at the session level / system level scope, lets a transaction split its undo log into temporary undo log (for changes on temporary objects) and permanent undo log (for changes on persistent objects).

By splitting the undo stream of a transaction into two streams (temporary and permanent), a database can provide separate storage and retention model for these. This results in overall reduction in the size of undo log and redo log in the database

If database applications make use of temporary objects (using global temporary tables or temporary table transformations), it is advisable to set this parameter's value to `true`.

When `TEMP_UNDO_ENABLED` is set to `true` and the `COMPATIBLE` initialization parameter is set to `12.0.0`, this feature is enabled. The temporary undo feature is enabled for the session in which it is set. Setting it across the system will affect all existing and upcoming sessions. If the value is set in the `init.ora` file, all upcoming sessions will inherit this value unless overwritten by an explicit `ALTER SESSION` or `ALTER SYSTEM` statement. All undo for operations on temporary objects is deemed temporary.

If `TEMP_UNDO_ENABLED` is not set to `true`, existing applications that make use of temporary objects run as is without any change.

Once the value of the parameter is set, it cannot be changed for the lifetime of the session. If the session has temporary objects using temporary undo, the parameter cannot be disabled for the session. Similarly, if the session already has temporary objects using regular undo, setting this parameter will have no effect.

This parameter is only applicable for the primary database. For a standby database, this parameter is ignored because temporary undo is enabled by default on the standby database.



#### See Also:

*Oracle Database Administrator's Guide* for information on managing temporary undo

## 2.399 THREAD

THREAD has been superseded by the `INSTANCE_NAME` and `INSTANCE_NUMBER` parameters, and will be made obsolete in a future release of the Oracle Database.

| Property              | Description |
|-----------------------|-------------|
| <b>Parameter type</b> | Integer     |

| Property            | Description                                                  |
|---------------------|--------------------------------------------------------------|
| Default value       | 0                                                            |
| Modifiable          | No                                                           |
| Modifiable in a PDB | No                                                           |
| Range of values     | 0 to the maximum number of enabled threads                   |
| Basic               | No                                                           |
| Oracle RAC          | If specified, multiple instances must have different values. |

**See Also:**

"INSTANCE\_NAME" and "INSTANCE\_NUMBER"

## 2.400 THREADED\_EXECUTION

THREADED\_EXECUTION specifies whether to enable the multithreaded Oracle model.

| Property            | Description                                         |
|---------------------|-----------------------------------------------------|
| Parameter type      | Boolean                                             |
| Default value       | On UNIX and Linux: false<br>On Windows: true        |
| Modifiable          | No                                                  |
| Modifiable in a PDB | No                                                  |
| Range of values     | true   false                                        |
| Basic               | No                                                  |
| Oracle RAC          | If specified, all instances must use the same value |

### THREADED\_EXECUTION on UNIX and Linux

Oracle Database 12c introduced the `THREADED_EXECUTION` initialization parameter for databases running on UNIX and Linux systems. On such databases, the default value for `THREADED_EXECUTION` is `false`. Setting this parameter to `true` enables the multithreaded Oracle model, which allows Oracle processes on UNIX and Linux to run as operating system threads in separate address spaces.

By default, some background processes on UNIX and Linux always use threaded execution; the remaining Oracle processes run as operating system processes. Thus, an "Oracle process" is not always equivalent to an "operating system process."

 **Note:**

When `THREADED_EXECUTION` is set to `true` on databases running on UNIX and Linux systems, which enables the multithreaded Oracle model, operating system authentication is not supported. Attempts to connect to the database using operating system authentication (for example, `CONNECT / AS SYSDBA` or `CONNECT /`) when this initialization parameter is set to `true` receive an `ORA-01031 "insufficient privileges"` error.

The solution to this error is to always use the password when connecting to the database.

Also, when this initialization parameter is set to `true` on databases running on UNIX and Linux systems, the `DEDICATED_THROUGH_BROKER_listener-name=ON` parameter should be added to the `listener.ora` file, where `listener-name` is the name of the Oracle Net listener and the `LOCAL_LISTENER` initialization parameter should be set to a TNS name entry corresponding to your instance service. This enables the server to spawn threads when connections to the database are requested through the listener.

### THREADED\_EXECUTION on Windows

Starting with Oracle Database 21c, the `THREADED_EXECUTION` initialization parameter is supported for databases running on Microsoft Windows. On such databases, this parameter must remain set to its default value of `true`; setting this parameter to `false` on databases running on Windows is not supported. The introduction of this parameter does not change the threading model for Oracle database on Windows. As in previous releases, an Oracle Database server instance on Windows is a service with a single multi-threaded operating system process. However, starting with Oracle Database 21c, you will observe changes to the `V$PROCESS` view, the dedicated connection broker, and the naming of trace files. For details about these changes, refer to *Oracle Database Administrator's Reference for Microsoft Windows*.

 **Note:**

Unlike on UNIX and Linux systems, when `THREADED_EXECUTION` is set to `true` on Windows, operating system authentication is supported.

 **See Also:**

- *Oracle Database Concepts* for more information about multithreaded Oracle
- [Table F-1](#) for more information about background processes that run as threads instead of as operating system processes when multithreaded Oracle is enabled
- *Oracle Database Net Services Reference* for more information about the `DEDICATED_THROUGH_BROKER_listener-name` parameter in the `listener.ora` file
- *Oracle Database Net Services Administrator's Guide* for an overview of Oracle Net listener

## 2.401 TIME\_AT\_DBTIMEZONE

`TIME_AT_DBTIMEZONE` specifies whether time-dependent database operations use the time zone of the database host system or the time zone of the PDB.

Some examples of time-dependent database operations are running the SQL functions `SYSDATE` and `SYSTIMESTAMP`, querying table columns of type `DATE` or `TIMESTAMP`, using Oracle Job scheduler, performing materialized view refresh, and using Oracle Flashback Technology.

| Property                   | Description                                                     |
|----------------------------|-----------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                          |
| <b>Syntax</b>              | <code>TIME_AT_DBTIMEZONE = { OFF   USER_SQL   DATABASE }</code> |
| <b>Default value</b>       | OFF                                                             |
| <b>Modifiable</b>          | No                                                              |
| <b>Modifiable in a PDB</b> | Yes                                                             |
| <b>Basic</b>               | No                                                              |
| <b>Oracle RAC</b>          | Multiple instances must use the same value.                     |

### Values:

- **OFF** - For all time-dependent operations, the database uses the time zone of the database host system that was in effect when the database was started. This is the behavior in releases prior to Oracle Database 23ai.
- **USER\_SQL** - The SQL functions `SYSDATE` and `SYSTIMESTAMP` return the date and time based on the `DBTIMEZONE` setting for the PDB. For all other time-dependent operations, the database uses the time zone of the database host system that was in effect when the database was started.
- **DATABASE** - For all time-dependent operations, the database uses the time zone specified by the `DBTIMEZONE` setting for the PDB.



### Note:

This parameter is available starting with Oracle Database 23ai.



### See Also:

- *Oracle Database SQL Language Reference* for information about the `SYSDATE` function
- *Oracle Database SQL Language Reference* for information about the `SYSTIMESTAMP` function

## 2.402 TIMED\_OS\_STATISTICS

**TIMED\_OS\_STATISTICS** specifies (in seconds) the interval at which Oracle collects operating system statistics when a request is made from the client to the server or when a request completes.

| Property                   | Description                                                                                                                               |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | Integer                                                                                                                                   |
| <b>Default value</b>       | If <b>STATISTICS_LEVEL</b> is set to <b>ALL</b> , then 60<br>If <b>STATISTICS_LEVEL</b> is set to <b>BASIC</b> or <b>TYPICAL</b> , then 0 |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                                                                                                               |
| <b>Modifiable in a PDB</b> | Yes                                                                                                                                       |
| <b>Range of values</b>     | Unlimited                                                                                                                                 |
| <b>Basic</b>               | No                                                                                                                                        |

On dedicated servers, Oracle collects operating system statistics at user logon and after each subsequent client invocation through the OCI into the Oracle server as a remote procedure call message.

On shared servers, Oracle collects statistics when client calls to Oracle are processed.

A value of zero specifies that operating system statistics are not gathered. To collect statistics, set a value meaningful for your application and site needs.



### Note:

Gathering operating system statistics is very expensive. Oracle recommends that you set this parameter in an **ALTER SYSTEM** statement rather than in the initialization parameter file, and that you reset the value to zero as soon as the needed statistics have been gathered.



### See Also:

*Oracle Database Performance Tuning Guide* for more information about this parameter

## 2.403 TIMED\_STATISTICS

**TIMED\_STATISTICS** specifies whether statistics related to time are collected.

| Property              | Description                                                                                                                                                   |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Parameter type</b> | Boolean                                                                                                                                                       |
| <b>Default value</b>  | If <b>STATISTICS_LEVEL</b> is set to <b>TYPICAL</b> or <b>ALL</b> , then <b>true</b><br>If <b>STATISTICS_LEVEL</b> is set to <b>BASIC</b> , then <b>false</b> |

| Property                   | Description                 |
|----------------------------|-----------------------------|
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM |
| <b>Modifiable in a PDB</b> | Yes                         |
| <b>Range of values</b>     | true   false                |
| <b>Basic</b>               | No                          |

### Values

- `true`  
The statistics are collected and stored in trace files or displayed in the `V$SESSTATS` and `V$SYSSTATS` dynamic performance views.
- `false`  
The value of all time-related statistics is set to zero. This setting lets Oracle avoid the overhead of requesting the time from the operating system.

Starting with release 11.1.0.7.0, the value of the `TIMED_STATISTICS` parameter cannot be set to `false` if the value of `STATISTICS_LEVEL` is set to `TYPICAL` or `ALL`.

On some systems with very fast timer access, Oracle might enable timing even if this parameter is set to `false`. On these systems, setting the parameter to `true` can sometimes produce more accurate statistics for long-running operations.



### See Also:

- *Oracle Database SQL Tuning Guide* for more information on setting this parameter
- [Statistics Descriptions](#) indicates which statistics depend on the setting of this parameter.

## 2.404 TIMEZONE\_VERSION\_UPGRADE\_ONLINE

`TIMEZONE_VERSION_UPGRADE_ONLINE` enables you to keep the database running in normal mode while upgrading time zone data using the `DBMS_DST` package.

| Property                   | Description                                  |
|----------------------------|----------------------------------------------|
| <b>Parameter type</b>      | Boolean                                      |
| <b>Default value</b>       | false                                        |
| <b>Modifiable</b>          | ALTER SYSTEM                                 |
| <b>Modifiable in a PDB</b> | Yes                                          |
| <b>Range of values</b>     | true   false                                 |
| <b>Basic</b>               | No                                           |
| <b>Oracle RAC</b>          | Multiple instances must have the same value. |

In releases prior to Oracle Database 21c, you were required to put the database in `UPGRADE` mode in order to initiate a time zone data upgrade using the `DBMS_DST` package. Starting with Oracle Database 21c, you can perform such an upgrade while the database is in normal mode by setting the value of `TIMEZONE_VERSION_UPGRADE_ONLINE` to `true`.

**Note:**

Setting the value of this parameter is only one step in a series of steps for upgrading your time zone data. Refer to *Oracle Database Globalization Support Guide* for the complete set of steps before you set this parameter value.

## 2.405 TRACE\_ENABLED

`TRACE_ENABLED` controls tracing of the execution history, or code path, of Oracle. Oracle Support Services uses this information for debugging.

| Property                   | Description                                                                                             |
|----------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | Boolean                                                                                                 |
| <b>Default value</b>       | <code>true</code>                                                                                       |
| <b>Modifiable</b>          | <code>ALTER SYSTEM</code>                                                                               |
| <b>Modifiable in a PDB</b> | No                                                                                                      |
| <b>Range of values</b>     | <code>true</code>   <code>false</code>                                                                  |
| <b>Basic</b>               | No                                                                                                      |
| <b>Oracle RAC</b>          | The default value is <code>TRUE</code> . Oracle recommends that multiple instances have the same value. |

When `TRACE_ENABLED` is set to `true`, Oracle records information in specific files when errors occur.

Oracle records this information for all instances, even if only one instance terminates. This allows Oracle to retain diagnostics for an entire cluster.

Although the overhead incurred from this processing is not excessive, you can improve performance by setting `TRACE_ENABLED` to `false`. You might do this, for example, to meet high-end benchmark requirements. However, if you leave this parameter set to `false`, you may lose valuable diagnostic information. Therefore, always set `TRACE_ENABLED` to `true` to trace system problems and to reduce diagnostic efforts when unexplained instance failures occur.

## 2.406 TRACEFILE\_IDENTIFIER

`TRACEFILE_IDENTIFIER` specifies a custom identifier that becomes part of the Oracle Trace file name. Such a custom identifier is used to identify a trace file simply from its name and without having to open it or view its contents.

| Property              | Description                                   |
|-----------------------|-----------------------------------------------|
| <b>Parameter type</b> | String                                        |
| <b>Syntax</b>         | <code>TRACEFILE_IDENTIFIER = "traceid"</code> |

| Property                   | Description                                                                   |
|----------------------------|-------------------------------------------------------------------------------|
| <b>Default value</b>       | There is no default value.                                                    |
| <b>Modifiable</b>          | ALTER SESSION                                                                 |
| <b>Modifiable in a PDB</b> | No                                                                            |
| <b>Range of values</b>     | Any characters that can occur as part of a file name on the customer platform |
| <b>Basic</b>               | No                                                                            |

Each time this parameter is dynamically modified, the next trace dump will be written to a trace file which has the new parameter value embedded in its name. Trace file continuity information is automatically added to both the old and new trace files to indicate that these trace files belong to the same process.

This parameter can only be used to change the name of the foreground process' trace file; the background processes continue to have their trace files named in the regular format. For foreground processes, the `TRACEID` column of the `V$PROCESS` view contains the current value of the `TRACEFILE_IDENTIFIER` parameter. When this parameter value is set, the trace file name has the following format:

```
sid_ora_pid_traceid.trc
```

In this example, *sid* is the Oracle instance ID, *pid* is the process ID, and *traceid* is the value of the `TRACEFILE_IDENTIFIER` parameter.



#### See Also:

- *Oracle Database SQL Tuning Guide* for more information about this parameter
- This parameter is not supported on all operating systems. See your operating system-specific Oracle documentation for more information.

## 2.407 TRANSACTION\_RECOVERY

`TRANSACTION_RECOVERY` specifies whether transaction recovery is enabled or disabled for a PDB.

Transaction recovery refers to the series of steps that the database performs in the event of a crash (either an instance crash or a transaction crash) to roll back uncommitted transactions.

| Property                   | Description                                                |
|----------------------------|------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                     |
| <b>Syntax</b>              | <code>TRANSACTION_RECOVERY = { ENABLED   DISABLED }</code> |
| <b>Default value</b>       | ENABLED                                                    |
| <b>Modifiable</b>          | ALTER SYSTEM                                               |
| <b>Modifiable in a PDB</b> | Yes                                                        |
| <b>Basic</b>               | No                                                         |
| <b>Oracle RAC</b>          | Multiple instances must use the same value.                |



**Values:**

- `ENABLED` - Transaction recovery is enabled for a PDB.
- `DISABLED` - Transaction recovery is disabled for a PDB.

During normal operation, the value of this parameter is set to `ENABLED` by the database and this setting should not be modified by a DBA. However, there are two circumstances under which it is permissible for a DBA to modify the value of this parameter:

- A quarantined transaction is a transaction that is isolated and for which transaction recovery will not be attempted while the quarantine on it remains. It requires intervention by the DBA to first resolve the issue that caused the transaction to be quarantined, and then to drop the transaction quarantine so that transaction recovery is attempted again. If transaction recovery becomes disabled on a PDB due to an excessive number of quarantined transactions (a process known as "transaction quarantine escalation"), then the database automatically sets the value of this parameter to `DISABLED`. When this happens, the DBA should take corrective action for the quarantined transactions, then restart transaction recovery for the PDB by setting the value of this parameter to `ENABLED`. Refer to *Oracle Database Administrator's Guide* to learn about this entire process before you set this parameter.
- While working to resolve an issue, Oracle Support may instruct a DBA to temporarily disable transaction recovery by setting this parameter to `DISABLED`. After the issue has been resolved, this parameter should ultimately be set back to `ENABLED` so that normal database operation can resume.

 **Caution:**

You should never set this parameter to `DISABLED` unless specifically directed to do so by Oracle Support. Setting this parameter to `DISABLED` could lead to severe problems

 **Note:**

This parameter is available starting with Oracle Database 23ai.

## 2.408 TRANSACTIONS

`TRANSACTIONS` specifies how many rollback segments to online when `UNDO_MANAGEMENT = MANUAL`.

| Property                   | Description                             |
|----------------------------|-----------------------------------------|
| <b>Parameter type</b>      | Integer                                 |
| <b>Default value</b>       | Derived: (1.1 * <code>SESSIONS</code> ) |
| <b>Modifiable</b>          | No                                      |
| <b>Modifiable in a PDB</b> | No                                      |
| <b>Range of values</b>     | 4 to $2^{31} - 1$                       |
| <b>Basic</b>               | No                                      |

| Property   | Description                                   |
|------------|-----------------------------------------------|
| Oracle RAC | Multiple instances can have different values. |

The maximum number of concurrent transactions is now restricted by undo tablespace size (UNDO\_MANAGEMENT = AUTO) or the number of online rollback segments (UNDO\_MANAGEMENT = MANUAL).

## 2.409 TRANSACTIONS\_PER\_ROLLBACK\_SEGMENT

TRANSACTIONS\_PER\_ROLLBACK\_SEGMENT specifies the number of concurrent transactions you expect each rollback segment to have to handle.

| Property            | Description                                   |
|---------------------|-----------------------------------------------|
| Parameter type      | Integer                                       |
| Default value       | 5                                             |
| Modifiable          | No                                            |
| Modifiable in a PDB | No                                            |
| Range of values     | 1 to operating system-dependent               |
| Basic               | No                                            |
| Oracle RAC          | Multiple instances can have different values. |

The minimum number of rollback segments acquired at startup is TRANSACTIONS divided by the value for this parameter. For example, if TRANSACTIONS is 101 and this parameter is 10, then the minimum number of rollback segments acquired would be the ratio 101/10, rounded up to 11.

You can acquire more rollback segments by naming them in the parameter ROLLBACK\_SEGMENTS.



### See Also:

Your operating system-specific Oracle documentation for the range of values for this parameter.

## 2.410 TRUE\_CACHE

Use TRUE\_CACHE to specify that an instance is a True Cache.

| Property            | Description  |
|---------------------|--------------|
| Parameter type      | Boolean      |
| Default value       | false        |
| Modifiable          | No           |
| Modifiable in a PDB | No           |
| Range of values     | true   false |

| Property | Description |
|----------|-------------|
| Basic    | No          |

Set this parameter to `true` on a True Cache. Otherwise, leave this parameter set to `false`.

**Note:**

This parameter is available starting with Oracle Database 23ai.

**See Also:**

*Oracle True Cache User's Guide* for more information about this parameter

## 2.411 TXN\_PRIORITY

TXN\_PRIORITY specifies the priority for all user transactions in a session.

| Property            | Description                            |
|---------------------|----------------------------------------|
| Parameter type      | String                                 |
| Syntax              | TXN_PRIORITY = { HIGH   MEDIUM   LOW } |
| Default value       | HIGH                                   |
| Modifiable          | ALTER SESSION                          |
| Modifiable in a PDB | No                                     |
| Basic               | No                                     |

The Priority Transactions feature automatically rolls back low-priority transactions that are blocking higher priority transactions from obtaining row locks.

You can use the TXN\_PRIORITY parameter to assign a priority (HIGH, MEDIUM, or LOW) to all transactions in a particular user session. Priority Transactions then operates as follows for the three priorities:

- **HIGH** - Priority Transactions never rolls back a HIGH priority transaction in order to release a row lock for another transaction. This is the default.
- **MEDIUM** - Priority Transactions will roll back a MEDIUM priority transaction if it is holding a row lock required by a HIGH priority transaction, and the HIGH priority transaction has been waiting for the row lock longer than the time specified by the PRIORITY\_TXNS\_HIGH\_WAIT\_TARGET parameter.
- **LOW** - Priority Transactions will roll back a LOW priority transaction if it is holding a row lock required by a HIGH or MEDIUM priority transaction, and the HIGH or MEDIUM priority transaction has been waiting for the row lock longer than the time specified by the PRIORITY\_TXNS\_HIGH\_WAIT\_TARGET or PRIORITY\_TXNS\_MEDIUM\_WAIT\_TARGET parameter, respectively.

If a `LOW` priority transaction is blocked waiting for a row lock, Priority Transactions will not roll back the transaction holding the row lock, regardless of its priority.

You can view the priority and maximum wait time for a transaction by querying the `TXN_PRIORITY` and `PRIORITY_TXNS_WAIT_TARGET` columns in the `V$TRANSACTION` view.

**Note:**

This parameter is available starting with Oracle Database 23ai.

**See Also:**

- `"PRIORITY_TXNS_HIGH_WAIT_TARGET"`
- `"PRIORITY_TXNS_MEDIUM_WAIT_TARGET"`
- `"PRIORITY_TXNS_MODE"`
- `"V$TRANSACTION"`
- *Oracle Database Administrator's Guide* for more information about Priority Transactions

## 2.412 UNDO\_MANAGEMENT

`UNDO_MANAGEMENT` specifies which undo space management mode the system should use.

| Property            | Description                                      |
|---------------------|--------------------------------------------------|
| Parameter type      | String                                           |
| Syntax              | <code>UNDO_MANAGEMENT = { MANUAL   AUTO }</code> |
| Default value       | <code>AUTO</code>                                |
| Modifiable          | No                                               |
| Modifiable in a PDB | Yes                                              |
| Basic               | No                                               |
| Oracle RAC          | Multiple instances must have the same value.     |

When `UNDO_MANAGEMENT` is set to `AUTO`, the instance starts in automatic undo management mode. In manual undo management mode, undo space is allocated externally as rollback segments.

**Note:**

In a CDB, the `UNDO_MANAGEMENT` initialization parameter must be set to `AUTO`, and an undo tablespace is required to be created to manage the undo data.

**See Also:**

- *Oracle Database Administrator's Guide* for more information about this parameter
- *Oracle Database Administrator's Guide* for more information about managing undo data

## 2.413 UNDO\_RETENTION

UNDO\_RETENTION specifies (in seconds) the low threshold value of undo retention.

| Property            | Description                                                    |
|---------------------|----------------------------------------------------------------|
| Parameter type      | Integer                                                        |
| Default value       | 900                                                            |
| Modifiable          | ALTER SYSTEM                                                   |
| Modifiable in a PDB | Yes                                                            |
| Range of values     | 0 to $2^{31} - 1$                                              |
| Basic               | No                                                             |
| Oracle RAC          | Oracle recommends that multiple instances have the same value. |

For both AUTOEXTEND undo tablespaces and fixed-size undo tablespaces, the system retains undo for at least the time specified in this parameter, and automatically tunes the undo retention period to satisfy the undo requirements of the queries.

Automatic tuning of undo retention is not supported for LOBs. The RETENTION value for LOB columns is set to the value of the UNDO\_RETENTION parameter.

The UNDO\_RETENTION parameter is honored only if the current undo tablespace has enough space. If an active transaction requires undo space and the undo tablespace does not have available space, then the system starts reusing unexpired undo space. This action can potentially cause some queries to fail with a "snapshot too old" message.

The amount of time for which undo is retained for the Oracle Database for the current undo tablespace can be obtained by querying the TUNED\_UNDORETENTION column of the V\$UNDOSTAT dynamic performance view.

### Recommendations for Modifying UNDO\_RETENTION

Oracle generally recommends that you leave UNDO\_RETENTION set to its default value. Modifying this parameter is recommended only in the following situations:

- You may want to increase the value of UNDO\_RETENTION when using flashback features, such as Oracle Flashback Query, which require undo to be retained for longer than the longest running query in the system.
- In Oracle Active Data Guard environments, you may want to increase the value of UNDO\_RETENTION on the primary instance in order to accommodate undo retention requirements on the standby instances. This allows the primary instance to retain undo for a longer period of time to serve queries on the standby instances. For more information, see *Oracle Database Administrator's Guide* and *Oracle Data Guard Concepts and Administration*.

## Modifying UNDO\_RETENTION in a CDB

You can set the value of `UNDO_RETENTION` in the CDB root (`CDB$ROOT`) and in individual PDBs. The CDB root and PDBs can have the same value or different values. Note that you can modify this parameter in a PDB only if the PDB is in local undo mode; you cannot modify this parameter if the PDB is in shared undo mode.

Starting with Oracle Database release 19c, version 19.9, the value of `UNDO_RETENTION` is not inherited in a CDB. Therefore, if you change the value for `UNDO_RETENTION` in the CDB root, the PDBs do not inherit the new value. If you want to change the value for `UNDO_RETENTION` at the PDB level, you must explicitly do so. For example, if your CDB contains two PDBs (PDB1 and PDB2), you can set `UNDO_RETENTION` to 2000 in the CDB root and both PDBs as follows:

```
ALTER SESSION SET CONTAINER = CDB$ROOT;
ALTER SYSTEM SET UNDO_RETENTION=2000 SCOPE=BOTH;

ALTER SESSION SET CONTAINER = PDB1;
ALTER SYSTEM SET UNDO_RETENTION=2000 SCOPE=BOTH;

ALTER SESSION SET CONTAINER = PDB2;
ALTER SYSTEM SET UNDO_RETENTION=2000 SCOPE=BOTH;
```



### See Also:

- *Oracle Database SQL Language Reference* for information about creating undo tablespaces
- *Oracle Database Administrator's Guide* for information about managing undo data

## 2.414 UNDO\_TABLESPACE

`UNDO_TABLESPACE` specifies the undo tablespace to be used when an instance starts. If this parameter is specified when the instance is in manual undo management mode, then an error will occur and startup will fail.

| Property                   | Description                                                                |
|----------------------------|----------------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                                     |
| <b>Syntax</b>              | <code>UNDO_TABLESPACE = undoname</code>                                    |
| <b>Default value</b>       | The first available undo tablespace in the database.                       |
| <b>Modifiable</b>          | <code>ALTER SYSTEM</code>                                                  |
| <b>Modifiable in a PDB</b> | Yes                                                                        |
| <b>Range of values</b>     | Legal name of an existing undo tablespace                                  |
| <b>Basic</b>               | Yes                                                                        |
| <b>Oracle RAC</b>          | Each instance must have a unique value for this parameter, when it is set. |

If the `UNDO_TABLESPACE` parameter is omitted, the first available undo tablespace in the database is chosen. If no undo tablespace is available, the instance will start without an undo

tablespace. In such cases, user transactions will be executed using the `SYSTEM` rollback segment. You should avoid running in this mode under normal circumstances.

You can replace an undo tablespace with another undo tablespace while the instance is running.



**Note:**

When you update this parameter on the primary database in an Oracle Data Guard configuration, you must also update it on all the physical standby databases in the configuration. This ensures that the standby databases can find the undo tablespace when they become the primary database.



**See Also:**

*Oracle Database SQL Language Reference* for information about creating undo tablespaces

## 2.415 UNIFIED\_AUDIT\_COMMON\_SYSTEMLOG

`UNIFIED_AUDIT_COMMON_SYSTEMLOG` specifies whether key fields of unified audit records generated due to common audit policies will be written to the SYSLOG utility.



**Note:**

This initialization parameter is supported only on UNIX platforms.

| Property                   | Description                                                                                                                                                                                                                                                    |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                                                                                                                                                                                                                         |
| <b>Syntax</b>              | <pre>UNIFIED_AUDIT_COMMON_SYSTEMLOG =<br/>'facility_clause.priority_clause'<br/>facility_clause::=<br/>{ USER   LOCAL[ 0   1   2   3   4   5   6   7 ] }<br/>priority_clause::=<br/>{ NOTICE   INFO   DEBUG   WARNING   ERR   CRIT   ALERT  <br/>EMERG }</pre> |
| <b>Default value</b>       | None                                                                                                                                                                                                                                                           |
| <b>Modifiable</b>          | No                                                                                                                                                                                                                                                             |
| <b>Modifiable in a PDB</b> | No                                                                                                                                                                                                                                                             |
| <b>Basic</b>               | No                                                                                                                                                                                                                                                             |
| <b>Oracle RAC</b>          | The same value must be used on all instances.                                                                                                                                                                                                                  |

When this parameter is set, key fields of unified audit records generated due to common audit policies are written to SYSLOG. These fields uniquely identify the detailed unified audit records in the `UNIFIED_AUDIT_TRAIL` view. Only a subset of unified audit record fields are written to

ensure that the audit record entries do not exceed the maximum allowed size for a SYSLOG entry (typically 1024 bytes).

Do not set this parameter if you do not want key fields of unified audit records generated due to common audit policies written to SYSLOG.

This parameter differs from the `UNIFIED_AUDIT_SYSTEMLOG` parameter in that it is set at the CDB level and enables all unified audit records from common unified audit policies to be consolidated into a single destination, whereas `UNIFIED_AUDIT_SYSTEMLOG` is set at the PDB level and enables the logging of unified audit records on a per-PDB basis.

 **See Also:**

- `"UNIFIED_AUDIT_SYSTEMLOG"`
- `"UNIFIED_AUDIT_TRAIL"`
- *Oracle Database Security Guide* for a table that maps the names given to the unified audit records fields that are written to SYSLOG to the corresponding column names in the `UNIFIED_AUDIT_TRAIL` view

## 2.416 UNIFIED\_AUDIT\_SYSTEMLOG

`UNIFIED_AUDIT_SYSTEMLOG` specifies whether key fields of unified audit records will be written to the SYSLOG utility (on UNIX platforms) or to the Windows Event Viewer (on Windows). In a CDB, this parameter is a per-PDB static initialization parameter.

| Property                   | Description                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | String for UNIX platforms, Boolean for Windows                                                                                                                                                                                                                                                                                                                              |
| <b>Syntax</b>              | <b>On UNIX:</b><br><code>UNIFIED_AUDIT_SYSTEMLOG = 'facility_clause.priority_clause'</code><br><code>facility_clause::=</code><br>{ USER   LOCAL[ 0   1   2   3   4   5   6   7 ] }<br><code>priority_clause::=</code><br>{ NOTICE   INFO   DEBUG   WARNING   ERR   CRIT   ALERT   EMERG }<br><b>On Windows:</b><br><code>UNIFIED_AUDIT_SYSTEMLOG = { FALSE   TRUE }</code> |
| <b>Default value</b>       | No default on UNIX platforms<br>FALSE on Windows                                                                                                                                                                                                                                                                                                                            |
| <b>Modifiable</b>          | No                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Modifiable in a PDB</b> | Yes                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Basic</b>               | No                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Oracle RAC</b>          | The same value must be used on all instances.                                                                                                                                                                                                                                                                                                                               |

When this parameter is set on UNIX, key fields of unified audit records are written to SYSLOG. When this parameter is set on Windows, key fields of unified audit records are written to the Windows Event Viewer.



Do not set this parameter (or set it to `FALSE` on Windows) if you do not want key fields of unified audit records written to SYSLOG or the Windows Event Viewer.

When `UNIFIED_AUDIT_SYSTEMLOG` is enabled, the key fields of the unified audit records that are written to SYSLOG or Windows Event Viewer uniquely identify the detailed unified audit records in the `UNIFIED_AUDIT_TRAIL` view. Only a subset of the unified audit record fields are written to ensure that the audit record entries do not exceed the maximum allowed size for a SYSLOG entry (typically 1024 bytes).

This parameter differs from the `UNIFIED_AUDIT_COMMON_SYSTEMLOG` parameter in that it is set at the PDB level and enables the logging of unified audit records on a per-PDB basis, whereas `UNIFIED_AUDIT_COMMON_SYSTEMLOG` is set at the CDB level and enables all unified audit records from common unified audit policies to be consolidated into a single destination.

 **See Also:**

- `"UNIFIED_AUDIT_COMMON_SYSTEMLOG"`
- `"UNIFIED_AUDIT_TRAIL"`
- *Oracle Database Security Guide* for a table that maps the names given to the unified audit records fields that are written to SYSLOG and the Windows Event Viewer to the corresponding column names in the `UNIFIED_AUDIT_TRAIL` view

## 2.417 UNIFORM\_LOG\_TIMESTAMP\_FORMAT

`UNIFORM_LOG_TIMESTAMP_FORMAT` specifies that a uniform timestamp format be used in Oracle Database trace (.trc) files and log files (such as the alert log).

| Property                   | Description                                   |
|----------------------------|-----------------------------------------------|
| <b>Parameter type</b>      | Boolean                                       |
| <b>Default value</b>       | <code>true</code>                             |
| <b>Modifiable</b>          | <code>ALTER SYSTEM</code>                     |
| <b>Modifiable in a PDB</b> | No                                            |
| <b>Range of values</b>     | <code>true   false</code>                     |
| <b>Basic</b>               | No                                            |
| <b>Oracle RAC</b>          | Multiple instances should use the same value. |

When the value of `UNIFORM_LOG_TIMESTAMP_FORMAT` is `TRUE`, the format used for timestamps in trace files is standardized on universal time with millisecond precision. For example:

```
2012-09-26 00:16:47.154
```

When the value of `UNIFORM_LOG_TIMESTAMP_FORMAT` is `FALSE`, trace files include a mix of timestamps using different precisions, with some timestamps showing local time and other timestamps showing universal time.

## 2.418 USE\_DEDICATED\_BROKER

USE\_DEDICATED\_BROKER determines how dedicated servers are spawned.



### Note:

Starting with Oracle Database 23ai, the type for this parameter is changed from `Boolean` to `String`, the `NONE` and `CDB` values are introduced, and the default value is changed from `FALSE` to `NONE`. However, there is no change to the functionality of this parameter, because the `NONE` value is equivalent to `FALSE`, and the `CDB` value is equivalent to `TRUE`.

| Property            | Description                                              |
|---------------------|----------------------------------------------------------|
| Parameter type      | String                                                   |
| Syntax              | USE_DEDICATED_BROKER = { NONE   FALSE   CDB   TRUE }     |
| Default value       | NONE unless multithreaded Oracle is enabled <sup>1</sup> |
| Modifiable          | ALTER SYSTEM                                             |
| Modifiable in a PDB | No                                                       |
| Basic               | No                                                       |
| Oracle RAC          | If specified, all instances must use the same value      |

<sup>1</sup> Multithreaded Oracle is enabled by setting the `THREADED_EXECUTION` initialization parameter to `TRUE`.

When this parameter is set to `NONE` or `FALSE`, the listener spawns a dedicated server directly.

When this parameter is set to `CDB` or `TRUE`, the listener hands the connection to a dedicated connection broker that spawns the dedicated server. Unlike the listener, the dedicated connection broker is a database process, and hence it can implement policies leveraging database information before the spawn.

To enable the dedicated connection broker using the `USE_DEDICATED_BROKER` initialization parameter, you must:

1. Set the `USE_DEDICATED_BROKER` initialization parameter to `TRUE`.
2. Set the `DEDICATED_THROUGH_BROKER_listener-name` parameter to `on` in the `listener.ora` file.

Performing these two steps configures the Connection Broker Process (`Nnnn`).



### Note:

When multithreaded Oracle is enabled, the dedicated connection broker process is also enabled and used.

Configuration of the brokers is controlled by the `CONNECTION_BROKERS` initialization parameter.

 **See Also:**

- ["CONNECTION\\_BROKERS"](#) for more information about configuring brokers
- [Table F-1](#) for more information about the Connection Broker Process (Nnnn)
- ["THREADED\\_EXECUTION"](#) for more information about enabling multithreaded Oracle
- *Oracle Database Net Services Reference* for more information about the `DEDICATED_THROUGH_BROKER_listener-name` parameter in the listener.ora file

## 2.419 USE\_LARGE\_PAGES

USE\_LARGE\_PAGES is used to manage the database's use of large pages for SGA memory.

 **Note:**

This parameter is applicable only on the Linux operating system. However, setting this parameter to `FALSE` can cause performance degradation on any platform.

| Property                   | Description                                                                                                                                                                                           |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                                                                                                                                                                |
| <b>Syntax</b>              | USE_LARGE_PAGES = { TRUE   FALSE   AUTO   ONLY   AUTO_ONLY }                                                                                                                                          |
| <b>Default value</b>       | ONLY for Exadata Database Service in the cloud and Base Database Service in the cloud<br>AUTO_ONLY for on-premises Exadata systems running Oracle Database 19c or later<br>TRUE for all other systems |
| <b>Modifiable</b>          | No                                                                                                                                                                                                    |
| <b>Modifiable in a PDB</b> | No                                                                                                                                                                                                    |
| <b>Basic</b>               | No                                                                                                                                                                                                    |
| <b>Oracle RAC</b>          | Multiple instances can use different values                                                                                                                                                           |

This parameter does not affect process-private memory allocations.

### Values

These values can be specified for USE\_LARGE\_PAGES:

- `TRUE`  
Specifies that the instance can use large pages if large pages are configured on the system.  
  
In Oracle Database 11g Release 2 (11.2.0.2), if there are not enough large pages configured on the system, then regular sized pages will be used to allocate SGA memory. This can cause the free large pages to go unused, and the operating system can allocate a huge amount of memory to create page tables to map SGA into physical pages for the

Oracle processes. This may lead to ORA-04030 errors and severe performance degradation on an instance.

In Oracle Database 11g Release 2 (11.2.0.3) and later releases, Oracle allocates as much of the SGA as it can in large pages, and if it runs out, it will allocate the rest of the SGA using regular sized pages. This can cause the instance to create additional shared memory segments for the SGA, but the total SGA size will be unchanged. In this supported mixed page mode allocation, the database will exhaust the available large pages before switching to regular sized pages.

- FALSE

Specifies that the instance will not use large pages. This setting is not recommended because it can cause severe performance degradation for the instance. Although the `USE_LARGE_PAGES` initialization parameter applies only to Linux systems, setting this parameter to `FALSE` can cause performance degradation on any platform.

- AUTO

Specifies that, during startup, the instance will calculate and request the number of large pages it requires. If the operating system cannot fulfill this request, then the instance will start with a combination of large and regular pages.

- ONLY

Specifies that the instance will fail to start if large pages cannot be used for the entire SGA memory. Oracle recommends this setting for consistent performance. This setting is the default setting for Exadata Database Service in the cloud and Base Database Service in the cloud.

- AUTO\_ONLY

Specifies that, during startup, the instance will calculate and request the number of large pages it requires. If the operating system can fulfill this request, then the instance will start successfully. If the operating system cannot fulfill this request, then the instance will fail to start. This ensures that no instances will run with under-provisioned large pages. This setting is available starting with Oracle Database 19c and it is the default setting for on-premises Exadata systems.

**Note:**

`USE_LARGE_PAGES` is set to `FALSE` automatically in an Oracle ASM instance when `MEMORY_TARGET` is enabled. In this case, the `FALSE` setting does not cause performance degradation.

## 2.420 USER\_DUMP\_DEST

`USER_DUMP_DEST` specifies the pathname for a directory where the server will write debugging trace files on behalf of a user process.

| Property       | Description                                                          |
|----------------|----------------------------------------------------------------------|
| Parameter type | String                                                               |
| Syntax         | <code>USER_DUMP_DEST = { <i>pathname</i>   <i>directory</i> }</code> |
| Default value  | Operating system-dependent                                           |

| Property                   | Description                              |
|----------------------------|------------------------------------------|
| <b>Modifiable</b>          | ALTER SYSTEM                             |
| <b>Modifiable in a PDB</b> | No                                       |
| <b>Range of values</b>     | Any valid local path, directory, or disk |
| <b>Basic</b>               | No                                       |

**Note:**

The `USER_DUMP_DEST` initialization parameter is deprecated.

For example, this directory might be set as follows:

- On MS-DOS: `C:\ORACLE\UTRC`
- On UNIX: `/oracle/utrc`
- On VMS: `DISK$UR3:[ORACLE.UTRC]`

**Note:**

This parameter is ignored by the diagnosability infrastructure introduced in Oracle Database 11g Release 1 (11.1), which places trace and core files in a location controlled by the `DIAGNOSTIC_DEST` initialization parameter.

**See Also:**

- *Oracle Database SQL Tuning Guide* for more information about the use of trace files
- Your operating system-specific Oracle documentation for the range of values

## 2.421 WALLET\_ROOT

`WALLET_ROOT` specifies the path to the root of a directory tree containing a subdirectory for each pluggable database (PDB).

| Property                   | Description                                           |
|----------------------------|-------------------------------------------------------|
| <b>Parameter type</b>      | String                                                |
| <b>Syntax</b>              | <code>WALLET_ROOT = wallet-root-directory-path</code> |
| <b>Default value</b>       | There is no default value.                            |
| <b>Modifiable</b>          | No                                                    |
| <b>Modifiable in a PDB</b> | No                                                    |
| <b>Basic</b>               | No                                                    |

| Property   | Description                                  |
|------------|----------------------------------------------|
| Oracle RAC | Multiple instances must have the same value. |

The name of the various wallet files is always the same, regardless of the component they are associated with. The wallets for each component are stored under each PDB GUID directory within the `WALLET_ROOT` directory structure in a directory whose name is based on the component name. For example, for the TDE component, the subdirectory name is `tde`.

The `TDE_CONFIGURATION` initialization parameter cannot be set unless the `WALLET_ROOT` parameter is also set.

For example, the contents of the directory at the location specified by the `WALLET_ROOT` initialization parameter could look as follows, where *wallet-root* is the directory specified by the `WALLET_ROOT` parameter:

```
wallet-root/eus/ewallet.p12
wallet-root/tde/ewallet.p12
wallet-root/tde/ewallet_2016120918333644.p12
wallet-root/tde_seps/cwallet.sso
wallet-root/tls/ewallet.p12
wallet-root/xdw_wallet/ewallet.p12
wallet-root/3FD1C95B48205D0FE053C5A0E40AEF8C/tde/ewallet.p12
wallet-root/3FD1C95B48205D0FE053C5A0E40AEF8C/tde/ewallet_2016110918331622.p12
wallet-root/3FD1C95B48205D0FE053C5A0E40AEF8C/tde/ewallet_2016110918332363.p12
wallet-root/3FD1C95B48205D0FE053C5A0E40AEF8C/tde_seps/cwallet.sso
wallet-root/3FD1C95B48205D0FE053C5A0E40AEF8C/tls/cwallet.sso
wallet-root/3FD1C95B48205D0FE053C5A0E40AEF8C/tls/ewallet.p12
```

When the `WALLET_ROOT` parameter is set, you can omit the path from some `ADMINISTER KEY MANAGEMENT` commands.

The `WALLET_ROOT` value can include references to environment variables. The following example shows how to use `WALLET_ROOT` when multiple TDE-enabled databases are installed into the same `ORACLE_HOME`:

```
WALLET_ROOT=/etc/ORACLE/KEYSTORES/$ORACLE_SID
```

The `ORACLE_SID` environment variable (or the `DB_UNIQUE_NAME` environment variable for Oracle RAC) makes sure that each database that is installed into the same `ORACLE_HOME` has its own set of wallets and TDE keys. This sets the root of the wallet directory hierarchy to the directory specified by `wallet-root-directory-path`.

**Note:**

The normalized length of the `wallet-root-directory-name` that is specified with the `WALLET_ROOT` parameter cannot exceed 255 characters, otherwise one of the following sets of error messages is displayed:

```
ORA-46693: The WALLET_ROOT location is missing or invalid.
ORA-32021: parameter value longer than 255 characters
ORA-01078: failure in processing system parameters
```

```
ORA-46693: The WALLET_ROOT location is missing or invalid.
ORA-07204: sltln: name translation failed due to lack of output
buffer space.
ORA-01078: failure in processing system parameters
```

The normalized length includes the length of expanded environment variables specified with the `WALLET_ROOT` parameter. The values of the environment variables of the user who starts the instance are used in the normalization of the `WALLET_ROOT` parameter.

The `SHOW PARAMETER WALLET_ROOT` command always displays the normalized value (with all the environment variables expanded).

For non-ASM file systems, the PDB GUID-extended paths for the TDE component are created automatically under the directory specified by the `WALLET_ROOT` parameter when any Transparent Data Encryption (TDE) wallet is created for a PDB.

### Enabling Automatic Creation of Directories Under `WALLET_ROOT`

By using the specific configuration of `WALLET_ROOT` described in each of the following sub-sections, Oracle Database can be configured to automatically create the necessary *pdb-guid* and *component name* directories under the `WALLET_ROOT` directory path. Other settings of `WALLET_ROOT` are allowed, but would not result in the automatic creation of the necessary sub-directories by the ASM OMF layer.

### Required setting to enable auto-directory creation for a database not using Oracle ASM

For a database not using Oracle ASM filesystems, the `WALLET_ROOT` parameter needs to be set as follows:

```
WALLET_ROOT=wallet-root-directory-path
```

This sets the root of the wallet directory hierarchy to the directory specified by `wallet-root-directory-path`. For example:

```
/etc/ORACLE/KEYSTORES/FINANCE
```

When this is done, Oracle Database automatically creates the directory for the TDE wallet of a CDB\$ROOT at the following location:

```
/etc/ORACLE/KEYSTORES/FINANCE/tde
```

The directories, that Oracle Database automatically creates for holding the TDE wallets of isolated PDBs, will include the *pdb-guid*. For example:

```
/etc/ORACLE/KEYSTORES/FINANCE/3FD1C95B48205D0FE053C5A0E40AEF8C/tde
```

### Required setting to enable auto-directory creation for a database using Oracle ASM with Oracle Managed Files

For a database using ASM with OMF, the `WALLET_ROOT` parameter needs to begin with a plus sign followed by a disk group name and the value of the `DB_UNIQUE_NAME` initialization parameter. In the example below, `DATA` is the name of a disk group and `FINRAC` is the value of the `DB_UNIQUE_NAME` initialization parameter:

```
WALLET_ROOT=+DATA/FINRAC
```

When this is done, Oracle Database automatically creates the necessary directory within the ASM filesystem at the following location when the `ADMINISTER KEY MANAGEMENT CREATE KEYSTORE` command is run:

```
+DATA/FINRAC/tde
```

For isolated PDBs, the directories that Oracle Database automatically creates for holding the TDE wallets of PDBs will include the *pdb-guid*. For example:

```
+DATA/FINRAC/3FD1C95B48205D0FE053C5A0E40AEF8C/tde
```

### Required setting to enable auto-directory creation for RAC-enabled databases

For a RAC-enabled database, only shared TDE wallets are supported (as opposed to individual TDE-wallets per RAC instance). `WALLET_ROOT` can either point to an ASM disk group, or a directory in ACFS. If the `WALLET_ROOT` parameter points to *+diskgroup/dbname*, then the `/tde` sub-directory is automatically created when issuing an `ADMINISTER KEY MANAGEMENT CREATE KEYSTORE` command. For example, when `WALLET_ROOT` is set to `+DATA/FINANCE`, the directory `+DATA/FINANCE/tde` is automatically created. This guarantees that when multiple databases are installed, their TDE-wallets are kept separate.



**See Also:**

["TDE\\_CONFIGURATION"](#)

## 2.422 WORKAREA\_SIZE\_POLICY

`WORKAREA_SIZE_POLICY` specifies the policy for sizing work areas. This parameter controls the mode in which working areas are tuned.

| Property            | Description                                           |
|---------------------|-------------------------------------------------------|
| Parameter type      | String                                                |
| Syntax              | <code>WORKAREA_SIZE_POLICY = { AUTO   MANUAL }</code> |
| Default value       | AUTO                                                  |
| Modifiable          | ALTER SESSION, ALTER SYSTEM                           |
| Modifiable in a PDB | Yes                                                   |
| Basic               | No                                                    |



## Values

You can specify the following values for `WORKAREA_SIZE_POLICY`:

- `AUTO`

When `AUTO` is specified, work areas used by memory-intensive operators are sized automatically, based on the PGA memory used by the system, the target PGA memory set in `PGA_AGGREGATE_TARGET`, and the requirement of each individual operator.

- `MANUAL`

When `MANUAL` is specified, the sizing of work areas is manual and based on the values of the `*_AREA_SIZE` parameter corresponding to the operation (for example, a sort uses `SORT_AREA_SIZE`). Specifying `MANUAL` may result in sub-optimal performance and poor PGA memory utilization.



### See Also:

*Oracle Database Performance Tuning Guide* for additional information on setting this parameter

## 2.423 XML\_DB\_EVENTS

`XML_DB_EVENTS` enables or disables XML DB events.

| Property                   | Description                                       |
|----------------------------|---------------------------------------------------|
| <b>Parameter type</b>      | String                                            |
| <b>Syntax</b>              | <code>XML_DB_EVENTS = { enable   disable }</code> |
| <b>Default value</b>       | <code>enable</code>                               |
| <b>Modifiable</b>          | <code>ALTER SESSION, ALTER SYSTEM</code>          |
| <b>Modifiable in a PDB</b> | Yes                                               |
| <b>Basic</b>               | No                                                |

Changing this parameter through an `ALTER SESSION` statement affects only the current session. Only users with the `XDBADMIN` role are allowed to change this parameter in a session.

Changing this parameter through an `ALTER SYSTEM` statement will make a systemwide change of this parameter; however, the change is only registered by new sessions started after the change. Currently running sessions need to be restarted to pick up the new change. Users must have the `ALTER SYSTEM` privilege to make a systemwide change.



### See Also:

*Oracle XML DB Developer's Guide* for more information about this parameter

## 2.424 XML\_PARAMS

XML\_PARAMS lets you adjust the behavior for XMLType data.

| Property                   | Description                                                                  |
|----------------------------|------------------------------------------------------------------------------|
| <b>Parameter type</b>      | String                                                                       |
| <b>Syntax</b>              | XML_PARAMS = "parameter=value [, parameter=value ] ..."                      |
| <b>Default value</b>       | None                                                                         |
| <b>Modifiable</b>          | ALTER SESSION, ALTER SYSTEM                                                  |
| <b>Modifiable in a PDB</b> | Yes                                                                          |
| <b>Basic</b>               | No                                                                           |
| <b>Oracle RAC</b>          | If specified, Oracle recommends that multiple instances have the same value. |

You can specify one of the following for *parameter=value*:

- `xml_default_storage_tbx=true`  
Sets the default XMLType storage to Transportable Binary XML (TBX) when no storage type is explicitly specified. Starting with Oracle Database 23ai, this is the default and recommended storage type for all XMLType data, even if this parameter is not set. Note that Transportable Binary XML must be stored as Securefiles LOBs.
- `xml_default_storage_tbx=false`  
Sets the default XMLType storage to Not-Transportable Binary XML (CSX) when no storage type is explicitly specified. This setting can be used as a workaround for applications that still rely on the CSX storage type. Not-Transportable Binary XML can be stored as Basicfiles LOBs or Securefiles LOBs.

### Example:

```
ALTER SYSTEM SET XML_PARAMS = "xml_default_storage_tbx=true";
```



### Note:

This parameter is available starting with Oracle Database 23ai.

# Part II

## Static Data Dictionary Views

This part describes data dictionary tables and views. These tables and views are called **static**, because they change only when a change is made to the data dictionary (for example, when a new table is created or when a user is granted new privileges).

This part contains the following chapters:

- [Static Data Dictionary Views: ALL\\_ALL\\_TABLES to ALL\\_OUTLINES](#)
- [Static Data Dictionary Views: ALL\\_PART\\_COL\\_STATISTICS to DATABASE\\_PROPERTIES](#)
- [Static Data Dictionary Views: DBA\\_2PC\\_NEIGHBORS to DBA\\_HIST\\_JAVA\\_POOL\\_ADVICE](#)
- [Static Data Dictionary Views: DBA\\_HIST\\_LATCH to DBA\\_STORED\\_SETTINGS](#)
- [Static Data Dictionary Views: DBA\\_STREAMS\\_ADD\\_COLUMN to USER\\_ZONEMAPS](#)



### Note:

Oracle also maintains views that monitor ongoing database activity. These **dynamic performance views** are described in [Dynamic Performance Views](#).



### Note:

A multitenant container database is the only supported architecture in Oracle Database 21c and later releases. While the documentation is being revised, legacy terminology may persist. In most cases, "database" and "non-CDB" refer to a CDB or PDB, depending on context. In some contexts, such as upgrades, "non-CDB" refers to a non-CDB from a previous release.

# 3

## Static Data Dictionary Views: ALL\_ALL\_TABLES to ALL\_OUTLINES

This chapter describes the first set (in alphabetical order) of static data dictionary views.

The remaining static data dictionary views appear in alphabetical order in [Static Data Dictionary Views: ALL\\_PART\\_COL\\_STATISTICS to DATABASE\\_PROPERTIES](#) through [Static Data Dictionary Views: DBA\\_STREAMS\\_ADD\\_COLUMN to USER\\_ZONEMAPS](#).

This chapter contains the following topics:

- [About Static Data Dictionary Views](#)
- [AWR\\_PDB\\_\\* Views](#)
- [AWR\\_ROOT\\_\\* Views](#)
- [CDB\\_\\* Views](#)
- [DBA\\_HIST\\_\\* Views](#)
- [Oracle Database Real Application Security Views](#)
- [Oracle Database Vault Views](#)
- [Oracle Label Security Views](#)
- [Oracle Workspace Manager Views](#)
- [Recovery Catalog Views](#)
- [Static Data Dictionary View Descriptions](#)

### 3.1 About Static Data Dictionary Views

Data dictionary tables are not directly accessible, but you can access information in them through data dictionary views. To list the data dictionary views available to you, query the view `DICTIONARY`.

Many data dictionary tables have three corresponding views:

- An `ALL_` view displays all the information accessible to the current user, including information from the current user's schema as well as information from objects in other schemas, if the current user has access to those objects by way of grants of privileges or roles.
- A `DBA_` view displays all relevant information in the entire database. `DBA_` views are intended only for administrators. They can be queried only by users with the `SYSDBA` system privilege or `SELECT ANY DICTIONARY` privilege, or `SELECT_CATALOG_ROLE` role, or by users with direct privileges granted to them. The `SELECT ANY DICTIONARY` privilege is assigned to the `DBA` role when the system is initially installed.
- A `USER_` view displays all the information from the schema of the current user. No special privileges are required to query these views.

The columns of the `ALL_`, `DBA_`, and `USER_` views corresponding to a single data dictionary table are usually nearly identical. Therefore, these views are described in full only once in this

chapter, at their first occurrence alphabetically, and are listed without full descriptions at their other occurrences.

**See Also:**

"[Static Data Dictionary View Descriptions](#)" introduces the alphabetical listing of view descriptions that are documented in this manual

## 3.2 AWR\_PDB\_\* Views

The AWR\_PDB views show the local Automatic Workload Repository (AWR) data present on a CDB root or a PDB from where the AWR\_PDB views are accessed.

The AWR\_PDB views on a CDB root show the AWR data stored on the CDB root.

The AWR\_PDB views on a PDB show the AWR data stored on that PDB.

**See Also:**

- "[AWR\\_ROOT\\_\\* Views](#)"
- *Oracle Database Performance Tuning Guide* for an introduction to AWR
- *Oracle Database Performance Tuning Guide* for more information about AWR\_PDB views and related views for accessing AWR in a multitenant environment

## 3.3 AWR\_ROOT\_\* Views

The AWR\_ROOT views show the AWR data stored only on a CDB root. In general, the AWR\_ROOT views are equivalent to the DBA\_HIST views.

When the AWR\_ROOT views are accessed from a CDB root, they show the AWR data specific to the CDB root.

When the AWR\_ROOT views are accessed from a PDB, they show the AWR data specific to that PDB.

**See Also:**

- "[AWR\\_PDB\\_\\* Views](#)"
- *Oracle Database Performance Tuning Guide* for an introduction to AWR
- *Oracle Database Performance Tuning Guide* for more information about AWR\_ROOT views and related views for accessing AWR in a multitenant environment

## 3.4 CDB\_\* Views

For every DBA\_\* view, a CDB\_\* view is defined. In the root of a multitenant container database (CDB), CDB\_\* views can be used to obtain information about tables, tablespaces, users, privileges, parameters, and so on contained in the root and in pluggable databases (PDBs). The CDB\_\* views can be queried only by users with the SYSDBA system privilege or SELECT ANY DICTIONARY privilege, or SELECT\_CATALOG\_ROLE role, or by users with direct privileges granted to them.

CDB\_\* views are container data objects. When a user connected to the root queries a CDB\_\* view, the query results will depend on the CONTAINER\_DATA attribute for users for the view. The CONTAINER\_DATA clause of the SQL ALTER USER statement is used to set and modify users' CONTAINER\_DATA attribute.

The CDB\_\* views are owned by SYS, regardless of who owns the underlying DBA\_\* view.

By default, a user connected to the root will only see data pertaining to the root.

### See Also:

- *Oracle Database Security Guide* for more information about container data objects
- *Oracle Database SQL Language Reference* for more information about the CONTAINER\_DATA clause for the SQL ALTER USER statement

CDB\_\* views include these hidden columns:

- CON\$NAME: This column includes the name of the container whose data a given CDB\_\* row represents
- CDB\$NAME: This column displays the name of the CDB whose data a given CDB\_\* row represents

In a PDB, the CDB\_\* views only show objects visible through a corresponding DBA\_\* view.

In addition to all the columns found in a given DBA\_\* view, the corresponding CDB\_\* view also contains the CON\_ID column, which identifies a container whose data a given CDB\_\* row represents. In a non-CDB, the value of a CON\_ID column will be 0.

CDB views can return data from different containers in a CDB when queried from the root container. These objects will implicitly convert data to the character set of the root container (AL32UTF8) and then return the result to the user. Some character sets may have character expansion (more bytes needed to represent a character) when converted to AL32UTF8, so there may be data truncation if the view column width is not able to accommodate data from a given PDB.

Data is returned by these views from all open PDBs at the time the query is issued, except for PDBs that are open in RESTRICTED mode. In an Oracle RAC environment, data returned by these views may vary according to the instance to which a session is connected.

## 3.5 DBA\_HIST\_\* Views

The DBA\_HIST views show the local Automatic Workload Repository (AWR) data present on a CDB root or a PDB.

If a DBA\_HIST view is queried from a CDB root, the view shows all the AWR data stored on the CDB root.

If a DBA\_HIST view is queried from a PDB, the view shows the subset of the CDB root AWR data that is specific to that PDB. Also, the view shows the PDB level snapshots at that PDB, if they exist.

### See Also:

- *Oracle Database Performance Tuning Guide* for an introduction to AWR
- *Oracle Database Performance Tuning Guide* for an introduction to Oracle Database views for accessing AWR data stored on the CDB root and individual PDBs in a multitenant environment

## 3.6 Oracle Database Real Application Security Views

This manual describes these Oracle Database Real Application Security auditing views:

- [DBA\\_XS\\_AUDIT\\_POLICY\\_OPTIONS](#)
- [DBA\\_XS\\_AUDIT\\_TRAIL](#)
- [DBA\\_XS\\_ENB\\_AUDIT\\_POLICIES](#)

Descriptions of the other Oracle Database Real Application Security views are provided in *Oracle Database Real Application Security Administrator's and Developer's Guide*.

### Note:

Oracle Database Real Application Security views include `_XS_` in the view name.

## 3.7 Oracle Database Vault Views

Descriptions of Oracle Database Vault views are not provided in this manual.

See *Oracle Database Vault Administrator's Guide* for descriptions of Oracle Database Vault views.

### Note:

Oracle Database Vault views include `_DV_` in the view name.

## 3.8 Oracle Label Security Views

Descriptions of Oracle Label Security views are not provided in this manual.

See *Oracle Label Security Administrator's Guide* for descriptions of Oracle Label Security views.



### Note:

Oracle Label Security views include `_SA_` in the view name.

## 3.9 Oracle Workspace Manager Views

A number of data dictionary views are relevant only if you are using Oracle Workspace Manager:

- `ALL_MP_GRAPH_WORKSPACES` **and** `USER_MP_GRAPH_WORKSPACES`
- `ALL_MP_PARENT_WORKSPACES` **and** `USER_MP_PARENT_WORKSPACES`
- `ALL_REMOVED_WORKSPACES` **and** `USER_REMOVED_WORKSPACES`
- `ALL_VERSION_HVIEW`
- `ALL_WM_CONS_COLUMNS` **and** `USER_WM_CONS_COLUMNS`
- `ALL_WM_CONSTRAINTS` **and** `USER_WM_CONSTRAINTS`
- `ALL_WM_IND_COLUMNS` **and** `USER_WM_IND_COLUMNS`
- `ALL_WM_IND_EXPRESSIONS` **and** `USER_WM_IND_EXPRESSIONS`
- `ALL_WM_LOCKED_TABLES` **and** `USER_WM_LOCKED_TABLES`
- `ALL_WM_MODIFIED_TABLES` **and** `USER_WM_MODIFIED_TABLES`
- `ALL_WM_RIC_INFO` **and** `USER_WM_RIC_INFO`
- `ALL_WM_TAB_TRIGGERS` **and** `USER_WM_TAB_TRIGGERS`
- `ALL_WM_VERSIONED_TABLES` **and** `USER_WM_VERSIONED_TABLES`
- `ALL_WM_VT_ERRORS`, `DBA_WM_VT_ERRORS`, **and** `USER_WM_VT_ERRORS`
- `ALL_WORKSPACE_PRIVS` **and** `USER_WORKSPACE_PRIVS`
- `ALL_WORKSPACE_SAVEPOINTS` **and** `USER_WORKSPACE_SAVEPOINTS`
- `ALL_WORKSPACES`, `DBA_WORKSPACES`, **and** `USER_WORKSPACES`
- `DBA_WM_SYS_PRIVS`
- `DBA_WORKSPACE_SESSIONS`
- `ROLE_WM_PRIVS`
- `USER_WM_PRIVS`
- `WM_COMPRESS_BATCH_SIZES`
- `WM_COMPRESSIBLE_TABLES`



- WM\_EVENTS\_INFO
- WM\_INSTALLATION

**See Also:**

*Oracle Database Workspace Manager Developer's Guide* for information about these views

## 3.10 Recovery Catalog Views

The following data dictionary views are only available after you create an optional recovery catalog (which contains schemas containing information about backups) for use with Recovery Manager:

RC\_ARCHIVED\_LOG  
RC\_BACKUP\_ARCHIVELOG\_DETAILS  
RC\_BACKUP\_ARCHIVELOG\_SUMMARY  
RC\_BACKUP\_CONTROLFILE  
RC\_BACKUP\_CONTROLFILE\_DETAILS  
RC\_BACKUP\_CONTROLFILE\_SUMMARY  
RC\_BACKUP\_COPY\_DETAILS  
RC\_BACKUP\_COPY\_SUMMARY  
RC\_BACKUP\_CORRUPTION  
RC\_BACKUP\_DATAFILE  
RC\_BACKUP\_DATAFILE\_DETAILS  
RC\_BACKUP\_DATAFILE\_SUMMARY  
RC\_BACKUP\_FILES  
RC\_BACKUP\_PIECE  
RC\_BACKUP\_PIECE\_DETAILS  
RC\_BACKUP\_REDOLOG  
RC\_BACKUP\_SET  
RC\_BACKUP\_SET\_DETAILS  
RC\_BACKUP\_SET\_SUMMARY  
RC\_BACKUP\_SPFILE  
RC\_BACKUP\_SPFILE\_DETAILS  
RC\_BACKUP\_SPFILE\_SUMMARY  
RC\_CHECKPOINT  
RC\_CONTROLFILE\_COPY  
RC\_COPY\_CORRUPTION  
RC\_DATABASE  
RC\_DATABASE\_BLOCK\_CORRUPTION  
RC\_DATABASE\_INCARNATION  
RC\_DATAFILE  
RC\_DATAFILE\_COPY  
RC\_LOG\_HISTORY  
RC\_OFFLINE\_RANGE

RC\_PROXY\_ARCHIVEDLOG  
RC\_PROXY\_ARCHIVELOG\_DETAILS  
RC\_PROXY\_ARCHIVELOG\_SUMMARY  
RC\_PROXY\_CONTROLFILE  
RC\_PROXY\_COPY\_DETAILS  
RC\_PROXY\_COPY\_SUMMARY  
RC\_PROXY\_DATAFILE  
RC\_REDO\_LOG  
RC\_REDO\_THREAD  
RC\_RESTORE\_POINT  
RC\_RESYNC  
RC\_RMAN\_BACKUP\_JOB\_DETAILS  
RC\_RMAN\_BACKUP\_SUBJOB\_DETAILS  
RC\_RMAN\_BACKUP\_TYPE  
RC\_RMAN\_CONFIGURATION  
RC\_RMAN\_OUTPUT  
RC\_RMAN\_STATUS  
RC\_SITE  
RC\_STORED\_SCRIPT  
RC\_STORED\_SCRIPT\_LINE  
RC\_TABLESPACE  
RC\_TEMPFILE  
RC\_UNUSABLE\_BACKUPFILE\_DETAILS



#### See Also:

*Oracle Database Backup and Recovery Reference* for information about these views

## 3.11 Static Data Dictionary View Descriptions

The remainder of this chapter describes the static data dictionary views in alphabetical order.

## 3.12 ALL\_ALL\_TABLES

`ALL_ALL_TABLES` describes the object tables and relational tables accessible to the current user.

#### Related Views

- `DBA_ALL_TABLES` describes all object tables and relational tables in the database.
- `USER_ALL_TABLES` describes the object tables and relational tables owned by the current user. This view does not display the `OWNER` column.

| Column | Datatype       | NULL | Description        |
|--------|----------------|------|--------------------|
| OWNER  | VARCHAR2 (128) |      | Owner of the table |

| Column          | Datatype       | NULL | Description                                                                                                                                                                                                            |
|-----------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABLE_NAME      | VARCHAR2 (128) |      | Name of the table                                                                                                                                                                                                      |
| TABLESPACE_NAME | VARCHAR2 (30)  |      | Name of the tablespace containing the table; NULL for partitioned, temporary, and index-organized tables                                                                                                               |
| CLUSTER_NAME    | VARCHAR2 (128) |      | Name of the cluster, if any, to which the table belongs                                                                                                                                                                |
| IOT_NAME        | VARCHAR2 (128) |      | Name of the index-organized table, if any, to which the overflow or mapping table entry belongs. If the IOT_TYPE column is not NULL, then this column contains the base table name.                                    |
| STATUS          | VARCHAR2 (8)   |      | If a previous DROP TABLE operation failed, indicates whether the table is unusable (UNUSABLE) or valid (VALID)                                                                                                         |
| PCT_FREE        | NUMBER         |      | Minimum percentage of free space in a block; NULL for partitioned tables                                                                                                                                               |
| PCT_USED        | NUMBER         |      | Minimum percentage of used space in a block; NULL for partitioned tables                                                                                                                                               |
| INI_TRANS       | NUMBER         |      | Initial number of transactions; NULL for partitioned tables                                                                                                                                                            |
| MAX_TRANS       | NUMBER         |      | Maximum number of transactions; NULL for partitioned tables                                                                                                                                                            |
| INITIAL_EXTENT  | NUMBER         |      | Size of the initial extent (in bytes); NULL for partitioned tables                                                                                                                                                     |
| NEXT_EXTENT     | NUMBER         |      | Size of secondary extents (in bytes); NULL for partitioned tables                                                                                                                                                      |
| MIN_EXTENTS     | NUMBER         |      | Minimum number of extents allowed in the segment; NULL for partitioned tables                                                                                                                                          |
| MAX_EXTENTS     | NUMBER         |      | Maximum number of extents allowed in the segment; NULL for partitioned tables                                                                                                                                          |
| PCT_INCREASE    | NUMBER         |      | Percentage increase in extent size; NULL for partitioned tables                                                                                                                                                        |
| FREELISTS       | NUMBER         |      | Number of process freelists allocated to the segment; NULL for partitioned tables                                                                                                                                      |
| FREELIST_GROUPS | NUMBER         |      | Number of freelist groups allocated to the segment                                                                                                                                                                     |
| LOGGING         | VARCHAR2 (3)   |      | Indicates whether or not changes to the table are logged: <ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> </ul>                                                                                        |
| BACKED_UP       | VARCHAR2 (1)   |      | Indicates whether the table has been backed up since the last modification (Y) or not (N)                                                                                                                              |
| NUM_ROWS        | NUMBER         |      | Number of rows in the table                                                                                                                                                                                            |
| BLOCKS          | NUMBER         |      | Number of used blocks in the table                                                                                                                                                                                     |
| EMPTY_BLOCKS    | NUMBER         |      | Number of empty (never used) blocks in the table                                                                                                                                                                       |
| AVG_SPACE       | NUMBER         |      | Average available free space in the table                                                                                                                                                                              |
| CHAIN_CNT       | NUMBER         |      | Number of rows in the table that are chained from one data block to another or that have migrated to a new block, requiring a link to preserve the old rowid. This column is updated only after you analyze the table. |
| AVG_ROW_LEN     | NUMBER         |      | Average row length, including row overhead                                                                                                                                                                             |

| Column                    | Datatype       | NULL | Description                                                                                                                                                                                                                               |
|---------------------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AVG_SPACE_FREELIST_BLOCKS | NUMBER         |      | Average freespace of all blocks on a freelist                                                                                                                                                                                             |
| NUM_FREELIST_BLOCKS       | NUMBER         |      | Number of blocks on the freelist                                                                                                                                                                                                          |
| DEGREE                    | VARCHAR2 (10)  |      | Number of threads per instance for scanning the table, or DEFAULT                                                                                                                                                                         |
| INSTANCES                 | VARCHAR2 (10)  |      | Number of instances across which the table is to be scanned, or DEFAULT                                                                                                                                                                   |
| CACHE                     | VARCHAR2 (5)   |      | Indicates whether the table is to be cached in the buffer cache (Y) or not (N)                                                                                                                                                            |
| TABLE_LOCK                | VARCHAR2 (8)   |      | Indicates whether table locking is enabled (ENABLED) or disabled (DISABLED)                                                                                                                                                               |
| SAMPLE_SIZE               | NUMBER         |      | Sample size used in analyzing the table                                                                                                                                                                                                   |
| LAST_ANALYZED             | DATE           |      | Date on which the table was most recently analyzed                                                                                                                                                                                        |
| PARTITIONED               | VARCHAR2 (3)   |      | Indicates whether the table is partitioned (YES) or not (NO)                                                                                                                                                                              |
| IOT_TYPE                  | VARCHAR2 (12)  |      | If the table is an index-organized table, then IOT_TYPE is IOT, IOT_OVERFLOW, or IOT_MAPPING. If the table is not an index-organized table, then IOT_TYPE is NULL.                                                                        |
| OBJECT_ID_TYPE            | VARCHAR2 (16)  |      | Indicates whether the object ID (OID) is USER-DEFINED or SYSTEM GENERATED                                                                                                                                                                 |
| TABLE_TYPE_OWNER          | VARCHAR2 (128) |      | If an object table, owner of the type from which the table is created                                                                                                                                                                     |
| TABLE_TYPE                | VARCHAR2 (128) |      | If an object table, type of the table                                                                                                                                                                                                     |
| TEMPORARY                 | VARCHAR2 (1)   |      | Indicates whether the table is temporary (Y) or not (N)                                                                                                                                                                                   |
| SECONDARY                 | VARCHAR2 (1)   |      | Indicates whether the table is a secondary object created by the ODCIIndexCreate method of the Oracle Data Cartridge to contain the contents of a domain index (Y) or not (N)                                                             |
| NESTED                    | VARCHAR2 (3)   |      | Indicates whether the table is a nested table (YES) or not (NO)                                                                                                                                                                           |
| BUFFER_POOL               | VARCHAR2 (7)   |      | Buffer pool to be used for table blocks: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• RECYCLE</li> <li>• NULL</li> </ul>                                                                                   |
| FLASH_CACHE               | VARCHAR2 (7)   |      | Database Smart Flash Cache hint to be used for table blocks: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> Solaris and Oracle Linux functionality only.                                     |
| CELL_FLASH_CACHE          | VARCHAR2 (7)   |      | Cell flash cache hint to be used for table blocks: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> <b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information |

| Column          | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ROW_MOVEMENT    | VARCHAR2 (8)   |      | If a partitioned table, indicates whether row movement is enabled (ENABLED) or disabled (DISABLED)                                                                                                                                                                                                                                                                                                                                                                                                                             |
| GLOBAL_STATS    | VARCHAR2 (3)   |      | GLOBAL_STATS will be YES if statistics are gathered or incrementally maintained, otherwise it will be NO                                                                                                                                                                                                                                                                                                                                                                                                                       |
| USER_STATS      | VARCHAR2 (3)   |      | Indicates whether statistics were entered directly by the user (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DURATION        | VARCHAR2 (15)  |      | Indicates the duration of a temporary table:<br>SYS\$SESSION - Rows are preserved for the duration of the session<br>SYS\$TRANSACTION - Rows are deleted after COMMIT<br>Null - Permanent table                                                                                                                                                                                                                                                                                                                                |
| SKIP_CORRUPT    | VARCHAR2 (8)   |      | Indicates whether Oracle Database ignores blocks marked corrupt during table and index scans (ENABLED) or raises an error (DISABLED). To enable this feature, run the DBMS_REPAIR.skip_corrupt_blocks procedure.                                                                                                                                                                                                                                                                                                               |
| MONITORING      | VARCHAR2 (3)   |      | Indicates whether the table has the MONITORING attribute set (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CLUSTER_OWNER   | VARCHAR2 (128) |      | Owner of the cluster, if any, to which the table belongs                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| DEPENDENCIES    | VARCHAR2 (8)   |      | Indicates whether row-level dependency tracking is enabled (ENABLED) or disabled (DISABLED)                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| COMPRESSION     | VARCHAR2 (8)   |      | Indicates whether table compression is enabled (ENABLED) or not (DISABLED); NULL for partitioned tables                                                                                                                                                                                                                                                                                                                                                                                                                        |
| COMPRESS_FOR    | VARCHAR2 (30)  |      | Default compression for what kind of operations: <ul style="list-style-type: none"> <li>• BASIC</li> <li>• ADVANCED</li> <li>• QUERY LOW</li> <li>• QUERY HIGH</li> <li>• ARCHIVE LOW</li> <li>• ARCHIVE HIGH</li> <li>• NULL</li> </ul> The QUERY LOW, QUERY HIGH, ARCHIVE LOW, and ARCHIVE HIGH values are associated with Hybrid Columnar Compression, a feature of the Enterprise Edition of Oracle Database that is dependent on the underlying storage system. See <i>Oracle Database Concepts</i> for more information. |
| DROPPED         | VARCHAR2 (3)   |      | Indicates whether the table has been dropped and is in the recycle bin (YES) or not (NO); NULL for partitioned tables<br>This view does not return the names of tables that have been dropped.                                                                                                                                                                                                                                                                                                                                 |
| SEGMENT_CREATED | VARCHAR2 (3)   |      | Indicates whether the table segment has been created (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| INMEMORY        | VARCHAR2 (8)   |      | Indicates whether the In-Memory Column Store (IM column store) is enabled (ENABLED) or disabled (DISABLED) for this table                                                                                                                                                                                                                                                                                                                                                                                                      |

| Column               | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------|---------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INMEMORY_PRIORITY    | VARCHAR2 (8)  |      | <p>Indicates the priority at which this table is populated into the In-Memory Column Store (IM column store). Possible values:</p> <ul style="list-style-type: none"> <li>• LOW</li> <li>• MEDIUM</li> <li>• HIGH</li> <li>• CRITICAL</li> <li>• NONE</li> <li>• NULL</li> </ul> <p>This column has a value based on where the segments lie for a table. For example, if the table is partitioned and is enabled for the IM column store, the value is NULL for ALL_TABLES but non-NULL for ALL_TAB_PARTITIONS.</p> |
| INMEMORY_DISTRIBUTE  | VARCHAR2 (15) |      | <p>Indicates how the table will be distributed in the IM column stores in an Oracle Real Application Clusters (Oracle RAC) environment:</p> <ul style="list-style-type: none"> <li>• AUTO</li> <li>• BY ROWID RANGE</li> <li>• BY PARTITION</li> <li>• BY SUBPARTITION</li> </ul>                                                                                                                                                                                                                                   |
| INMEMORY_COMPRESSION | VARCHAR2 (17) |      | <p>Compression level for the in-memory store:</p> <ul style="list-style-type: none"> <li>• NO MEMCOMPRESS</li> <li>• FOR DML</li> <li>• FOR QUERY [ LOW   HIGH ]</li> <li>• FOR CAPACITY [ LOW   HIGH ]</li> <li>• AUTO</li> <li>• NULL</li> </ul> <p>This column has a value based on where the segments lie for a table. For example, if the table is partitioned and is enabled for the IM column store, the value is NULL for ALL_TABLES but non-NULL for ALL_TAB_PARTITIONS.</p>                               |
| INMEMORY_DUPLICATE   | VARCHAR2 (13) |      | <p>Indicates the duplicate setting for the In-Memory Column Store (IM column store) in an Oracle RAC environment:</p> <ul style="list-style-type: none"> <li>• NO DUPLICATE</li> <li>• DUPLICATE</li> <li>• DUPLICATE ALL</li> </ul>                                                                                                                                                                                                                                                                                |
| EXTERNAL             | VARCHAR2 (3)  |      | <p>Indicates whether the table is an external table (YES) or not (NO)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| HYBRID               | VARCHAR2 (3)  |      | <p>Indicates whether the table is a hybrid partitioned table (YES) or not (NO). A hybrid partitioned table can contain a mixture of partitions stored in segments and partitions stored externally.</p>                                                                                                                                                                                                                                                                                                             |

| Column                  | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------|-----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CELLMEMORY <sup>1</sup> | VARCHAR2 (24)   |      | <p>The value for columnar compression in the storage cell flash cache. Possible values:</p> <ul style="list-style-type: none"> <li>ENABLED: Oracle Exadata Storage will decide automatically whether to cache in columnar form</li> <li>DISABLED: Oracle Exadata Storage is prevented from caching in columnar form</li> <li>NO CACHECOMPRESS: Oracle Exadata Storage will cache in HCC format (no recompression)</li> <li>FOR QUERY: Oracle Exadata Storage will recompress and cache in INMEMORY query high format</li> <li>FOR CAPACITY: Oracle Exadata Storage will recompress and cache in INMEMORY capacity low format</li> </ul>                                                                                                                                                                     |
| INMEMORY_SERVICE        | VARCHAR2 (12)   |      | <p>Indicates how the IM column store is populated on various instances. The possible values are:</p> <ul style="list-style-type: none"> <li>DEFAULT: Data is populated on all instances specified with the <code>PARALLEL_INSTANCE_GROUP</code> initialization parameter. If that parameter is not set, then the data is populated on all instances. This is the default.</li> <li>NONE: Data is not populated on any instance.</li> <li>ALL: Data is populated on all instances, regardless of the value of the <code>PARALLEL_INSTANCE_GROUP</code> initialization parameter.</li> <li>USER_DEFINED: Data is populated only on the instances on which the user-specified service is active. The service name corresponding to this is stored in the <code>INMEMORY_SERVICE_NAME</code> column.</li> </ul> |
| INMEMORY_SERVICE_NAME   | VARCHAR2 (1000) |      | <p>Indicates the service name for the service on which the IM column store should be populated. This column has a value only when the corresponding <code>INMEMORY_SERVICE</code> is <code>USER_DEFINED</code>. In all other cases, this column is null.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| MEMOPTIMIZE_READ        | VARCHAR2 (8)    |      | <p>Indicates whether the table is enabled for Fast Key Based Access (<code>ENABLED</code>) or not (<code>DISABLED</code>)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| MEMOPTIMIZE_WRITE       | VARCHAR2 (8)    |      | For internal use only                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| HAS_SENSITIVE_COLUMN    | VARCHAR2 (3)    |      | <p>Indicates whether the table has one or more sensitive columns (<code>YES</code>) or not (<code>NO</code>)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| LOGICAL_REPLICATION     | VARCHAR2 (8)    |      | <p>Indicates whether the table is enabled for logical replication (<code>ENABLED</code>) or not (<code>DISABLED</code>). This setting is ignored if database-wide column data supplemental logging is enabled.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| STAGING                 | VARCHAR2 (3)    |      | <p>Indicates whether the table is a staging table (<code>YES</code>) or not (<code>NO</code>)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| HAS_RESERVABLE_COLUMN   | VARCHAR2 (3)    |      | <p>Indicates whether the table has one or more reservable columns (<code>YES</code>) or not (<code>NO</code>)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

<sup>1</sup> This column is intended for use with Oracle Exadata.

 **See Also:**

- "DBA\_ALL\_TABLES"
- "USER\_ALL\_TABLES"
- "PARALLEL\_INSTANCE\_GROUP"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_REPAIR.SKIP\_CORRUPT\_BLOCKS procedure
- *Oracle Database In-Memory Guide* for an introduction to the IM column store
- *Oracle Database In-Memory Guide* for more information about the IM column store

## 3.13 ALL\_ANALYTIC\_VIEW\_AGGR\_DIMS

ALL\_ANALYTIC\_VIEW\_AGGR\_DIMS describes the aggregation function dimensions of the analytic views accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_AGGR\_DIMS describes the aggregation function dimensions of all analytic views in the database.
- USER\_ANALYTIC\_VIEW\_AGGR\_DIMS describes the aggregation function dimensions of the analytic views owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                                          |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                                           |
| AGGR_GROUP_NAME    | VARCHAR2 (128) | NOT NULL | Aggregation group name of the analytic view aggregation function                                                                                                                                                                                                                                                                                                                    |
| DIM_NAME           | VARCHAR2 (128) |          | Dimension name of the analytic view aggregation function                                                                                                                                                                                                                                                                                                                            |
| ORDER_NUM          | NUMBER         | NOT NULL | Order number of the dimension within the analytic view aggregation function                                                                                                                                                                                                                                                                                                         |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |

 **See Also:**

- "DBA\_ANALYTIC\_VIEW\_AGGR\_DIMS"
- "USER\_ANALYTIC\_VIEW\_AGGR\_DIMS"



## 3.14 ALL\_ANALYTIC\_VIEW\_AGGR\_FNS

ALL\_ANALYTIC\_VIEW\_AGGR\_FNS describes the aggregation functions of the analytic views accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_AGGR\_FNS describes the aggregation functions of all analytic views in the database.
- USER\_ANALYTIC\_VIEW\_AGGR\_FNS describes the aggregation functions of the analytic views owned by the current user. This view does not display the OWNER or ORIGIN\_CON\_ID columns.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                    |
|--------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                     |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                      |
| AGGR_GROUP_NAME    | VARCHAR2 (128) | NOT NULL | Aggregation group name of the analytic view aggregation function                                                                                                                                                                                                                                                                                               |
| FUNCTION_NAME      | VARCHAR2 (128) |          | Name of the analytic view aggregation function                                                                                                                                                                                                                                                                                                                 |
| DEPTH              | NUMBER         | NOT NULL | Depth of the inner aggregation function                                                                                                                                                                                                                                                                                                                        |
| IS_DISTINCT        | VARCHAR2 (1)   |          | Column that indicates if the function uses the distinct modifier                                                                                                                                                                                                                                                                                               |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• n: This value is used for rows containing data that originate in the container with container ID n (n = 1 if the row originates in root).</li></ul> |

### See Also:

- "DBA\_ANALYTIC\_VIEW\_AGGR\_FNS"
- "USER\_ANALYTIC\_VIEW\_AGGR\_FNS"

## 3.15 ALL\_ANALYTIC\_VIEW\_AGGR\_FNS\_AE

ALL\_ANALYTIC\_VIEW\_AGGR\_FNS\_AE describes the aggregation functions of the analytic views (across all editions) accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_AGGR\_FNS\_AE describes the aggregation functions of all analytic views (across all editions) in the database.
- USER\_ANALYTIC\_VIEW\_AGGR\_FNS\_AE describes the aggregation functions of the analytic views (across all editions) owned by the current user. This view does not display the OWNER or ORIGIN\_CON\_ID columns.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                                         |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                                          |
| AGGR_GROUP_NAME    | VARCHAR2 (128) | NOT NULL | Aggregation group name of the analytic view aggregation function                                                                                                                                                                                                                                                                                                                   |
| FUNCTION_NAME      | VARCHAR2 (128) |          | Name of the analytic view aggregation function                                                                                                                                                                                                                                                                                                                                     |
| DEPTH              | NUMBER         | NOT NULL | Depth of the inner aggregation function                                                                                                                                                                                                                                                                                                                                            |
| IS_DISTINCT        | VARCHAR2 (1)   |          | Column that indicates if the function uses the distinct modifier                                                                                                                                                                                                                                                                                                                   |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |
| EDITION_NAME       | VARCHAR2 (128) |          | Name of the application edition where the analytic view is defined                                                                                                                                                                                                                                                                                                                 |



#### See Also:

- ["DBA\\_ANALYTIC\\_VIEW\\_AGR\\_FNS\\_AE"](#)
- ["USER\\_ANALYTIC\\_VIEW\\_AGR\\_FNS\\_AE"](#)

## 3.16 ALL\_ANALYTIC\_VIEW\_AGR\_DIMS

ALL\_ANALYTIC\_VIEW\_AGR\_DIMS describes the aggregation function dimensions of the analytic views accessible to the current user.

#### Related Views

- DBA\_ANALYTIC\_VIEW\_AGR\_DIMS describes the aggregation function dimensions of all analytic views in the database.
- USER\_ANALYTIC\_VIEW\_AGR\_DIMS describes the aggregation function dimensions of the analytic views owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                 |
|--------------------|----------------|----------|-----------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                  |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                   |
| AGGR_GROUP_NAME    | VARCHAR2 (128) | NOT NULL | Aggregation group name of the analytic view aggregation function            |
| DIM_NAME           | VARCHAR2 (128) |          | Dimension name of the analytic view aggregation function                    |
| ORDER_NUM          | NUMBER         | NOT NULL | Order number of the dimension within the analytic view aggregation function |

| Column        | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|----------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGIN_CON_ID | NUMBER   |      | <p>The ID of the container where the data originates. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><math>n</math>: This value is used for rows containing data that originate in the container with container ID <math>n</math> (<math>n = 1</math> if the row originates in root).</li> </ul> |



#### See Also:

- "DBA\_ANALYTIC\_VIEW\_AGR\_DIMS"
- "USER\_ANALYTIC\_VIEW\_AGR\_DIMS"

## 3.17 ALL\_ANALYTIC\_VIEW\_AGR\_DIMS\_AE

ALL\_ANALYTIC\_VIEW\_AGR\_DIMS\_AE describes the aggregation function dimensions of the analytic views (across all editions) accessible to the current user.

#### Related Views

- DBA\_ANALYTIC\_VIEW\_AGR\_DIMS\_AE describes the aggregation function dimensions of all analytic views (across all editions) in the database.
- USER\_ANALYTIC\_VIEW\_AGR\_DIMS\_AE describes the aggregation function dimensions of the analytic views (across all editions) owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                                                                  |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                                                                   |
| AGGR_GROUP_NAME    | VARCHAR2 (128) | NOT NULL | Aggregation group name of the analytic view aggregation function                                                                                                                                                                                                                                                                                                                                            |
| DIM_NAME           | VARCHAR2 (128) |          | Dimension name of the analytic view aggregation function                                                                                                                                                                                                                                                                                                                                                    |
| ORDER_NUM          | NUMBER         | NOT NULL | Order number of the dimension within the analytic view aggregation function                                                                                                                                                                                                                                                                                                                                 |
| ORIGIN_CON_ID      | NUMBER         |          | <p>The ID of the container where the data originates. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><math>n</math>: This value is used for rows containing data that originate in the container with container ID <math>n</math> (<math>n = 1</math> if the row originates in root).</li> </ul> |
| EDITION_NAME       | VARCHAR2 (128) |          | Name of the application edition where the analytic view is defined                                                                                                                                                                                                                                                                                                                                          |

 **See Also:**

- "DBA\_ANALYTIC\_VIEW\_AGR\_DIMS\_AE"
- "USER\_ANALYTIC\_VIEW\_AGR\_DIMS\_AE"

## 3.18 ALL\_ANALYTIC\_VIEW\_ATTR\_CLASS

ALL\_ANALYTIC\_VIEW\_ATTR\_CLASS describes the attribute classifications of the analytic views accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_ATTR\_CLASS describes the attribute classifications of all analytic views in the database.
- USER\_ANALYTIC\_VIEW\_ATTR\_CLASS describes the attribute classifications of the analytic views owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                                          |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of analytic view                                                                                                                                                                                                                                                                                                                                                               |
| DIMENSION_ALIAS    | VARCHAR2 (128) |          | Alias of the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                                               |
| HIER_ALIAS         | VARCHAR2 (128) |          | Alias of the hierarchy specified by an attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                     |
| ATTRIBUTE_NAME     | VARCHAR2 (128) | NOT NULL | Name of the attribute within the analytic view                                                                                                                                                                                                                                                                                                                                      |
| CLASSIFICATION     | VARCHAR2 (128) |          | Name of analytic view attribute classification                                                                                                                                                                                                                                                                                                                                      |
| VALUE              | CLOB           |          | Value of attribute classification                                                                                                                                                                                                                                                                                                                                                   |
| LANGUAGE           | VARCHAR2 (64)  |          | Language of attribute classification                                                                                                                                                                                                                                                                                                                                                |
| ORDER_NUM          | NUMBER         | NOT NULL | Order number of the attribute classification                                                                                                                                                                                                                                                                                                                                        |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |

 **See Also:**

- "DBA\_ANALYTIC\_VIEW\_ATTR\_CLASS"
- "USER\_ANALYTIC\_VIEW\_ATTR\_CLASS"

## 3.19 ALL\_ANALYTIC\_VIEW\_ATTR\_CLS

ALL\_ANALYTIC\_VIEW\_ATTR\_CLS is identical to ALL\_ANALYTIC\_VIEW\_ATTR\_CLASS.



### See Also:

"ALL\_ANALYTIC\_VIEW\_ATTR\_CLASS"

## 3.20 ALL\_ANALYTIC\_VIEW\_ATTR\_CLS\_AE

ALL\_ANALYTIC\_VIEW\_ATTR\_CLS\_AE describes the attribute classifications of the analytic views (across all editions) accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_ATTR\_CLS\_AE describes the attribute classifications of all analytic views (across all editions) in the database.
- USER\_ANALYTIC\_VIEW\_ATTR\_CLS\_AE describes the attribute classifications of the analytic views (across all editions) owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                                                |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of analytic view                                                                                                                                                                                                                                                                                                                                                                     |
| DIMENSION_ALIAS    | VARCHAR2 (128) |          | Alias of the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                                                     |
| HIER_ALIAS         | VARCHAR2 (128) |          | Alias of the hierarchy specified by an attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                           |
| ATTRIBUTE_NAME     | VARCHAR2 (128) | NOT NULL | Name of the attribute within the analytic view                                                                                                                                                                                                                                                                                                                                            |
| CLASSIFICATION     | VARCHAR2 (128) |          | Name of analytic view attribute classification                                                                                                                                                                                                                                                                                                                                            |
| VALUE              | CLOB           |          | Value of attribute classification                                                                                                                                                                                                                                                                                                                                                         |
| LANGUAGE           | VARCHAR2 (64)  |          | Language of attribute classification                                                                                                                                                                                                                                                                                                                                                      |
| ORDER_NUM          | NUMBER         | NOT NULL | Order number of the attribute classification                                                                                                                                                                                                                                                                                                                                              |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |
| EDITION_NAME       | VARCHAR2 (128) |          | Name of the application edition where the analytic view is defined                                                                                                                                                                                                                                                                                                                        |

**See Also:**

- ["DBA\\_ANALYTIC\\_VIEW\\_ATTR\\_CLS\\_AE"](#)
- ["USER\\_ANALYTIC\\_VIEW\\_ATTR\\_CLS\\_AE"](#)

## 3.21 ALL\_ANALYTIC\_VIEW\_BAS\_MEAS

ALL\_ANALYTIC\_VIEW\_BAS\_MEAS is identical to ALL\_ANALYTIC\_VIEW\_BASE\_MEAS.

**See Also:**

["ALL\\_ANALYTIC\\_VIEW\\_BASE\\_MEAS"](#)

## 3.22 ALL\_ANALYTIC\_VIEW\_BAS\_MEAS\_AE

ALL\_ANALYTIC\_VIEW\_BAS\_MEAS\_AE describes the base measures in the analytic views (across all editions) accessible to the current user.

**Related Views**

- [DBA\\_ANALYTIC\\_VIEW\\_BAS\\_MEAS\\_AE](#) describes the base measures in all analytic views (across all editions) in the database.
- [USER\\_ANALYTIC\\_VIEW\\_BAS\\_MEAS\\_AE](#) describes the base measures in the analytic views (across all editions) owned by the current user. This view does not display the `OWNER` column.

| Column             | Datatype       | NULL     | Description                                                                             |
|--------------------|----------------|----------|-----------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                              |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                               |
| MEASURE_NAME       | VARCHAR2 (128) |          | Name of the analytic view base measure                                                  |
| TABLE_ALIAS        | VARCHAR2 (128) |          | Alias of the table or view in the <code>USING</code> clause to which the column belongs |
| COLUMN_NAME        | VARCHAR2 (128) | NOT NULL | Column name in the table or view on which this measure is defined                       |
| MEAS_EXPRESSION    | CLOB           |          | Text of the expression for the measure                                                  |
| AGGR_FUNCTION      | VARCHAR2 (128) |          | Aggregation operator specified for this measure or NULL if not specified                |
| AGGR_GROUP_NAME    | VARCHAR2 (128) |          | Aggregation function group name specified for this measure or NULL if not specified     |
| ORDER_NUM          | NUMBER         | NOT NULL | Order number of the base measure in the list of measures in the analytic view           |

| Column        | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                        |
|---------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGIN_CON_ID | NUMBER         |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |
| EDITION_NAME  | VARCHAR2 (128) |      | Name of the application edition where the analytic view is defined                                                                                                                                                                                                                                                                                                                 |

 **See Also:**

- "DBA\_ANALYTIC\_VIEW\_BAS\_MEAS\_AE"
- "USER\_ANALYTIC\_VIEW\_BAS\_MEAS\_AE"

## 3.23 ALL\_ANALYTIC\_VIEW\_BASE\_MEAS

ALL\_ANALYTIC\_VIEW\_BASE\_MEAS describes the base measures in the analytic views accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_BASE\_MEAS describes the base measures in all analytic views in the database.
- USER\_ANALYTIC\_VIEW\_BASE\_MEAS describes the base measures in the analytic views owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                         |
|--------------------|----------------|----------|-------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                          |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                           |
| MEASURE_NAME       | VARCHAR2 (128) |          | Name of the analytic view base measure                                              |
| TABLE_ALIAS        | VARCHAR2 (128) |          | Alias of the table or view in the USING clause to which the column belongs          |
| COLUMN_NAME        | VARCHAR2 (128) | NOT NULL | Column name in the table or view on which this measure is defined                   |
| MEAS_EXPRESSION    | CLOB           |          | Text of the expression for the measure                                              |
| AGGR_FUNCTION      | VARCHAR2 (128) |          | Aggregation operator specified for this measure or NULL if not specified            |
| AGGR_GROUP_NAME    | VARCHAR2 (128) |          | Aggregation function group name specified for this measure or NULL if not specified |
| ORDER_NUM          | NUMBER         | NOT NULL | Order number of the base measure in the list of measures in the analytic view       |

| Column        | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                               |
|---------------|----------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGIN_CON_ID | NUMBER   |      | <p>The ID of the container where the data originates. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |



#### See Also:

- "DBA\_ANALYTIC\_VIEW\_BASE\_MEAS"
- "USER\_ANALYTIC\_VIEW\_BASE\_MEAS"

## 3.24 ALL\_ANALYTIC\_VIEW\_CALC\_MEAS

ALL\_ANALYTIC\_VIEW\_CALC\_MEAS describes the calculated measures in the analytic views accessible to the current user.

#### Related Views

- DBA\_ANALYTIC\_VIEW\_CALC\_MEAS describes the calculated measures in all analytic views in the database.
- USER\_ANALYTIC\_VIEW\_CALC\_MEAS describes the calculated measures in the analytic views owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                                                |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                                                 |
| MEASURE_NAME       | VARCHAR2 (128) |          | Name of the analytic view calculated measure                                                                                                                                                                                                                                                                                                                                              |
| MEAS_EXPRESSION    | CLOB           |          | Text of the expression for the measure                                                                                                                                                                                                                                                                                                                                                    |
| ORDER_NUM          | NUMBER         | NOT NULL | Order number of the calculated measure in the list of the measures in the analytic view                                                                                                                                                                                                                                                                                                   |
| ORIGIN_CON_ID      | NUMBER         |          | <p>The ID of the container where the data originates. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |



**See Also:**

- "DBA\_ANALYTIC\_VIEW\_CALC\_MEAS"
- "USER\_ANALYTIC\_VIEW\_CALC\_MEAS"

## 3.25 ALL\_ANALYTIC\_VIEW\_CLASS

ALL\_ANALYTIC\_VIEW\_CLASS describes the classifications of the analytic views accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_CLASS describes the classifications of all analytic views in the database.
- USER\_ANALYTIC\_VIEW\_CLASS describes the classifications of the analytic views owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                                          |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                                           |
| CLASSIFICATION     | VARCHAR2 (128) |          | Classification associated with the analytic view                                                                                                                                                                                                                                                                                                                                    |
| VALUE              | CLOB           |          | Value of the classification or NULL if not specified                                                                                                                                                                                                                                                                                                                                |
| LANGUAGE           | VARCHAR2 (64)  |          | NLS_LANGUAGE value associated with the classification or NULL if not specified                                                                                                                                                                                                                                                                                                      |
| ORDER_NUM          | NUMBER         | NOT NULL | Order of the classification in the list of classifications associated with the analytic view                                                                                                                                                                                                                                                                                        |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |

**See Also:**

- "DBA\_ANALYTIC\_VIEW\_CLASS"
- "USER\_ANALYTIC\_VIEW\_CLASS"

## 3.26 ALL\_ANALYTIC\_VIEW\_CLASS\_AE

ALL\_ANALYTIC\_VIEW\_CLASS\_AE describes the classifications of the analytic views (across all editions) accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_CLASS\_AE describes the classifications of all analytic views (across all editions) in the database.
- USER\_ANALYTIC\_VIEW\_CLASS\_AE describes the classifications of the analytic views (across all editions) owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                    |
|--------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                     |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                      |
| CLASSIFICATION     | VARCHAR2 (128) |          | Classification associated with the analytic view                                                                                                                                                                                                                                                                                                               |
| VALUE              | CLOB           |          | Value of the classification or NULL if not specified                                                                                                                                                                                                                                                                                                           |
| LANGUAGE           | VARCHAR2 (64)  |          | NLS_LANGUAGE value associated with the classification or NULL if not specified                                                                                                                                                                                                                                                                                 |
| ORDER_NUM          | NUMBER         | NOT NULL | Order of the classification in the list of classifications associated with the analytic view                                                                                                                                                                                                                                                                   |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• n: This value is used for rows containing data that originate in the container with container ID n (n = 1 if the row originates in root).</li></ul> |
| EDITION_NAME       | VARCHAR2 (128) |          | Name of the application edition where the analytic view is defined                                                                                                                                                                                                                                                                                             |

### See Also:

- "DBA\_ANALYTIC\_VIEW\_CLASS\_AE"
- "USER\_ANALYTIC\_VIEW\_CLASS\_AE"

## 3.27 ALL\_ANALYTIC\_VIEW\_CLC\_MEAS

ALL\_ANALYTIC\_VIEW\_CLC\_MEAS is identical to ALL\_ANALYTIC\_VIEW\_CALC\_MEAS.

### See Also:

- "ALL\_ANALYTIC\_VIEW\_CALC\_MEAS"

## 3.28 ALL\_ANALYTIC\_VIEW\_CLC\_MEAS\_AE

ALL\_ANALYTIC\_VIEW\_CLC\_MEAS\_AE describes the calculated measures in the analytic views (across all editions) accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_CLC\_MEAS\_AE describes the calculated measures in all analytic views (across all editions) in the database.
- USER\_ANALYTIC\_VIEW\_CLC\_MEAS\_AE describes the calculated measures in the analytic views (across all editions) owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                                             |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                                              |
| MEASURE_NAME       | VARCHAR2 (128) |          | Name of the analytic view calculated measure                                                                                                                                                                                                                                                                                                                                           |
| MEAS_EXPRESSION    | CLOB           |          | Text of the expression for the measure                                                                                                                                                                                                                                                                                                                                                 |
| ORDER_NUM          | NUMBER         | NOT NULL | Order number of the calculated measure in the list of the measures in the analytic view                                                                                                                                                                                                                                                                                                |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |
| EDITION_NAME       | VARCHAR2 (128) |          | Name of the application edition where the analytic view is defined                                                                                                                                                                                                                                                                                                                     |



### See Also:

- "DBA\_ANALYTIC\_VIEW\_CLC\_MEAS\_AE"
- "USER\_ANALYTIC\_VIEW\_CLC\_MEAS\_AE"

## 3.29 ALL\_ANALYTIC\_VIEW\_COLUMNS

ALL\_ANALYTIC\_VIEW\_COLUMNS describes the columns of the analytic views accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_COLUMNS describes the columns of all analytic views in the database.
- USER\_ANALYTIC\_VIEW\_COLUMNS describes the columns of the analytic views owned by the current user. This view does not display the OWNER column.

| Column               | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ANALYTIC_VIEW_NAME   | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                                                                                                              |
| DIMENSION_NAME       | VARCHAR2 (128) |          | Alias of the analytic view dimension in the analytic view; for a measure the value is MEASURES                                                                                                                                                                                                                                                                                                                                                         |
| HIER_NAME            | VARCHAR2 (128) |          | Alias of the analytic view hierarchy within DIMENSION_NAME in the analytic view; for a measure the value is MEASURES                                                                                                                                                                                                                                                                                                                                   |
| COLUMN_NAME          | VARCHAR2 (128) | NOT NULL | Name of the column                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ROLE                 | VARCHAR2 (4)   | NOT NULL | The role the attribute plays in the analytic view: <ul style="list-style-type: none"> <li>• KEY</li> <li>• AKEY</li> <li>• HIER</li> <li>• PROP</li> <li>• MEAS</li> </ul>                                                                                                                                                                                                                                                                             |
| DATA_TYPE            | VARCHAR2 (106) | NOT NULL | Datatype of the column                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DATA_LENGTH          | NUMBER         | NOT NULL | Length of the column (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                        |
| DATA_PRECISION       | NUMBER         |          | Decimal precision for the NUMBER datatype; binary precision for the FLOAT datatype, NULL for all other datatypes                                                                                                                                                                                                                                                                                                                                       |
| DATA_SCALE           | NUMBER         |          | Number of digits to the right of the decimal point in a number                                                                                                                                                                                                                                                                                                                                                                                         |
| NULLABLE             | CHAR (1)       | NOT NULL | Indicates whether a column allows NULL values; the value is N if there is a NOT NULL constraint on the column or if the column is part of a PRIMARY KEY                                                                                                                                                                                                                                                                                                |
| CHARACTER_SET_NAME   | VARCHAR2 (44)  |          | Name of the character set: <ul style="list-style-type: none"> <li>• CHAR_CS</li> <li>• NCHAR_CS</li> </ul>                                                                                                                                                                                                                                                                                                                                             |
| CHAR_COL_DECL_LENGTH | NUMBER         |          | Declaration length of the character type column                                                                                                                                                                                                                                                                                                                                                                                                        |
| CHAR_USED            | VARCHAR2 (1)   |          | Indicates that the column uses BYTE length semantics (B) or CHAR length semantics (C), or whether the datatype is not any of the following (NULL): <ul style="list-style-type: none"> <li>• CHAR</li> <li>• VARCHAR2</li> <li>• NCHAR</li> <li>• NVARCHAR2</li> </ul>                                                                                                                                                                                  |
| ORDER_NUM            | NUMBER         | NOT NULL | Order of the column, with the hierarchy columns first followed by measure columns. The columns for a hierarchy are grouped together, listed in their order in the HIERARCHIES clause of the analytic view definition. Within a hierarchy, attributes are listed first in order of their definition in the ATTRIBUTES clause of the attribute dimension definition followed by hierarchical attributes in the DIMENSION BY clause of the analytic view. |

| Column        | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                               |
|---------------|----------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGIN_CON_ID | NUMBER   |      | <p>The ID of the container where the data originates. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |



#### See Also:

- "DBA\_ANALYTIC\_VIEW\_COLUMNS"
- "USER\_ANALYTIC\_VIEW\_COLUMNS"

## 3.30 ALL\_ANALYTIC\_VIEW\_COLUMNS\_AE

ALL\_ANALYTIC\_VIEW\_COLUMNS\_AE describes the columns of the analytic views (across all editions) accessible to the current user.

#### Related Views

- DBA\_ANALYTIC\_VIEW\_COLUMNS\_AE describes the columns of all analytic views (across all editions) in the database.
- USER\_ANALYTIC\_VIEW\_COLUMNS\_AE describes the columns of the analytic views (across all editions) owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                       |
|--------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                        |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                         |
| DIMENSION_NAME     | VARCHAR2 (128) |          | Alias of the analytic view dimension in the analytic view; for a measure the value is MEASURES                                                                                    |
| HIER_NAME          | VARCHAR2 (128) |          | Alias of the analytic view hierarchy within DIMENSION_NAME in the analytic view; for a measure the value is MEASURES                                                              |
| COLUMN_NAME        | VARCHAR2 (128) | NOT NULL | Name of the column                                                                                                                                                                |
| ROLE               | VARCHAR2 (4)   | NOT NULL | <p>The role the attribute plays in the analytic view:</p> <ul style="list-style-type: none"> <li>• KEY</li> <li>• AKEY</li> <li>• HIER</li> <li>• PROP</li> <li>• MEAS</li> </ul> |
| DATA_TYPE          | VARCHAR2 (106) | NOT NULL | Datatype of the column                                                                                                                                                            |
| DATA_LENGTH        | NUMBER         | NOT NULL | Length of the column (in bytes)                                                                                                                                                   |
| DATA_PRECISION     | NUMBER         |          | Decimal precision for the NUMBER datatype; binary precision for the FLOAT datatype, NULL for all other datatypes                                                                  |

| Column               | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DATA_SCALE           | NUMBER        |          | Number of digits to the right of the decimal point in a number                                                                                                                                                                                                                                                                                                                                                                                         |
| NULLABLE             | CHAR(1)       | NOT NULL | Indicates whether a column allows NULL values; the value is N if there is a NOT NULL constraint on the column or if the column is part of a PRIMARY KEY                                                                                                                                                                                                                                                                                                |
| CHARACTER_SET_NAME   | VARCHAR2(44)  |          | Name of the character set: <ul style="list-style-type: none"> <li>CHAR_CS</li> <li>NCHAR_CS</li> </ul>                                                                                                                                                                                                                                                                                                                                                 |
| CHAR_COL_DECL_LENGTH | NUMBER        |          | Declaration length of the character type column                                                                                                                                                                                                                                                                                                                                                                                                        |
| CHAR_USED            | VARCHAR2(1)   |          | Indicates that the column uses BYTE length semantics (B) or CHAR length semantics (C), or whether the datatype is not any of the following (NULL): <ul style="list-style-type: none"> <li>CHAR</li> <li>VARCHAR2</li> <li>NCHAR</li> <li>NVARCHAR2</li> </ul>                                                                                                                                                                                          |
| ORDER_NUM            | NUMBER        | NOT NULL | Order of the column, with the hierarchy columns first followed by measure columns. The columns for a hierarchy are grouped together, listed in their order in the HIERARCHIES clause of the analytic view definition. Within a hierarchy, attributes are listed first in order of their definition in the ATTRIBUTES clause of the attribute dimension definition followed by hierarchical attributes in the DIMENSION BY clause of the analytic view. |
| ORIGIN_CON_ID        | NUMBER        |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li>n: This value is used for rows containing data that originate in the container with container ID n (n = 1 if the row originates in root).</li> </ul>                                                                                          |
| EDITION_NAME         | VARCHAR2(128) |          | Name of the application edition where the analytic view is defined                                                                                                                                                                                                                                                                                                                                                                                     |



#### See Also:

- "DBA\_ANALYTIC\_VIEW\_COLUMNS\_AE"
- "USER\_ANALYTIC\_VIEW\_COLUMNS\_AE"

## 3.31 ALL\_ANALYTIC\_VIEW\_DIM\_ATTRS

ALL\_ANALYTIC\_VIEW\_DIM\_ATTRS is identical to ALL\_ANALYTIC\_VIEW\_DIM\_ATTRS.

**See Also:**

"ALL\_ANALYTIC\_VIEW\_DIM\_ATTRS"

## 3.32 ALL\_ANALYTIC\_VIEW\_DIM\_ATTRS\_AE

ALL\_ANALYTIC\_VIEW\_DIM\_ATTRS\_AE describes the attributes of the attribute dimensions in the analytic views (across all editions) accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_DIM\_ATTRS\_AE describes the attributes of the attribute dimensions in all analytic views (across all editions) in the database.
- USER\_ANALYTIC\_VIEW\_DIM\_ATTRS\_AE describes the attributes of the attribute dimensions in the analytic views (across all editions) owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                                             |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                                              |
| DIMENSION_ALIAS    | VARCHAR2 (128) |          | Alias of the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                                                  |
| ATTRIBUTE_NAME     | VARCHAR2 (128) | NOT NULL | The name of the attribute within the analytic view                                                                                                                                                                                                                                                                                                                                     |
| TABLE_ALIAS        | VARCHAR2 (128) |          | Alias of the source table for the attribute                                                                                                                                                                                                                                                                                                                                            |
| COLUMN_NAME        | VARCHAR2 (128) | NOT NULL | Name of the column                                                                                                                                                                                                                                                                                                                                                                     |
| ORDER_NUM          | NUMBER         | NOT NULL | Order of the attribute as defined in the metadata                                                                                                                                                                                                                                                                                                                                      |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |
| EDITION_NAME       | VARCHAR2 (128) |          | Name of the application edition where the analytic view is defined                                                                                                                                                                                                                                                                                                                     |

**See Also:**

- "DBA\_ANALYTIC\_VIEW\_DIM\_ATTRS\_AE"
- "USER\_ANALYTIC\_VIEW\_DIM\_ATTRS\_AE"

## 3.33 ALL\_ANALYTIC\_VIEW\_DIM\_ATTRS

ALL\_ANALYTIC\_VIEW\_DIM\_ATTRS describes the attributes of the attribute dimensions in the analytic views accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_DIM\_ATTRS describes the attributes of the attribute dimensions in all analytic views in the database.
- USER\_ANALYTIC\_VIEW\_DIM\_ATTRS describes the attributes of the attribute dimensions in the analytic views owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                                             |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                                              |
| DIMENSION_ALIAS    | VARCHAR2 (128) |          | Alias of the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                                                  |
| ATTRIBUTE_NAME     | VARCHAR2 (128) | NOT NULL | The name of the attribute within the analytic view                                                                                                                                                                                                                                                                                                                                     |
| TABLE_ALIAS        | VARCHAR2 (128) |          | Alias of the source table for the attribute                                                                                                                                                                                                                                                                                                                                            |
| COLUMN_NAME        | VARCHAR2 (128) | NOT NULL | Name of the column                                                                                                                                                                                                                                                                                                                                                                     |
| ORDER_NUM          | NUMBER         | NOT NULL | Order of the attribute as defined in the metadata                                                                                                                                                                                                                                                                                                                                      |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |

### See Also:

- "DBA\_ANALYTIC\_VIEW\_DIM\_ATTRS"
- "USER\_ANALYTIC\_VIEW\_DIM\_ATTRS"

## 3.34 ALL\_ANALYTIC\_VIEW\_DIM\_CLASS

ALL\_ANALYTIC\_VIEW\_DIM\_CLASS describes the classifications of the attribute dimensions in the analytic views accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_DIM\_CLASS describes the classifications of the attribute dimensions in all analytic views in the database.
- USER\_ANALYTIC\_VIEW\_DIM\_CLASS describes the classifications of the attribute dimensions in the analytic views owned by the current user. This view does not display the OWNER column.



| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                                         |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                                          |
| DIMENSION_ALIAS    | VARCHAR2 (128) |          | Alias of the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                                              |
| CLASSIFICATION     | VARCHAR2 (128) |          | Classification associated with the attribute dimension                                                                                                                                                                                                                                                                                                                             |
| VALUE              | CLOB           |          | Value of the classification or NULL if not specified                                                                                                                                                                                                                                                                                                                               |
| LANGUAGE           | VARCHAR2 (64)  |          | NLS_LANGUAGE value associated with the classification or NULL if not specified                                                                                                                                                                                                                                                                                                     |
| ORDER_NUM          | NUMBER         | NOT NULL | Order of the classification in the list of classifications associated with the attribute dimension                                                                                                                                                                                                                                                                                 |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |



#### See Also:

- ["DBA\\_ANALYTIC\\_VIEW\\_DIM\\_CLASS"](#)
- ["USER\\_ANALYTIC\\_VIEW\\_DIM\\_CLASS"](#)

## 3.35 ALL\_ANALYTIC\_VIEW\_DIM\_CLS

ALL\_ANALYTIC\_VIEW\_DIM\_CLS is identical to ALL\_ANALYTIC\_VIEW\_DIM\_CLASS.



#### See Also:

- ["ALL\\_ANALYTIC\\_VIEW\\_DIM\\_CLASS"](#)

## 3.36 ALL\_ANALYTIC\_VIEW\_DIM\_CLS\_AE

ALL\_ANALYTIC\_VIEW\_DIM\_CLS\_AE describes the classifications of the attribute dimensions in the analytic views (across all editions) accessible to the current user.

#### Related Views

- DBA\_ANALYTIC\_VIEW\_DIM\_CLS\_AE describes the classifications of the attribute dimensions in all analytic views (across all editions) in the database.
- USER\_ANALYTIC\_VIEW\_DIM\_CLS\_AE describes the classifications of the attribute dimensions in the analytic views (across all editions) owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                                         |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                                          |
| DIMENSION_ALIAS    | VARCHAR2 (128) |          | Alias of the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                                              |
| CLASSIFICATION     | VARCHAR2 (128) |          | Classification associated with the attribute dimension                                                                                                                                                                                                                                                                                                                             |
| VALUE              | CLOB           |          | Value of the classification or NULL if not specified                                                                                                                                                                                                                                                                                                                               |
| LANGUAGE           | VARCHAR2 (64)  |          | NLS_LANGUAGE value associated with the classification or NULL if not specified                                                                                                                                                                                                                                                                                                     |
| ORDER_NUM          | NUMBER         | NOT NULL | Order of the classification in the list of classifications associated with the attribute dimension                                                                                                                                                                                                                                                                                 |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |
| EDITION_NAME       | VARCHAR2 (128) |          | Name of the application edition where the analytic view is defined                                                                                                                                                                                                                                                                                                                 |

#### See Also:

- "DBA\_ANALYTIC\_VIEW\_DIM\_CLS\_AE"
- "USER\_ANALYTIC\_VIEW\_DIM\_CLS\_AE"

## 3.37 ALL\_ANALYTIC\_VIEW\_DIMENSIONS

ALL\_ANALYTIC\_VIEW\_DIMENSIONS describes the attribute dimensions in the analytic views accessible to the current user.

#### Related Views

- DBA\_ANALYTIC\_VIEW\_DIMENSIONS describes the attribute dimensions in all analytic views in the database.
- USER\_ANALYTIC\_VIEW\_DIMENSIONS describes the attribute dimensions in the analytic views owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                            |
|--------------------|----------------|----------|--------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                             |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                              |
| DIMENSION_OWNER    | VARCHAR2 (128) | NOT NULL | Owner of the schema containing the attribute dimension |
| DIMENSION_NAME     | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension                        |
| DIMENSION_ALIAS    | VARCHAR2 (128) |          | Alias of the attribute dimension in the analytic view  |

| Column                 | Datatype     | NULL     | Description                                                                                                                                                                                                                                                                                                                                                       |
|------------------------|--------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DIMENSION_TYPE         | VARCHAR2 (8) |          | Type of the attribute dimension: <ul style="list-style-type: none"> <li>• TIME</li> <li>• STANDARD</li> </ul>                                                                                                                                                                                                                                                     |
| ALL_MEMBER_NAME        | CLOB         |          | An expression for the name of the ALL member for the attribute dimension                                                                                                                                                                                                                                                                                          |
| ALL_MEMBER_CAPTION     | CLOB         |          | An expression for the caption for the ALL member of the attribute dimension, or NULL if not specified                                                                                                                                                                                                                                                             |
| ALL_MEMBER_DESCRIPTION | CLOB         |          | An expression for the description for the ALL member of the attribute dimension, or NULL if not specified                                                                                                                                                                                                                                                         |
| REFERENCES_DISTINCT    | VARCHAR2 (1) |          | Indicates whether the reference between the fact table key and the attribute dimension attribute specifies the DISTINCT keyword. Possible values are: <ul style="list-style-type: none"> <li>• Y: The reference specifies the DISTINCT keyword.</li> <li>• N: The reference does not specify the DISTINCT keyword.</li> </ul>                                     |
| ORDER_NUM              | NUMBER       | NOT NULL | Order number of the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                      |
| ORIGIN_CON_ID          | NUMBER       |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li>• n: This value is used for rows containing data that originate in the container with container ID n (n = 1 if the row originates in root).</li> </ul> |

 **See Also:**

- "DBA\_ANALYTIC\_VIEW\_DIMENSIONS"
- "USER\_ANALYTIC\_VIEW\_DIMENSIONS"

## 3.38 ALL\_ANALYTIC\_VIEW\_DIMS

ALL\_ANALYTIC\_VIEW\_DIMS is identical to ALL\_ANALYTIC\_VIEW\_DIMENSIONS.

 **See Also:**

- "ALL\_ANALYTIC\_VIEW\_DIMENSIONS"

## 3.39 ALL\_ANALYTIC\_VIEW\_DIMS\_AE

ALL\_ANALYTIC\_VIEW\_DIMS\_AE describes the attribute dimensions in the analytic views (across all editions) accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_DIMS\_AE describes the attribute dimensions in all analytic views (across all editions) in the database.
- USER\_ANALYTIC\_VIEW\_DIMS\_AE describes the attribute dimensions in the analytic views (across all editions) owned by the current user. This view does not display the OWNER column.

| Column                 | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                       |
|------------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                  | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                        |
| ANALYTIC_VIEW_NAME     | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                         |
| DIMENSION_OWNER        | VARCHAR2 (128) | NOT NULL | Owner of the schema containing the attribute dimension                                                                                                                                                                                                                                                                                                            |
| DIMENSION_NAME         | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension                                                                                                                                                                                                                                                                                                                                   |
| DIMENSION_ALIAS        | VARCHAR2 (128) |          | Alias of the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                             |
| DIMENSION_TYPE         | VARCHAR2 (8)   |          | Type of the attribute dimension: <ul style="list-style-type: none"> <li>• TIME</li> <li>• STANDARD</li> </ul>                                                                                                                                                                                                                                                     |
| ALL_MEMBER_NAME        | CLOB           |          | An expression for the name of the ALL member for the attribute dimension                                                                                                                                                                                                                                                                                          |
| ALL_MEMBER_CAPTION     | CLOB           |          | An expression for the caption for the ALL member of the attribute dimension, or NULL if not specified                                                                                                                                                                                                                                                             |
| ALL_MEMBER_DESCRIPTION | CLOB           |          | An expression for the description for the ALL member of the attribute dimension, or NULL if not specified                                                                                                                                                                                                                                                         |
| REFERENCES_DISTINCT    | VARCHAR2 (1)   |          | Indicates whether the reference between the fact table key and the attribute dimension attribute specifies the DISTINCT keyword. Possible values are: <ul style="list-style-type: none"> <li>• Y: The reference specifies the DISTINCT keyword.</li> <li>• N: The reference does not specify the DISTINCT keyword.</li> </ul>                                     |
| ORDER_NUM              | NUMBER         | NOT NULL | Order number of the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                      |
| ORIGIN_CON_ID          | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li>• n: This value is used for rows containing data that originate in the container with container ID n (n = 1 if the row originates in root).</li> </ul> |
| EDITION_NAME           | VARCHAR2 (128) |          | Name of the application edition where the analytic view is defined                                                                                                                                                                                                                                                                                                |

**See Also:**

- "DBA\_ANALYTIC\_VIEW\_DIMS\_AE"
- "USER\_ANALYTIC\_VIEW\_DIMS\_AE"

## 3.40 ALL\_ANALYTIC\_VIEW\_FACT\_COLS

ALL\_ANALYTIC\_VIEW\_FACT\_COLS describes the fact columns of the analytic views accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_FACT\_COLS describes the fact columns of all analytic views in the database.
- USER\_ANALYTIC\_VIEW\_FACT\_COLS describes the fact columns of the analytic views owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                       |
|--------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                        |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                         |
| TABLE_ALIAS        | VARCHAR2 (128) |          | Alias of the fact table in the analytic view                                                                                                                                                                                                                                                                                                                      |
| COLUMN_NAME        | VARCHAR2 (128) | NOT NULL | Name of the column                                                                                                                                                                                                                                                                                                                                                |
| COLUMN_ALIAS       | VARCHAR2 (128) | NOT NULL | Alias of the column. Use this value as the identifier for the fact column in a query.                                                                                                                                                                                                                                                                             |
| ORDER_NUM          | NUMBER         | NOT NULL | Order of the column in the fact table                                                                                                                                                                                                                                                                                                                             |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• n: This value is used for rows containing data that originate in the container with container ID n (n = 1 if the row originates in root).</li></ul> |

**See Also:**

- "DBA\_ANALYTIC\_VIEW\_FACT\_COLS"
- "USER\_ANALYTIC\_VIEW\_FACT\_COLS"

## 3.41 ALL\_ANALYTIC\_VIEW\_FCT\_COLS

ALL\_ANALYTIC\_VIEW\_FCT\_COLS is identical to ALL\_ANALYTIC\_VIEW\_FACT\_COLS.

**See Also:**

"ALL\_ANALYTIC\_VIEW\_FACT\_COLS"

## 3.42 ALL\_ANALYTIC\_VIEW\_FCT\_COLS\_AE

ALL\_ANALYTIC\_VIEW\_FCT\_COLS\_AE describes the fact columns of the analytic views (across all editions) accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_FCT\_COLS\_AE describes the fact columns of all analytic views (across all editions) in the database.
- USER\_ANALYTIC\_VIEW\_FCT\_COLS\_AE describes the fact columns of the analytic views (across all editions) owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                                             |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                                              |
| TABLE_ALIAS        | VARCHAR2 (128) |          | Alias of the fact table in the analytic view                                                                                                                                                                                                                                                                                                                                           |
| COLUMN_NAME        | VARCHAR2 (128) | NOT NULL | Name of the column                                                                                                                                                                                                                                                                                                                                                                     |
| COLUMN_ALIAS       | VARCHAR2 (128) | NOT NULL | Alias of the column. Use this value as the identifier for the fact column in a query.                                                                                                                                                                                                                                                                                                  |
| ORDER_NUM          | NUMBER         | NOT NULL | Order of the column in the fact table                                                                                                                                                                                                                                                                                                                                                  |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |
| EDITION_NAME       | VARCHAR2 (128) |          | Name of the application edition where the analytic view is defined                                                                                                                                                                                                                                                                                                                     |

**See Also:**

- "DBA\_ANALYTIC\_VIEW\_FCT\_COLS\_AE"
- "USER\_ANALYTIC\_VIEW\_FCT\_COLS\_AE"

## 3.43 ALL\_ANALYTIC\_VIEW\_HIER\_CLASS

ALL\_ANALYTIC\_VIEW\_HIER\_CLASS describes the classifications of the hierarchies in the analytic views accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_HIER\_CLASS describes the classifications of the hierarchies in all analytic views in the database.
- USER\_ANALYTIC\_VIEW\_HIER\_CLASS describes the classifications of the hierarchies in the analytic views owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                    |
|--------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the hierarchy                                                                                                                                                                                                                                                                                                                                         |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                      |
| DIMENSION_ALIAS    | VARCHAR2 (128) |          | Alias of the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                          |
| HIER_ALIAS         | VARCHAR2 (128) |          | Alias of the hierarchy in the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                         |
| CLASSIFICATION     | VARCHAR2 (128) |          | Classification associated with the hierarchy                                                                                                                                                                                                                                                                                                                   |
| VALUE              | CLOB           |          | Value of the classification, or NULL if not specified                                                                                                                                                                                                                                                                                                          |
| LANGUAGE           | VARCHAR2 (64)  |          | NLS_LANGUAGE value associated with the classification, or NULL if not specified                                                                                                                                                                                                                                                                                |
| ORDER_NUM          | NUMBER         | NOT NULL | Order of the classification in the list of classifications associated with the hierarchy                                                                                                                                                                                                                                                                       |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• n: This value is used for rows containing data that originate in the container with container ID n (n = 1 if the row originates in root).</li></ul> |

### See Also:

- "DBA\_ANALYTIC\_VIEW\_HIER\_CLASS"
- "USER\_ANALYTIC\_VIEW\_HIER\_CLASS"

## 3.44 ALL\_ANALYTIC\_VIEW\_HIER\_CLS

ALL\_ANALYTIC\_VIEW\_HIER\_CLS is identical to ALL\_ANALYTIC\_VIEW\_HIER\_CLASS.

**See Also:**["ALL\\_ANALYTIC\\_VIEW\\_HIER\\_CLASS"](#)

## 3.45 ALL\_ANALYTIC\_VIEW\_HIER\_CLS\_AE

ALL\_ANALYTIC\_VIEW\_HIER\_CLS\_AE describes the classifications of the hierarchies in the analytic views (across all editions) accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_HIER\_CLS\_AE describes the classifications of the hierarchies in all analytic views (across all editions) in the database.
- USER\_ANALYTIC\_VIEW\_HIER\_CLS\_AE describes the classifications of the hierarchies in the analytic views (across all editions) owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                       |
|--------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the hierarchy                                                                                                                                                                                                                                                                                                                                            |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                         |
| DIMENSION_ALIAS    | VARCHAR2 (128) |          | Alias of the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                             |
| HIER_ALIAS         | VARCHAR2 (128) |          | Alias of the hierarchy in the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                            |
| CLASSIFICATION     | VARCHAR2 (128) |          | Classification associated with the hierarchy                                                                                                                                                                                                                                                                                                                      |
| VALUE              | CLOB           |          | Value of the classification, or NULL if not specified                                                                                                                                                                                                                                                                                                             |
| LANGUAGE           | VARCHAR2 (64)  |          | NLS_LANGUAGE value associated with the classification, or NULL if not specified                                                                                                                                                                                                                                                                                   |
| ORDER_NUM          | NUMBER         | NOT NULL | Order of the classification in the list of classifications associated with the hierarchy                                                                                                                                                                                                                                                                          |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li>• n: This value is used for rows containing data that originate in the container with container ID n (n = 1 if the row originates in root).</li> </ul> |
| EDITION_NAME       | VARCHAR2 (128) |          | Name of the application edition where the analytic view is defined                                                                                                                                                                                                                                                                                                |

**See Also:**

- ["DBA\\_ANALYTIC\\_VIEW\\_HIER\\_CLS\\_AE"](#)
- ["USER\\_ANALYTIC\\_VIEW\\_HIER\\_CLS\\_AE"](#)



## 3.46 ALL\_ANALYTIC\_VIEW\_HIERS

ALL\_ANALYTIC\_VIEW\_HIERS describes the hierarchies in the analytic views accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_HIERS describes the hierarchies in all analytic views in the database.
- USER\_ANALYTIC\_VIEW\_HIERS describes the hierarchies in the analytic views owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                       |
|--------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view hierarchy                                                                                                                                                                                                                                                                                                                              |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                         |
| DIMENSION_ALIAS    | VARCHAR2 (128) |          | Alias of the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                             |
| HIER_OWNER         | VARCHAR2 (128) | NOT NULL | Owner of the hierarchy                                                                                                                                                                                                                                                                                                                                            |
| HIER_NAME          | VARCHAR2 (128) | NOT NULL | Name of the hierarchy                                                                                                                                                                                                                                                                                                                                             |
| HIER_ALIAS         | VARCHAR2 (128) |          | Alias specified for the hierarchy                                                                                                                                                                                                                                                                                                                                 |
| IS_DEFAULT         | VARCHAR2 (1)   |          | Indicates whether this is the default hierarchy for the analytic view dimension in the analytic view (Y) or not (N)                                                                                                                                                                                                                                               |
| ORDER_NUM          | NUMBER         | NOT NULL | Order of the hierarchy in the list of hierarchies in the analytic view                                                                                                                                                                                                                                                                                            |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• n: This value is used for rows containing data that originate in the container with container ID n (n = 1 if the row originates in root).</li></ul> |

### See Also:

- "DBA\_ANALYTIC\_VIEW\_HIERS"
- "USER\_ANALYTIC\_VIEW\_HIERS"

## 3.47 ALL\_ANALYTIC\_VIEW\_HIERS\_AE

ALL\_ANALYTIC\_VIEW\_HIERS\_AE describes the hierarchies in the analytic views (across all editions) accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_HIERS\_AE describes the hierarchies in all analytic views (across all editions) in the database.

- `USER_ANALYTIC_VIEW_HIERS_AE` describes the hierarchies in the analytic views (across all editions) owned by the current user. This view does not display the `OWNER` column.

| Column                          | Datatype                    | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------|-----------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>OWNER</code>              | <code>VARCHAR2 (128)</code> | NOT NULL | Owner of the analytic view hierarchy                                                                                                                                                                                                                                                                                                                                                   |
| <code>ANALYTIC_VIEW_NAME</code> | <code>VARCHAR2 (128)</code> | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                                              |
| <code>DIMENSION_ALIAS</code>    | <code>VARCHAR2 (128)</code> |          | Alias of the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                                                  |
| <code>HIER_OWNER</code>         | <code>VARCHAR2 (128)</code> | NOT NULL | Owner of the hierarchy                                                                                                                                                                                                                                                                                                                                                                 |
| <code>HIER_NAME</code>          | <code>VARCHAR2 (128)</code> | NOT NULL | Name of the hierarchy                                                                                                                                                                                                                                                                                                                                                                  |
| <code>HIER_ALIAS</code>         | <code>VARCHAR2 (128)</code> |          | Alias specified for the hierarchy                                                                                                                                                                                                                                                                                                                                                      |
| <code>IS_DEFAULT</code>         | <code>VARCHAR2 (1)</code>   |          | Indicates whether this is the default hierarchy for the analytic view dimension in the analytic view (Y) or not (N)                                                                                                                                                                                                                                                                    |
| <code>ORDER_NUM</code>          | <code>NUMBER</code>         | NOT NULL | Order of the hierarchy in the list of hierarchies in the analytic view                                                                                                                                                                                                                                                                                                                 |
| <code>ORIGIN_CON_ID</code>      | <code>NUMBER</code>         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |
| <code>EDITION_NAME</code>       | <code>VARCHAR2 (128)</code> |          | Name of the application edition where the analytic view is defined                                                                                                                                                                                                                                                                                                                     |



#### See Also:

- `"DBA_ANALYTIC_VIEW_HIERS_AE"`
- `"USER_ANALYTIC_VIEW_HIERS_AE"`

## 3.48 ALL\_ANALYTIC\_VIEW\_KEYS

`ALL_ANALYTIC_VIEW_KEYS` describes the key columns of the attribute dimensions in the analytic views accessible to the current user.

The keys reference attributes of the attribute dimensions of the analytic view.

#### Related Views

- `DBA_ANALYTIC_VIEW_KEYS` describes the key columns of the attribute dimensions in all analytic views in the database.
- `USER_ANALYTIC_VIEW_KEYS` describes the key columns of the attribute dimensions in the analytic views owned by the current user. This view does not display the `OWNER` column.

| Column                          | Datatype                    | NULL     | Description               |
|---------------------------------|-----------------------------|----------|---------------------------|
| <code>OWNER</code>              | <code>VARCHAR2 (128)</code> | NOT NULL | Owner of analytic view    |
| <code>ANALYTIC_VIEW_NAME</code> | <code>VARCHAR2 (128)</code> | NOT NULL | Name of the analytic view |

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DIMENSION_ALIAS    | VARCHAR2 (128) |          | Alias of the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                                                 |
| AV_KEY_TABLE_ALIAS | VARCHAR2 (128) |          | Table alias of the key column                                                                                                                                                                                                                                                                                                                                                         |
| AV_KEY_COLUMN      | VARCHAR2 (128) | NOT NULL | Name of the column for the key                                                                                                                                                                                                                                                                                                                                                        |
| REF_DIMENSION_ATTR | VARCHAR2 (128) |          | Name of the referenced attribute dimension attribute                                                                                                                                                                                                                                                                                                                                  |
| ORDER_NUM          | NUMBER         | NOT NULL | Order number of the key in the list of keys in the analytic view                                                                                                                                                                                                                                                                                                                      |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |



#### See Also:

- "DBA\_ANALYTIC\_VIEW\_KEYS"
- "USER\_ANALYTIC\_VIEW\_KEYS"

## 3.49 ALL\_ANALYTIC\_VIEW\_KEYS\_AE

ALL\_ANALYTIC\_VIEW\_KEYS\_AE describes the key columns of the attribute dimensions in the analytic views (across all editions) accessible to the current user.

The keys reference attributes of the attribute dimensions of the analytic view.

#### Related Views

- DBA\_ANALYTIC\_VIEW\_KEYS\_AE describes the key columns of the attribute dimensions in all analytic views (across all editions) in the database.
- USER\_ANALYTIC\_VIEW\_KEYS\_AE describes the key columns of the attribute dimensions in the analytic views (across all editions) owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                      |
|--------------------|----------------|----------|------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of analytic view                                           |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                        |
| DIMENSION_ALIAS    | VARCHAR2 (128) |          | Alias of the attribute dimension in the analytic view            |
| AV_KEY_TABLE_ALIAS | VARCHAR2 (128) |          | Table alias of the key column                                    |
| AV_KEY_COLUMN      | VARCHAR2 (128) | NOT NULL | Name of the column for the key                                   |
| REF_DIMENSION_ATTR | VARCHAR2 (128) |          | Name of the referenced attribute dimension attribute             |
| ORDER_NUM          | NUMBER         | NOT NULL | Order number of the key in the list of keys in the analytic view |

| Column        | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                        |
|---------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGIN_CON_ID | NUMBER         |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |
| EDITION_NAME  | VARCHAR2 (128) |      | Name of the application edition where the analytic view is defined                                                                                                                                                                                                                                                                                                                 |



#### See Also:

- ["DBA\\_ANALYTIC\\_VIEW\\_KEYS\\_AE"](#)
- ["USER\\_ANALYTIC\\_VIEW\\_KEYS\\_AE"](#)

## 3.50 ALL\_ANALYTIC\_VIEW\_LEVEL\_CLASS

ALL\_ANALYTIC\_VIEW\_LEVEL\_CLASS describes the level classifications of the analytic views accessible to the current user.

#### Related Views

- DBA\_ANALYTIC\_VIEW\_LEVEL\_CLASS describes the level classifications of all analytic views in the database.
- USER\_ANALYTIC\_VIEW\_LEVEL\_CLASS describes the level classifications of the analytic views owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                          |
|--------------------|----------------|----------|--------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                           |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of analytic view                                                                |
| DIMENSION_ALIAS    | VARCHAR2 (128) |          | Alias of the analytic view dimension in the analytic view                            |
| HIER_ALIAS         | VARCHAR2 (128) |          | Alias of the hierarchy in the analytic view                                          |
| LEVEL_NAME         | VARCHAR2 (128) | NOT NULL | Name of the level in the analytic view                                               |
| CLASSIFICATION     | VARCHAR2 (128) |          | Classification associated with the level                                             |
| VALUE              | CLOB           |          | Value of the classification, or NULL if not specified                                |
| LANGUAGE           | VARCHAR2 (64)  |          | NLS_LANGUAGE value associated with the classification, or NULL if not specified      |
| ORDER_NUM          | NUMBER         | NOT NULL | Order of the classification in the list of classifications associated with the level |

| Column        | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                        |
|---------------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGIN_CON_ID | NUMBER   |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |



#### See Also:

- ["DBA\\_ANALYTIC\\_VIEW\\_LEVEL\\_CLASS"](#)
- ["USER\\_ANALYTIC\\_VIEW\\_LEVEL\\_CLASS"](#)

## 3.51 ALL\_ANALYTIC\_VIEW\_LEVELS

ALL\_ANALYTIC\_VIEW\_LEVELS describes the levels in the hierarchies in the analytic views accessible to the current user.

#### Related Views

- DBA\_ANALYTIC\_VIEW\_LEVELS describes the levels in the hierarchies in all analytic views in the database.
- USER\_ANALYTIC\_VIEW\_LEVELS describes the levels in the hierarchies in the analytic views owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                                         |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                                          |
| DIMENSION_ALIAS    | VARCHAR2 (128) |          | Alias of the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                                              |
| HIER_ALIAS         | VARCHAR2 (128) |          | Alias of the hierarchy in the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                             |
| LEVEL_NAME         | VARCHAR2 (128) | NOT NULL | Name of the level within the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                              |
| ORDER_NUM          | NUMBER         | NOT NULL | Order number of the level in the list of levels in the analytic view hierarchy                                                                                                                                                                                                                                                                                                     |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |

**See Also:**

- ["DBA\\_ANALYTIC\\_VIEW\\_LEVELS"](#)
- ["USER\\_ANALYTIC\\_VIEW\\_LEVELS"](#)

## 3.52 ALL\_ANALYTIC\_VIEW\_LEVELS\_AE

ALL\_ANALYTIC\_VIEW\_LEVELS\_AE describes the levels in the hierarchies in the analytic views (across all editions) accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_LEVELS\_AE describes the levels in the hierarchies in all analytic views (across all editions) in the database.
- USER\_ANALYTIC\_VIEW\_LEVELS\_AE describes the levels in the hierarchies in the analytic views (across all editions) owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                                          |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                                           |
| DIMENSION_ALIAS    | VARCHAR2 (128) |          | Alias of the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                                               |
| HIER_ALIAS         | VARCHAR2 (128) |          | Alias of the hierarchy in the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                              |
| LEVEL_NAME         | VARCHAR2 (128) | NOT NULL | Name of the level within the attribute dimension in the analytic view                                                                                                                                                                                                                                                                                                               |
| ORDER_NUM          | NUMBER         | NOT NULL | Order number of the level in the list of levels in the analytic view hierarchy                                                                                                                                                                                                                                                                                                      |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |
| EDITION_NAME       | VARCHAR2 (128) |          | Name of the application edition where the analytic view is defined                                                                                                                                                                                                                                                                                                                  |

**See Also:**

- ["DBA\\_ANALYTIC\\_VIEW\\_LEVELS\\_AE"](#)
- ["USER\\_ANALYTIC\\_VIEW\\_LEVELS\\_AE"](#)

## 3.53 ALL\_ANALYTIC\_VIEW\_LVL\_CLS

ALL\_ANALYTIC\_VIEW\_LVL\_CLS is identical to ALL\_ANALYTIC\_VIEW\_LEVEL\_CLASS.



### See Also:

"ALL\_ANALYTIC\_VIEW\_LEVEL\_CLASS"

## 3.54 ALL\_ANALYTIC\_VIEW\_LVL\_CLS\_AE

ALL\_ANALYTIC\_VIEW\_LVL\_CLS\_AE describes the level classifications of the analytic views (across all editions) accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_LVL\_CLS\_AE describes the level classifications of all analytic views (across all editions) in the database.
- USER\_ANALYTIC\_VIEW\_LVL\_CLS\_AE describes the level classifications of the analytic views (across all editions) owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                       |
|--------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                        |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of analytic view                                                                                                                                                                                                                                                                                                                                             |
| DIMENSION_ALIAS    | VARCHAR2 (128) |          | Alias of the analytic view dimension in the analytic view                                                                                                                                                                                                                                                                                                         |
| HIER_ALIAS         | VARCHAR2 (128) |          | Alias of the hierarchy in the analytic view                                                                                                                                                                                                                                                                                                                       |
| LEVEL_NAME         | VARCHAR2 (128) | NOT NULL | Name of the level in the analytic view                                                                                                                                                                                                                                                                                                                            |
| CLASSIFICATION     | VARCHAR2 (128) |          | Classification associated with the level                                                                                                                                                                                                                                                                                                                          |
| VALUE              | CLOB           |          | Value of the classification, or NULL if not specified                                                                                                                                                                                                                                                                                                             |
| LANGUAGE           | VARCHAR2 (64)  |          | NLS_LANGUAGE value associated with the classification, or NULL if not specified                                                                                                                                                                                                                                                                                   |
| ORDER_NUM          | NUMBER         | NOT NULL | Order of the classification in the list of classifications associated with the level                                                                                                                                                                                                                                                                              |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li>• n: This value is used for rows containing data that originate in the container with container ID n (n = 1 if the row originates in root).</li> </ul> |
| EDITION_NAME       | VARCHAR2 (128) |          | Name of the application edition where the analytic view is defined                                                                                                                                                                                                                                                                                                |

**See Also:**

- "DBA\_ANALYTIC\_VIEW\_LVL\_CLS\_AE"
- "USER\_ANALYTIC\_VIEW\_LVL\_CLS\_AE"

## 3.55 ALL\_ANALYTIC\_VIEW\_LVLGRPS

ALL\_ANALYTIC\_VIEW\_LVLGRPS describes the analytic view measure and level groups of the analytic views accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_LVLGRPS describes the analytic view measure and level groups of all analytic views in the database.
- USER\_ANALYTIC\_VIEW\_LVLGRPS describes the analytic view measure and level groups of the analytic views owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) |      | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                                             |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) |      | Name of the analytic view                                                                                                                                                                                                                                                                                                                                                              |
| CACHE_TYPE         | VARCHAR2 (128) |      | Type of the materialized view; one of the following: <ul style="list-style-type: none"> <li>• DYNAMIC</li> <li>• MATERIALIZED (the default value)</li> </ul>                                                                                                                                                                                                                           |
| DIMENSION_ALIAS    | VARCHAR2 (128) |      | Alias of the attribute dimension in the group                                                                                                                                                                                                                                                                                                                                          |
| HIER_ALIAS         | VARCHAR2 (128) |      | Alias of the hierarchy associated with the attribute dimension in the group                                                                                                                                                                                                                                                                                                            |
| LEVEL_NAME         | VARCHAR2 (128) |      | Name of the level in the hierarchy in the group                                                                                                                                                                                                                                                                                                                                        |
| MEASURE_NAME       | VARCHAR2 (128) |      | Names of the measures in the group                                                                                                                                                                                                                                                                                                                                                     |
| MAT_TABLE_OWNER    | VARCHAR2 (128) |      | If the schema for an aggregation table is specified for the analytic view, then the schema owner; otherwise NULL                                                                                                                                                                                                                                                                       |
| MAT_TABLE_NAME     | VARCHAR2 (128) |      | If an aggregation table is specified for an analytic view, then the name of the materialized table; otherwise NULL                                                                                                                                                                                                                                                                     |
| AV_LVLGRP_ORDER    | NUMBER         |      | Order of the groups in the analytic view                                                                                                                                                                                                                                                                                                                                               |
| LEVEL_MEAS_ORDER   | NUMBER         |      | Order of the levels and measures in the group                                                                                                                                                                                                                                                                                                                                          |
| ORIGIN_CON_ID      | NUMBER         |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |



**See Also:**

- "DBA\_ANALYTIC\_VIEW\_LVLGRPS"
- "USER\_ANALYTIC\_VIEW\_LVLGRPS"

## 3.56 ALL\_ANALYTIC\_VIEW\_LVLGRPS\_AE

ALL\_ANALYTIC\_VIEW\_LVLGRPS\_AE describes the analytic view measure and level groups of the analytic views (across all editions) accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_LVLGRPS\_AE describes the analytic view measure and level groups of all analytic views (across all editions) in the database.
- USER\_ANALYTIC\_VIEW\_LVLGRPS\_AE describes the analytic view measure and level groups of the analytic views (across all editions) owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) |      | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                                             |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) |      | Name of the analytic view                                                                                                                                                                                                                                                                                                                                                              |
| CACHE_TYPE         | VARCHAR2 (128) |      | Type of the materialized view; one of the following: <ul style="list-style-type: none"> <li>• DYNAMIC</li> <li>• MATERIALIZED (the default value)</li> </ul>                                                                                                                                                                                                                           |
| DIMENSION_ALIAS    | VARCHAR2 (128) |      | Alias of the attribute dimension in the group                                                                                                                                                                                                                                                                                                                                          |
| HIER_ALIAS         | VARCHAR2 (128) |      | Alias of the hierarchy associated with the attribute dimension in the group                                                                                                                                                                                                                                                                                                            |
| LEVEL_NAME         | VARCHAR2 (128) |      | Name of the level in the hierarchy in the group                                                                                                                                                                                                                                                                                                                                        |
| MEASURE_NAME       | VARCHAR2 (128) |      | Names of the measures in the group                                                                                                                                                                                                                                                                                                                                                     |
| MAT_TABLE_OWNER    | VARCHAR2 (128) |      | If the schema for an aggregation table is specified for the analytic view, then the schema owner; otherwise NULL                                                                                                                                                                                                                                                                       |
| MAT_TABLE_NAME     | VARCHAR2 (128) |      | If an aggregation table is specified for an analytic view, then the name of the materialized table; otherwise NULL                                                                                                                                                                                                                                                                     |
| AV_LVLGRP_ORDER    | NUMBER         |      | Order of the groups in the analytic view                                                                                                                                                                                                                                                                                                                                               |
| LEVEL_MEAS_ORDER   | NUMBER         |      | Order of the levels and measures in the group                                                                                                                                                                                                                                                                                                                                          |
| ORIGIN_CON_ID      | NUMBER         |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |
| EDITION_NAME       | VARCHAR2 (128) |      | Name of the application edition where the analytic view is defined                                                                                                                                                                                                                                                                                                                     |

 **See Also:**

- "DBA\_ANALYTIC\_VIEW\_LVLGRPS\_AE"
- "USER\_ANALYTIC\_VIEW\_LVLGRPS\_AE"

## 3.57 ALL\_ANALYTIC\_VIEW\_MEAS\_CLASS

ALL\_ANALYTIC\_VIEW\_MEAS\_CLASS describes the classifications of the measures of the analytic views accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_MEAS\_CLASS describes the classifications of the measures of all analytic views in the database.
- USER\_ANALYTIC\_VIEW\_MEAS\_CLASS describes the classifications of the measures of the analytic views owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                    |
|--------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                     |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                      |
| MEASURE_NAME       | VARCHAR2 (128) |          | Name of the measure associated with the classification                                                                                                                                                                                                                                                                                                         |
| CLASSIFICATION     | VARCHAR2 (128) |          | Classification associated with the measure of the analytic view                                                                                                                                                                                                                                                                                                |
| VALUE              | CLOB           |          | Value of the classification, or NULL if not specified                                                                                                                                                                                                                                                                                                          |
| LANGUAGE           | VARCHAR2 (64)  |          | NLS_LANGUAGE value associated with the classification, or NULL if not specified                                                                                                                                                                                                                                                                                |
| ORDER_NUM          | NUMBER         | NOT NULL | Order of the classification in the list of classifications associated with the measure                                                                                                                                                                                                                                                                         |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• n: This value is used for rows containing data that originate in the container with container ID n (n = 1 if the row originates in root).</li></ul> |

 **See Also:**

- "DBA\_ANALYTIC\_VIEW\_MEAS\_CLASS"
- "USER\_ANALYTIC\_VIEW\_MEAS\_CLASS"

## 3.58 ALL\_ANALYTIC\_VIEW\_MEAS\_CLS

ALL\_ANALYTIC\_VIEW\_MEAS\_CLS is identical to ALL\_ANALYTIC\_VIEW\_MEAS\_CLASS.



### See Also:

"ALL\_ANALYTIC\_VIEW\_MEAS\_CLASS"

## 3.59 ALL\_ANALYTIC\_VIEW\_MEAS\_CLS\_AE

ALL\_ANALYTIC\_VIEW\_MEAS\_CLS\_AE describes the classifications of the measures of the analytic views (across all editions) accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEW\_MEAS\_CLS\_AE describes the classifications of the measures of all analytic views (across all editions) in the database.
- USER\_ANALYTIC\_VIEW\_MEAS\_CLS\_AE describes the classifications of the measures of the analytic views (across all editions) owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                                          |
| ANALYTIC_VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                                           |
| MEASURE_NAME       | VARCHAR2 (128) |          | Name of the measure associated with the classification                                                                                                                                                                                                                                                                                                                              |
| CLASSIFICATION     | VARCHAR2 (128) |          | Classification associated with the measure of the analytic view                                                                                                                                                                                                                                                                                                                     |
| VALUE              | CLOB           |          | Value of the classification, or NULL if not specified                                                                                                                                                                                                                                                                                                                               |
| LANGUAGE           | VARCHAR2 (64)  |          | NLS_LANGUAGE value associated with the classification, or NULL if not specified                                                                                                                                                                                                                                                                                                     |
| ORDER_NUM          | NUMBER         | NOT NULL | Order of the classification in the list of classifications associated with the measure                                                                                                                                                                                                                                                                                              |
| ORIGIN_CON_ID      | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |
| EDITION_NAME       | VARCHAR2 (128) |          | Name of the application edition where the analytic view is defined                                                                                                                                                                                                                                                                                                                  |

**See Also:**

- "DBA\_ANALYTIC\_VIEW\_MEAS\_CLS\_AE"
- "USER\_ANALYTIC\_VIEW\_MEAS\_CLS\_AE"

## 3.60 ALL\_ANALYTIC\_VIEWS

ALL\_ANALYTIC\_VIEWS describes the analytic views accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEWS describes all analytic views in the database.
- USER\_ANALYTIC\_VIEWS describes the analytic views owned by the current user. This view does not display the OWNER column.

| Column                  | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                   | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                        |
| ANALYTIC_VIEW_NAME      | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                         |
| TABLE_OWNER             | VARCHAR2 (128) | NOT NULL | Owner of the fact table or view on which the analytic view is defined                                                                                                                                                                                                                                                                                             |
| TABLE_NAME              | VARCHAR2 (128) | NOT NULL | Name of the fact table or view on which the analytic view is defined                                                                                                                                                                                                                                                                                              |
| TABLE_ALIAS             | VARCHAR2 (128) |          | Alias of the fact table or view on which the analytic view is defined; the default is TABLE_NAME                                                                                                                                                                                                                                                                  |
| IS_REMOTE               | VARCHAR2 (1)   |          | Indicates whether the source is a remote table. The values are: <ul style="list-style-type: none"> <li>• Y - Remote table</li> <li>• N - Local table</li> </ul>                                                                                                                                                                                                   |
| DEFAULT_AGGR            | VARCHAR2 (128) |          | Default aggregation of the analytic view                                                                                                                                                                                                                                                                                                                          |
| DEFAULT_AGGR_GROUP_NAME | VARCHAR2 (128) | NOT NULL | Always DEFAULT_AGGREGATION\$ at present                                                                                                                                                                                                                                                                                                                           |
| DEFAULT_MEASURE         | VARCHAR2 (128) |          | Name of the default measure of the analytic view                                                                                                                                                                                                                                                                                                                  |
| COMPILE_STATE           | VARCHAR2 (7)   |          | Compile status of the analytic view: <ul style="list-style-type: none"> <li>• VALID</li> <li>• INVALID</li> </ul>                                                                                                                                                                                                                                                 |
| DYN_ALL_CACHE           | VARCHAR2 (1)   |          | The value of this column is always N                                                                                                                                                                                                                                                                                                                              |
| QUERY_TRANSFORM_ENABLED | VARCHAR2 (1)   |          | Indicates whether query transformation is enabled for the analytic view (Y) or not (N)                                                                                                                                                                                                                                                                            |
| QUERY_TRANSFORM_RELY    | VARCHAR2 (1)   |          | Indicates whether the RELY option is specified for the query transformation (Y) or not (N)                                                                                                                                                                                                                                                                        |
| ORIGIN_CON_ID           | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li>• n: This value is used for rows containing data that originate in the container with container ID n (n = 1 if the row originates in root).</li> </ul> |

**See Also:**

- "DBA\_ANALYTIC\_VIEWS"
- "USER\_ANALYTIC\_VIEWS"

## 3.61 ALL\_ANALYTIC\_VIEWS\_AE

ALL\_ANALYTIC\_VIEWS\_AE describes the analytic views (across all editions) accessible to the current user.

### Related Views

- DBA\_ANALYTIC\_VIEWS\_AE describes all analytic views (across all editions) in the database.
- USER\_ANALYTIC\_VIEWS\_AE describes the analytic views (across all editions) owned by the current user. This view does not display the OWNER column.

| Column                  | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                   | VARCHAR2 (128) | NOT NULL | Owner of the analytic view                                                                                                                                                                                                                                                                                                                                        |
| ANALYTIC_VIEW_NAME      | VARCHAR2 (128) | NOT NULL | Name of the analytic view                                                                                                                                                                                                                                                                                                                                         |
| TABLE_OWNER             | VARCHAR2 (128) | NOT NULL | Owner of the fact table or view on which the analytic view is defined                                                                                                                                                                                                                                                                                             |
| TABLE_NAME              | VARCHAR2 (128) | NOT NULL | Name of the fact table or view on which the analytic view is defined                                                                                                                                                                                                                                                                                              |
| TABLE_ALIAS             | VARCHAR2 (128) |          | Alias of the fact table or view on which the analytic view is defined; the default is TABLE_NAME                                                                                                                                                                                                                                                                  |
| IS_REMOTE               | VARCHAR2 (1)   |          | Indicates whether the source is a remote table. The values are: <ul style="list-style-type: none"> <li>• Y - Remote table</li> <li>• N - Local table</li> </ul>                                                                                                                                                                                                   |
| DEFAULT_AGGR            | VARCHAR2 (128) |          | Default aggregation of the analytic view                                                                                                                                                                                                                                                                                                                          |
| DEFAULT_AGGR_GROUP_NAME | VARCHAR2 (128) | NOT NULL | Always DEFAULT_AGGREGATION\$ at present                                                                                                                                                                                                                                                                                                                           |
| DEFAULT_MEASURE         | VARCHAR2 (128) |          | Name of the default measure of the analytic view                                                                                                                                                                                                                                                                                                                  |
| COMPILE_STATE           | VARCHAR2 (7)   |          | Compile status of the analytic view: <ul style="list-style-type: none"> <li>• VALID</li> <li>• INVALID</li> </ul>                                                                                                                                                                                                                                                 |
| DYN_ALL_CACHE           | VARCHAR2 (1)   |          | The value of this column is always N                                                                                                                                                                                                                                                                                                                              |
| QUERY_TRANSFORM_ENABLED | VARCHAR2 (1)   |          | Indicates whether query transformation is enabled for the analytic view (Y) or not (N)                                                                                                                                                                                                                                                                            |
| QUERY_TRANSFORM_RELY    | VARCHAR2 (1)   |          | Indicates whether the RELY option is specified for the query transformation (Y) or not (N)                                                                                                                                                                                                                                                                        |
| ORIGIN_CON_ID           | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li>• n: This value is used for rows containing data that originate in the container with container ID n (n = 1 if the row originates in root).</li> </ul> |

| Column       | Datatype       | NULL | Description                                                        |
|--------------|----------------|------|--------------------------------------------------------------------|
| EDITION_NAME | VARCHAR2 (128) |      | Name of the application edition where the analytic view is defined |

**See Also:**

- ["DBA\\_ANALYTIC\\_VIEWS\\_AE"](#)
- ["USER\\_ANALYTIC\\_VIEWS\\_AE"](#)

## 3.62 ALL\_ANNOTATION\_VALUES

ALL\_ANNOTATION\_VALUES displays the values for schema annotations accessible to the current user.

**Related Views**

- DBA\_ANNOTATION\_VALUES displays the values for all schema annotations in the database.
- USER\_ANNOTATION\_VALUES displays the values for schema annotations owned by the current user. This view does not display the ANNOTATION\_OWNER column.

| Column           | Datatype        | NULL     | Description      |
|------------------|-----------------|----------|------------------|
| ANNOTATION_OWNER | VARCHAR2 (128)  | NOT NULL | Annotation owner |
| ANNOTATION_NAME  | VARCHAR2 (1024) | NOT NULL | Annotation name  |
| ANNOTATION_VALUE | VARCHAR2 (4000) |          | Annotation value |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_ANNOTATION\\_VALUES"](#)
- ["USER\\_ANNOTATION\\_VALUES"](#)

## 3.63 ALL\_ANNOTATIONS

ALL\_ANNOTATIONS displays schema annotations accessible to the current user.

**Related Views**

- DBA\_ANNOTATIONS displays all schema annotations in the database.

- `USER_ANNOTATIONS` displays schema annotations owned by the current user. This view does not display the `ANNOTATION_OWNER` column.

| Column           | Datatype        | NULL     | Description      |
|------------------|-----------------|----------|------------------|
| ANNOTATION_OWNER | VARCHAR2 (128)  | NOT NULL | Annotation owner |
| ANNOTATION_NAME  | VARCHAR2 (1024) | NOT NULL | Annotation name  |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- `"DBA_ANNOTATIONS"`
- `"USER_ANNOTATIONS"`

## 3.64 ALL\_ANNOTATIONS\_USAGE

`ALL_ANNOTATIONS_USAGE` provides usage information about schema annotations accessible to the current user.

### Related Views

- `DBA_ANNOTATIONS_USAGE` provides usage information about all schema annotations in the database.
- `USER_ANNOTATIONS_USAGE` provides usage information about schema annotations owned by the current user. This view does not display the `ANNOTATION_OWNER` column.

| Column           | Datatype       | NULL | Description                                                                                                                                                                                  |
|------------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_NAME      | VARCHAR2 (128) |      | Object name                                                                                                                                                                                  |
| OBJECT_TYPE      | VARCHAR2 (9)   |      | Object type                                                                                                                                                                                  |
| COLUMN_NAME      | VARCHAR2 (128) |      | If the annotation is specified for a table column, view column, or domain column, the name of the column; otherwise NULL                                                                     |
| DOMAIN_NAME      | VARCHAR2 (128) |      | If the annotation is carried over from a domain or a domain column, the name of the domain; otherwise NULL<br>Note that domains carry over their annotations to objects that reference them. |
| DOMAIN_OWNER     | VARCHAR2 (128) |      | If the annotation is carried over from a domain or domain column, the owner of the domain; otherwise NULL<br>Note that domains carry over their annotations to objects that reference them.  |
| ANNOTATION_OWNER | VARCHAR2 (128) |      | Annotation owner                                                                                                                                                                             |

| Column           | Datatype        | NULL | Description                                                                                                                                                     |
|------------------|-----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANNOTATION_NAME  | VARCHAR2 (1024) |      | Annotation name                                                                                                                                                 |
| ANNOTATION_VALUE | VARCHAR2 (4000) |      | Optional annotation value<br>A NULL value is possible when the annotation does not require a value, that is, when the annotation is defined solely by its name. |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_ANNOTATIONS\\_USAGE"](#)
- ["USER\\_ANNOTATIONS\\_USAGE"](#)

## 3.65 ALL\_APPLY

ALL\_APPLY displays information about the apply processes that dequeue messages from queues accessible to the current user.

### Related View

DBA\_APPLY displays information about all apply processes in the database.

| Column              | Datatype       | NULL     | Description                                                                                          |
|---------------------|----------------|----------|------------------------------------------------------------------------------------------------------|
| APPLY_NAME          | VARCHAR2 (128) | NOT NULL | Name of the apply process                                                                            |
| QUEUE_NAME          | VARCHAR2 (128) | NOT NULL | Name of the queue from which the apply process dequeues                                              |
| QUEUE_OWNER         | VARCHAR2 (128) | NOT NULL | Owner of the queue from which the apply process dequeues                                             |
| APPLY_CAPTURED      | VARCHAR2 (3)   |          | Indicates whether the apply process applies captured messages (YES) or user-enqueued messages (NO)   |
| RULE_SET_NAME       | VARCHAR2 (128) |          | Name of the positive rule set used by the apply process for filtering                                |
| RULE_SET_OWNER      | VARCHAR2 (128) |          | Owner of the positive rule set used by the apply process for filtering                               |
| APPLY_USER          | VARCHAR2 (128) |          | User who is applying messages                                                                        |
| APPLY_DATABASE_LINK | VARCHAR2 (128) |          | Database link to which changes are applied. If NULL, then changes are applied to the local database. |
| APPLY_TAG           | RAW (2000)     |          | Tag associated with redo log records that are generated when changes are made by the apply process   |



| Column                     | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------|-----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DDL_HANDLER                | VARCHAR2 (98)   |      | Name of the user-specified data definition language (DDL) handler, which handles DDL logical change records (LCRs)                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PRECOMMIT_HANDLER          | VARCHAR2 (98)   |      | Name of the user-specified pre-commit handler                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| MESSAGE_HANDLER            | VARCHAR2 (98)   |      | Name of the user-specified procedure that handles dequeued messages other than logical change records (LCRs)                                                                                                                                                                                                                                                                                                                                                                                                                         |
| STATUS                     | VARCHAR2 (8)    |      | Status of the apply process: <ul style="list-style-type: none"> <li>• DISABLED</li> <li>• ENABLED</li> <li>• ABORTED</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                      |
| MAX_APPLIED_MESSAGE_NUMBER | NUMBER          |      | System change number (SCN) corresponding to the apply process high watermark for the last time the apply process was stopped using the <code>DBMS_APPLY_ADM.STOP_APPLY</code> procedure with the <code>force</code> parameter set to <code>false</code> . The apply process high watermark is the SCN beyond which no messages have been applied.                                                                                                                                                                                    |
| NEGATIVE_RULE_SET_NAME     | VARCHAR2 (128)  |      | Name of the negative rule set used by the apply process for filtering                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| NEGATIVE_RULE_SET_OWNER    | VARCHAR2 (128)  |      | Owner of the negative rule set used by the apply process for filtering                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| STATUS_CHANGE_TIME         | DATE            |      | Time that the <code>STATUS</code> of the apply process was changed                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ERROR_NUMBER               | NUMBER          |      | Error number if the apply process was terminated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ERROR_MESSAGE              | VARCHAR2 (4000) |      | Error message if the apply process was terminated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| MESSAGE_DELIVERY_MODE      | VARCHAR2 (10)   |      | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PURPOSE                    | VARCHAR2 (19)   |      | Purpose of the apply process: <ul style="list-style-type: none"> <li>• GoldenGate Apply - An Oracle GoldenGate Inbound server configured by Oracle GoldenGate integrated replicat</li> <li>• XStream Out - An XStream outbound server in an XStream Out configuration</li> <li>• XStream In - An XStream inbound server in an XStream In configuration</li> <li>• AUDIT VAULT - An apply process in an audit vault configuration</li> <li>• CHANGE DATA CAPTURE - An apply process in a change data capture configuration</li> </ul> |
| LCRID_VERSION              | NUMBER          |      | LCR ID format currently being used                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

 **See Also:**

- ["DBA\\_APPLY"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_APPLY_ADM.STOP_APPLY` procedure
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_XSTREAM_ADM.ENABLE_GG_XSTREAM_FOR_STREAMS` procedure

## 3.66 ALL\_APPLY\_CHANGE\_HANDLERS

`ALL_APPLY_CHANGE_HANDLERS` displays information about the change handlers on the tables accessible to the current user.

### Related View

`DBA_APPLY_CHANGE_HANDLERS` displays information about the change handlers on all tables in the database.

| Column             | Datatype       | NULL | Description                                                                                                                                                                                  |
|--------------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CHANGE_TABLE_OWNER | VARCHAR2 (128) |      | Owner of the change table                                                                                                                                                                    |
| CHANGE_TABLE_NAME  | VARCHAR2 (128) |      | Name of the change table                                                                                                                                                                     |
| SOURCE_TABLE_OWNER | VARCHAR2 (128) |      | Owner of the source table                                                                                                                                                                    |
| SOURCE_TABLE_NAME  | VARCHAR2 (128) |      | Name of the source table                                                                                                                                                                     |
| HANDLER_NAME       | VARCHAR2 (128) |      | Name of the statement-based change handler                                                                                                                                                   |
| CAPTURE_VALUES     | VARCHAR2 (3)   |      | Indicates whether to capture the old (OLD), new (NEW), or both (*) values                                                                                                                    |
| APPLY_NAME         | VARCHAR2 (128) |      | Name of the apply process                                                                                                                                                                    |
| OPERATION_NAME     | VARCHAR2 (10)  |      | Name of the DML operation to which the DML handler is set: <ul style="list-style-type: none"><li>• DEFAULT</li><li>• INSERT</li><li>• UPDATE</li><li>• DELETE</li><li>• LOB_UPDATE</li></ul> |
| CREATION_TIME      | TIMESTAMP (6)  |      | Change handler creation time                                                                                                                                                                 |
| MODIFICATION_TIME  | TIMESTAMP (6)  |      | Change handler modification time                                                                                                                                                             |

 **See Also:**

["DBA\\_APPLY\\_CHANGE\\_HANDLERS"](#)

## 3.67 ALL\_APPLY\_CONFLICT\_COLUMNS

ALL\_APPLY\_CONFLICT\_COLUMNS displays information about the conflict handlers on the tables accessible to the current user.

### Related View

DBA\_APPLY\_CONFLICT\_COLUMNS displays information about the conflict handlers on all tables in the database.

| Column              | Datatype        | NULL | Description                                                                                          |
|---------------------|-----------------|------|------------------------------------------------------------------------------------------------------|
| OBJECT_OWNER        | VARCHAR2 (128)  |      | Owner of the object on which the update conflict handler is defined                                  |
| OBJECT_NAME         | VARCHAR2 (128)  |      | Name of the object on which the update conflict handler is defined                                   |
| METHOD_NAME         | VARCHAR2 (92)   |      | Name of the update conflict handler used to resolve conflicts                                        |
| RESOLUTION_COLUMN   | VARCHAR2 (4000) |      | Name of the column used to resolve conflicts                                                         |
| COLUMN_NAME         | VARCHAR2 (128)  |      | Name of a column in the column list for the update conflict handler                                  |
| APPLY_DATABASE_LINK | VARCHAR2 (128)  |      | Database link to which changes are applied. If null, then changes are applied to the local database. |



### See Also:

"DBA\_APPLY\_CONFLICT\_COLUMNS"

## 3.68 ALL\_APPLY\_DML\_CONF\_HANDLERS

ALL\_APPLY\_DML\_CONF\_HANDLERS provides details about DML conflict handlers on objects visible to the current user.

### Related View

DBA\_APPLY\_DML\_CONF\_HANDLERS provides details about DML conflict handlers.

| Column              | Datatype       | NULL | Description                                                                                          |
|---------------------|----------------|------|------------------------------------------------------------------------------------------------------|
| APPLY_NAME          | VARCHAR2 (128) |      | Name of the apply process                                                                            |
| OBJECT_OWNER        | VARCHAR2 (128) |      | Owner of the target object                                                                           |
| OBJECT_NAME         | VARCHAR2 (128) |      | Name of the target object                                                                            |
| SOURCE_OBJECT_OWNER | VARCHAR2 (128) |      | Source database owner of the object                                                                  |
| SOURCE_OBJECT_NAME  | VARCHAR2 (128) |      | Source database name of the object                                                                   |
| COMMAND_TYPE        | VARCHAR2 (6)   |      | Type of the DML operation: INSERT, UPDATE, or DELETE                                                 |
| CONFLICT_TYPE       | VARCHAR2 (11)  |      | Type of conflict: <ul style="list-style-type: none"><li>• ROW EXISTS</li><li>• ROW MISSING</li></ul> |

| Column                | Datatype       | NULL | Description                                                                                                                                                                                                            |
|-----------------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| METHOD_NAME           | VARCHAR2 (9)   |      | Method used for resolving the error, depending on the conflict type: <ul style="list-style-type: none"><li>• OVERWRITE</li><li>• RECORD</li><li>• IGNORE</li><li>• MAXIMUM</li><li>• MINIMUM</li><li>• DELTA</li></ul> |
| CONFLICT_HANDLER_NAME | VARCHAR2 (128) |      | Name of the conflict handler                                                                                                                                                                                           |
| RESOLUTION_COLUMN     | VARCHAR2 (128) |      | Name of the column used to resolve the conflict for MAXIMUM, MINIMUM, and DELTA                                                                                                                                        |
| SET_BY                | VARCHAR2 (10)  |      | Entity that set up the handler: <ul style="list-style-type: none"><li>• USER</li><li>• GOLDENGATE</li></ul>                                                                                                            |

**See Also:**["DBA\\_APPLY\\_DML\\_CONF\\_HANDLERS"](#)

## 3.69 ALL\_APPLY\_DML\_HANDLERS

ALL\_APPLY\_DML\_HANDLERS displays information about the DML handlers on the tables accessible to the current user.

### Related View

DBA\_APPLY\_DML\_HANDLERS displays information about the DML handlers on all tables in the database.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                            |
|----------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_OWNER   | VARCHAR2 (128) | NOT NULL | Owner of the object on which the DML handler is specified                                                                                                                                                              |
| OBJECT_NAME    | VARCHAR2 (128) | NOT NULL | Name of the object on which the DML handler is specified                                                                                                                                                               |
| OPERATION_NAME | VARCHAR2 (13)  |          | Name of the DML operation for which the DML handler is used: <ul style="list-style-type: none"><li>• DEFAULT</li><li>• INSERT</li><li>• UPDATE</li><li>• DELETE</li><li>• LOB_UPDATE</li><li>• ASSEMBLE_LOBS</li></ul> |
| USER_PROCEDURE | VARCHAR2 (98)  |          | Name of the user-specified DML handler, which handles row logical change records that contain the DML operation in the OPERATION_NAME column on the object                                                             |

| Column              | Datatype       | NULL | Description                                                                                                                                                                                                                                                                            |
|---------------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ERROR_HANDLER       | VARCHAR2 (1)   |      | Indicates whether the DML handler handles only the relevant row logical change records that result in apply errors (Y) or all relevant row logical change records (N)                                                                                                                  |
| APPLY_DATABASE_LINK | VARCHAR2 (128) |      | Database link to which changes are applied. If null, then changes are applied to the local database.                                                                                                                                                                                   |
| APPLY_NAME          | VARCHAR2 (128) |      | Name of the apply process for the given object                                                                                                                                                                                                                                         |
| ASSEMBLE_LOBS       | VARCHAR2 (1)   |      | Indicates whether LOB assembly is used for LOB columns in logical change records (LCRs) processed by the handler (Y) or not (N)<br><br>LOB assembly combines multiple LCRs for a LOB column resulting from a single row change into one row LCR before passing the LCR to the handler. |
| SET_BY              | VARCHAR2 (10)  |      | Entity that set up the handler. Possible values include: <ul style="list-style-type: none"> <li>GOLDENGATE</li> <li>USER</li> </ul>                                                                                                                                                    |



#### See Also:

- "DBA\_APPLY\_DML\_HANDLERS"
- Oracle Database XStream Guide* for more information about DML handlers in an Oracle XStream environment

## 3.70 ALL\_APPLY\_ENQUEUE

ALL\_APPLY\_ENQUEUE displays information about the apply enqueue actions for the rules where the destination queue exists and is accessible to the current user.

#### Related View

DBA\_APPLY\_ENQUEUE displays information about the apply enqueue actions for all rules in the database.

| Column                 | Datatype        | NULL     | Description                                                         |
|------------------------|-----------------|----------|---------------------------------------------------------------------|
| RULE_OWNER             | VARCHAR2 (128)  | NOT NULL | Owner of the rule                                                   |
| RULE_NAME              | VARCHAR2 (128)  | NOT NULL | Name of the rule                                                    |
| DESTINATION_QUEUE_NAME | VARCHAR2 (4000) |          | Name of the queue where events satisfying the rule will be enqueued |



#### See Also:

- "DBA\_APPLY\_ENQUEUE"

## 3.71 ALL\_APPLY\_ERROR

ALL\_APPLY\_ERROR displays information about the error transactions generated by the apply processes that dequeue messages from queues accessible to the current user.

### Related Views

- DBA\_APPLY\_ERROR displays information about the error transactions generated by all apply processes in the database.
- USER\_APPLY\_ERROR displays information about the error transactions generated by apply processes visible to the current user. This view does not display the SOURCE\_ROOT\_NAME column.

| Column                 | Datatype        | NULL | Description                                                                           |
|------------------------|-----------------|------|---------------------------------------------------------------------------------------|
| APPLY_NAME             | VARCHAR2 (128)  |      | Name of the apply process at the local database which processed the transaction       |
| QUEUE_NAME             | VARCHAR2 (128)  |      | Name of the queue at the local database from which the transaction was dequeued       |
| QUEUE_OWNER            | VARCHAR2 (128)  |      | Owner of the queue at the local database from which the transaction was dequeued      |
| LOCAL_TRANSACTION_ID   | VARCHAR2 (22)   |      | Local transaction ID for the error transaction                                        |
| SOURCE_DATABASE        | VARCHAR2 (128)  |      | Database where the transaction originated                                             |
| SOURCE_TRANSACTION_ID  | VARCHAR2 (128)  |      | Original transaction ID at the source database                                        |
| SOURCE_COMMIT_SCN      | NUMBER          |      | Original commit system change number (SCN) for the transaction at the source database |
| MESSAGE_NUMBER         | NUMBER          |      | Identifier for the message in the transaction that raised an error                    |
| ERROR_NUMBER           | NUMBER          |      | Error number of the error raised by the transaction                                   |
| ERROR_MESSAGE          | VARCHAR2 (4000) |      | Error message of the error raised by the transaction                                  |
| RECIPIENT_ID           | NUMBER          |      | User ID of the original user that applied the transaction                             |
| RECIPIENT_NAME         | VARCHAR2 (128)  |      | Name of the original user that applied the transaction                                |
| MESSAGE_COUNT          | NUMBER          |      | Total number of messages inside the error transaction                                 |
| ERROR_CREATION_TIME    | DATE            |      | Time that the error was created                                                       |
| SOURCE_COMMIT_POSITION | RAW (64)        |      | Original commit position for the transaction                                          |

| Column           | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ERROR_TYPE       | VARCHAR2 (11)  |      | <p>NULL if the apply process can access all of the LCRs in the error transaction.</p> <p>EAGER ERROR if the apply process cannot access all of the LCRs in the error transaction. This error type typically means that the apply process was applying LCRs in a large transaction. When the ERROR_TYPE is EAGER ERROR, manage the error transaction using the instructions in <i>Oracle Database XStream Guide</i>.</p> <p>RECORD LCR indicates that a single LCR has been recorded as requested by user-specified error handling configuration</p> <p>RECORD TXN NO LCRS indicates that the identified transaction encountered an error and only the transaction ID is recorded as requested by user-specified error handling configuration</p> <p>RECORD TXN WITH LCRS indicates that the identified transaction encountered an error. The entire transaction is recorded as requested by user-specified error handling configuration.</p> <p>UNHANDLED ERRORS NO LCR indicates that the identified transaction encountered an error and there was no error handling specified for this handler. No LCRs are recorded for this transaction.</p> <p>DISCARDED is used to mark recorded and discarded LCRs.</p> |
| SOURCE_ROOT_NAME | VARCHAR2 (128) |      | The global name of the source root database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ERROR_POSITION   | RAW (64)       |      | LCR position at which the error occurred                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

**See Also:**

- "DBA\_APPLY\_ERROR"
- "USER\_APPLY\_ERROR"
- *Oracle Database XStream Guide* for information on how to display detailed information about apply errors

## 3.72 ALL\_APPLY\_ERROR\_MESSAGES

ALL\_APPLY\_ERROR\_MESSAGES displays information about the individual messages in an error transaction generated by the apply processes that dequeue messages from queues accessible to the current user.

For XStream inbound servers, each message in an error transaction is a logical change record (LCR).

**Note:**

- Messages that were spilled from memory to hard disk do not appear in this view.
- This view does not contain information related to XStream outbound servers.

**Related View**

DBA\_APPLY\_ERROR\_MESSAGES displays information about the individual messages in all of the error transactions generated by all apply processes in the database.

| Column                     | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------|-----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MESSAGE_ID                 | RAW (16)        |      | Unique identifier of the message stored in the error queue                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LOCAL_TRANSACTION_ID       | VARCHAR2 (22)   |      | Local transaction ID for the error transaction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TRANSACTION_MESSAGE_NUMBER | NUMBER          |      | Message number of the message that raised the error. The message number is a sequence number for the messages in the transaction, starting with 1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| ERROR_NUMBER               | NUMBER          |      | Error number of the error raised by the transaction. The error number is populated only for the LCR that raised the error. This field is NULL for the other LCRs in the transaction.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| ERROR_MESSAGE              | VARCHAR2 (4000) |      | Error message of the error raised by the transaction. The error message is populated only for the LCR that raised the error. This field is NULL for the other LCRs in the transaction.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SOURCE_OBJECT_OWNER        | VARCHAR2 (128)  |      | Owner of the object at the source database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SOURCE_OBJECT_NAME         | VARCHAR2 (128)  |      | Name of the object at the source database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| OBJECT_OWNER               | VARCHAR2 (128)  |      | Owner of the target table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| OBJECT_NAME                | VARCHAR2 (128)  |      | Object name of the target table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| PRIMARY_KEY                | VARCHAR2 (4000) |      | Primary key of the table row that caused the source transaction to fail at the target                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| POSITION                   | RAW (64)        |      | The LCR position                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| OPERATION                  | VARCHAR2 (100)  |      | The DML or DDL operation represented in the LCR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CONFLICT_TYPE              | VARCHAR2 (18)   |      | Conflict type. Possible values: <ul style="list-style-type: none"> <li>• INSERT ROW EXISTS: DML operation is INSERT and a row already exists with the specified key value.</li> <li>• UPDATE ROW EXISTS: DML operation is UPDATE. A row with the specified key exists but has conflicting values for some columns.</li> <li>• UPDATE ROW MISSING: DML operation is UPDATE and no row with the specified key value exists.</li> <li>• DELETE ROW EXISTS: DML operation is DELETE. A row with the specified key exists but has conflicting values for some columns</li> <li>• DELETE ROW MISSING: DML operation is DELETE and no row with the specified key value exists.</li> </ul> |



| Column              | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------|-----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| APPLIED_STATE       | VARCHAR2 (22)   |      | Conflict applied state. Possible values: <ul style="list-style-type: none"> <li>• WON: Incoming LCR was applied in its entirety</li> <li>• PARTIAL: Incoming LCR was applied for one or more conflict groups</li> <li>• LOST: Incoming LCR was not applied</li> <li>• SITE PRIORITY, WON: Site priority resolution was in effect and incoming LCR was applied in its entirety</li> <li>• SITE PRIORITY, PARTIAL: Site priority resolution was in effect and incoming LCR was applied for one or more conflict groups</li> <li>• SITE PRIORITY, LOST: Site priority resolution was in effect and incoming LCR was not applied</li> </ul> |
| SEQ#                | NUMBER          |      | Trail file number (Oracle GoldenGate)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| RBA                 | NUMBER          |      | Position with Trail file (Oracle GoldenGate)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CONFLICT_INFO       | VARCHAR2 (4000) |      | Identifies the conflict group information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SOURCE_PACKAGE_NAME | VARCHAR2 (128)  |      | Package name of the source for procedural replication                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PACKAGE_NAME        | VARCHAR2 (128)  |      | Package name of the destination for procedural replication                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| MESSAGE             | CLOB            |      | The content of the LCR. Content includes column name and value for old and/or new values in DML LCRs. For DDL LCRs, the content is the text of the DDL SQL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |



#### See Also:

- ["DBA\\_APPLY\\_ERROR\\_MESSAGES"](#)
- *Oracle Database XStream Guide* for information on managing eager errors encountered by an inbound server

## 3.73 ALL\_APPLY\_EXECUTE

ALL\_APPLY\_EXECUTE displays information about the apply execute actions for the rules visible to the current user.

#### Related View

DBA\_APPLY\_EXECUTE displays information about the apply execute actions for all rules in the database.

| Column        | Datatype       | NULL     | Description                                                 |
|---------------|----------------|----------|-------------------------------------------------------------|
| RULE_OWNER    | VARCHAR2 (128) | NOT NULL | Owner of the rule                                           |
| RULE_NAME     | VARCHAR2 (128) | NOT NULL | Name of the rule                                            |
| EXECUTE_EVENT | VARCHAR2 (2)   |          | Indicates whether the event satisfying the rule is executed |

**See Also:**["DBA\\_APPLY\\_EXECUTE"](#)

## 3.74 ALL\_APPLY\_HANDLE\_COLLISIONS

ALL\_APPLY\_HANDLE\_COLLISIONS provides details about apply handlers for collisions on objects visible to the user at the table level.

**Related View**

DBA\_APPLY\_HANDLE\_COLLISIONS provides details about apply handlers for collisions at the table level.

| Column              | Datatype       | NULL     | Description                                                                                                 |
|---------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------|
| APPLY_NAME          | VARCHAR2 (128) | NOT NULL | Name of the apply process                                                                                   |
| OBJECT_OWNER        | VARCHAR2 (128) | NOT NULL | Owner of the target object                                                                                  |
| OBJECT_NAME         | VARCHAR2 (128) | NOT NULL | Name of the target object                                                                                   |
| SOURCE_OBJECT_OWNER | VARCHAR2 (128) | NOT NULL | Source database owner of the object                                                                         |
| SOURCE_OBJECT_NAME  | VARCHAR2 (128) | NOT NULL | Source database name of the object                                                                          |
| ENABLED             | VARCHAR2 (1)   | NOT NULL | State of the collision handlers: Y for enabled, N for disabled                                              |
| SET_BY              | VARCHAR2 (10)  |          | Entity that set up the handler: <ul style="list-style-type: none"><li>• USER</li><li>• GOLDENGATE</li></ul> |

**See Also:**["DBA\\_APPLY\\_HANDLE\\_COLLISIONS"](#)

## 3.75 ALL\_APPLY\_INSTANTIATED\_GLOBAL

ALL\_APPLY\_INSTANTIATED\_GLOBAL displays information for the current user about databases for which an instantiation SCN has been set.

**Related View**

DBA\_APPLY\_INSTANTIATED\_GLOBAL displays information about databases for which an instantiation SCN has been set.

| Column            | Datatype       | NULL     | Description                                                                                                |
|-------------------|----------------|----------|------------------------------------------------------------------------------------------------------------|
| SOURCE_DATABASE   | VARCHAR2 (128) | NOT NULL | Name of the database that was instantiated                                                                 |
| INSTANTIATION_SCN | NUMBER         |          | Instantiation SCN for the database. Only changes committed after this SCN are applied by an apply process. |

| Column              | Datatype       | NULL | Description                                                                                          |
|---------------------|----------------|------|------------------------------------------------------------------------------------------------------|
| APPLY_DATABASE_LINK | VARCHAR2 (128) |      | Database link to which changes are applied. If null, then changes are applied to the local database. |
| SOURCE_ROOT_NAME    | VARCHAR2 (128) |      | The global name of the source root database                                                          |

**See Also:**["DBA\\_APPLY\\_INSTANTIATED\\_GLOBAL"](#)

## 3.76 ALL\_APPLY\_INSTANTIATED\_OBJECTS

ALL\_APPLY\_INSTANTIATED\_OBJECTS displays information about objects accessible to the current user for which an instantiation SCN has been set.

### Related View

DBA\_APPLY\_INSTANTIATED\_OBJECTS displays information about objects for which an instantiation SCN has been set.

| Column              | Datatype       | NULL     | Description                                                                                                                                                                     |
|---------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SOURCE_DATABASE     | VARCHAR2 (128) | NOT NULL | Name of the database where the object originated                                                                                                                                |
| SOURCE_OBJECT_OWNER | VARCHAR2 (128) | NOT NULL | Owner of the object at the source database                                                                                                                                      |
| SOURCE_OBJECT_NAME  | VARCHAR2 (128) | NOT NULL | Name of the object at the source database                                                                                                                                       |
| SOURCE_OBJECT_TYPE  | VARCHAR2 (11)  |          | Type of the object at the source database                                                                                                                                       |
| INSTANTIATION_SCN   | NUMBER         |          | Instantiation SCN for the object. Only changes committed after this SCN are applied by an apply process.                                                                        |
| IGNORE_SCN          | NUMBER         |          | SCN below which the instantiation SCN cannot be set. This value corresponds to the SCN value at the source database at the time when the object was prepared for instantiation. |
| APPLY_DATABASE_LINK | VARCHAR2 (128) |          | Database link to which changes are applied. If null, then changes are applied to the local database.                                                                            |
| SOURCE_ROOT_NAME    | VARCHAR2 (128) |          | The global name of the source root database                                                                                                                                     |

**See Also:**["DBA\\_APPLY\\_INSTANTIATED\\_OBJECTS"](#)

## 3.77 ALL\_APPLY\_INSTANTIATED\_SCHEMAS

ALL\_APPLY\_INSTANTIATED\_SCHEMAS displays information about schemas accessible to the current user for which an instantiation SCN has been set.

### Related View

DBA\_APPLY\_INSTANTIATED\_SCHEMAS displays information about schemas for which an instantiation SCN has been set.

| Column              | Datatype       | NULL     | Description                                                                                              |
|---------------------|----------------|----------|----------------------------------------------------------------------------------------------------------|
| SOURCE_DATABASE     | VARCHAR2 (128) | NOT NULL | Name of the database where the schema originated                                                         |
| SOURCE_SCHEMA       | VARCHAR2 (128) |          | Name of the schema at the source database                                                                |
| INSTANTIATION_SCN   | NUMBER         |          | Instantiation SCN for the schema. Only changes committed after this SCN are applied by an apply process. |
| APPLY_DATABASE_LINK | VARCHAR2 (128) |          | Database link to which changes are applied. If null, then changes are applied to the local database.     |
| SOURCE_ROOT_NAME    | VARCHAR2 (128) |          | The global name of the source root database                                                              |



### See Also:

"DBA\_APPLY\_INSTANTIATED\_SCHEMAS"

## 3.78 ALL\_APPLY\_KEY\_COLUMNS

ALL\_APPLY\_KEY\_COLUMNS displays information about the substitute key columns for the tables accessible to the current user. Substitute key columns are set using the DBMS\_APPLY\_ADM.SET\_KEY\_COLUMNS procedure.

### Related View

DBA\_APPLY\_KEY\_COLUMNS displays information about the substitute key columns for all tables in the database.

| Column              | Datatype       | NULL     | Description                                                                                          |
|---------------------|----------------|----------|------------------------------------------------------------------------------------------------------|
| OBJECT_OWNER        | VARCHAR2 (128) | NOT NULL | Owner of the object on which substitute key columns are set                                          |
| OBJECT_NAME         | VARCHAR2 (128) | NOT NULL | Name of the object on which substitute key columns are set                                           |
| COLUMN_NAME         | VARCHAR2 (128) | NOT NULL | Column name of a column specified as a substitute key column                                         |
| APPLY_DATABASE_LINK | VARCHAR2 (128) |          | Database link to which changes are applied. If null, then changes are applied to the local database. |

**See Also:**

- ["DBA\\_APPLY\\_KEY\\_COLUMNS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_APPLY_ADM.SET_KEY_COLUMNS` procedure

## 3.79 ALL\_APPLY\_PARAMETERS

`ALL_APPLY_PARAMETERS` displays information about the parameters for the apply processes that dequeue events from queues accessible to the current user.

**Related View**

`DBA_APPLY_PARAMETERS` displays information about the parameters for all apply processes in the database.

| Column      | Datatype        | NULL     | Description                                                                                                                                                                                                                                                    |
|-------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| APPLY_NAME  | VARCHAR2 (128)  | NOT NULL | Name of the apply process                                                                                                                                                                                                                                      |
| PARAMETER   | VARCHAR2 (128)  | NOT NULL | Name of the parameter                                                                                                                                                                                                                                          |
| VALUE       | VARCHAR2 (4000) |          | Parameter value                                                                                                                                                                                                                                                |
| SET_BY_USER | VARCHAR2 (3)    |          | Indicates whether the parameter value was set by the user (YES) or was not set by the user (NO). If NO for a parameter, then the parameter is set to its default value. If YES for a parameter, then the parameter may or may not be set to its default value. |

**See Also:**

["DBA\\_APPLY\\_PARAMETERS"](#)

## 3.80 ALL\_APPLY\_PROGRESS

`ALL_APPLY_PROGRESS` displays information about the progress made by the apply processes that dequeue events from queues accessible to the current user. This view only contains information about captured events. It does not contain information about user-enqueued events.

**Related View**

`DBA_APPLY_PROGRESS` displays information about the progress made by all apply processes in the database.

| Column          | Datatype       | NULL     | Description                                                                             |
|-----------------|----------------|----------|-----------------------------------------------------------------------------------------|
| APPLY_NAME      | VARCHAR2 (128) | NOT NULL | Name of the apply process                                                               |
| SOURCE_DATABASE | VARCHAR2 (128) | NOT NULL | Global name of the source database of the changes that are applied by the apply process |

| Column                      | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                               |
|-----------------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| APPLIED_MESSAGE_NUMBER      | NUMBER         | NOT NULL | Message number up to which all transactions have definitely been applied. This value is the low watermark for the apply process. That is, messages with a commit message number less than or equal to this message number have definitely been applied, but some messages with a higher commit message number may also have been applied. |
| OLDEST_MESSAGE_NUMBER       | NUMBER         | NOT NULL | Earliest message number of the transactions currently being dequeued and applied                                                                                                                                                                                                                                                          |
| APPLY_TIME                  | DATE           |          | Time at which the message with the message number displayed in the APPLIED_MESSAGE_NUMBER column was applied                                                                                                                                                                                                                              |
| APPLIED_MESSAGE_CREATE_TIME | DATE           |          | Time at which the message with the message number displayed in the APPLIED_MESSAGE_NUMBER column was created at its source database                                                                                                                                                                                                       |
| OLDEST_TRANSACTION_ID       | VARCHAR2 (128) |          | Oldest transaction ID of interest. (useful for detecting long-running or large transactions)                                                                                                                                                                                                                                              |
| SPILL_MESSAGE_NUMBER        | NUMBER         |          | Spill low watermark. Any message with a lower SCN has either been applied or spilled to disk (it will be dequeued from the Streams queue and capture will not need to resend any logical change records (LCRs) with a lower SCN). Spilled messages may not have been applied yet.                                                         |
| SOURCE_ROOT_NAME            | VARCHAR2 (128) |          | The global name of the source root database                                                                                                                                                                                                                                                                                               |



**See Also:**

"DBA\_APPLY\_PROGRESS"

## 3.81 ALL\_APPLY\_REPERROR\_HANDLERS

ALL\_APPLY\_REPERROR\_HANDLERS provides details about apply reperror handlers on objects visible to the user.

### Related View

DBA\_APPLY\_REPERROR\_HANDLERS provides details about apply reperror handlers.

| Column              | Datatype       | NULL     | Description                                |
|---------------------|----------------|----------|--------------------------------------------|
| APPLY_NAME          | VARCHAR2 (128) | NOT NULL | Name of the apply process                  |
| OBJECT_OWNER        | VARCHAR2 (128) | NOT NULL | Owner of the object                        |
| OBJECT_NAME         | VARCHAR2 (128) | NOT NULL | Name of the object                         |
| SOURCE_OBJECT_OWNER | VARCHAR2 (128) | NOT NULL | Source database owner of the source object |
| SOURCE_OBJECT_NAME  | VARCHAR2 (128) | NOT NULL | Source database name of the object         |
| ERROR_NUMBER        | NUMBER         | NOT NULL | Error number for the handler               |

| Column      | Datatype      | NULL | Description                                                                                                                                                                               |
|-------------|---------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| METHOD      | VARCHAR2 (18) |      | Error handling method: <ul style="list-style-type: none"><li>• ABEND</li><li>• RECORD</li><li>• IGNORE</li><li>• RETRY</li><li>• RETRY_TRANSACTION</li><li>• RECORD_TRANSACTION</li></ul> |
| MAX_RETRIES | NUMBER        |      | Maximum number of times to retry for the method RETRY and RETRY_TRANSACTION                                                                                                               |
| DELAY_CSECS | NUMBER        |      | Number of centiseconds to wait between retries for RETRY and RETRY_TRANSACTION                                                                                                            |
| SET_BY      | VARCHAR2 (10) |      | Entity that set up the handler: <ul style="list-style-type: none"><li>• USER</li><li>• GOLDENGATE</li></ul>                                                                               |

**See Also:**

["DBA\\_APPLY\\_REPERROR\\_HANDLERS"](#)

## 3.82 ALL\_APPLY\_TABLE\_COLUMNS

ALL\_APPLY\_TABLE\_COLUMNS displays, for the tables accessible to the current user, information about the nonkey table columns for which apply process conflict detection has been stopped for update and delete operations.

Conflict detection for nonkey columns can be stopped using the DBMS\_APPLY\_ADM.COMPARE\_OLD\_VALUES procedure.

### Related View

DBA\_APPLY\_TABLE\_COLUMNS displays, for all tables in the database, information about the nonkey table columns for which apply process conflict detection has been stopped for update and delete operations.

| Column                | Datatype        | NULL | Description                                                                           |
|-----------------------|-----------------|------|---------------------------------------------------------------------------------------|
| OBJECT_OWNER          | VARCHAR2 (128)  |      | Owner of the table                                                                    |
| OBJECT_NAME           | VARCHAR2 (128)  |      | Name of the table                                                                     |
| COLUMN_NAME           | VARCHAR2 (4000) |      | Name of the column                                                                    |
| COMPARE_OLD_ON_DELETE | VARCHAR2 (3)    |      | Indicates whether to Compare the old value of the column on deletes (YES) or not (NO) |
| COMPARE_OLD_ON_UPDATE | VARCHAR2 (3)    |      | Indicates whether to Compare the old value of the column on updates (YES) or not (NO) |
| APPLY_DATABASE_LINK   | VARCHAR2 (128)  |      | For remote tables, name of the database link pointing to the remote database          |

 **See Also:**

- ["DBA\\_APPLY\\_TABLE\\_COLUMNS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_APPLY_ADM.COMPARE_OLD_VALUES` procedure

## 3.83 ALL\_ARGUMENTS

`ALL_ARGUMENTS` lists the arguments of the functions and procedures that are accessible to the current user.

 **Note:**

The following changes have been made to this view:

- Starting with Oracle Database 12c release 1 (12.1.0.2), this view omits procedures with no arguments. Prior to Oracle Database 12c release 1 (12.1.0.2), a procedure with no arguments was presented as a single row in this view.
- Starting with Oracle Database 18c, this view displays only one row for an argument that is a composite type. Prior to Oracle Database 18c, this view displayed multiple rows for composite types.

To obtain information about composite type arguments, use the value of the `TYPE_NAME` column in this view to query the `ALL_PLSQL_TYPES`, `ALL_PLSQL_TYPE_ATTRS`, and `ALL_PLSQL_COLL_TYPES` views, which fully describe composite types.

See *Oracle Database Upgrade Guide* for more information about these changes.

### Related Views

- `DBA_ARGUMENTS` lists the arguments of the functions and procedures that are available in the database.
- `USER_ARGUMENTS` lists the arguments of the functions and procedures that are owned by the current user. This view does not display the `OWNER` column.

| Column        | Datatype       | NULL     | Description                                                                                           |
|---------------|----------------|----------|-------------------------------------------------------------------------------------------------------|
| OWNER         | VARCHAR2 (128) | NOT NULL | Owner of the object                                                                                   |
| OBJECT_NAME   | VARCHAR2 (128) |          | Name of the procedure or function                                                                     |
| PACKAGE_NAME  | VARCHAR2 (128) |          | Name of the package                                                                                   |
| OBJECT_ID     | NUMBER         | NOT NULL | Object number of the object                                                                           |
| OVERLOAD      | VARCHAR2 (40)  |          | Indicates the <i>n</i> th overloading ordered by its appearance in the source; otherwise, it is NULL. |
| SUBPROGRAM_ID | NUMBER         |          | Unique subprogram identifier                                                                          |



| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                    |
|--------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ARGUMENT_NAME      | VARCHAR2 (128) |          | Name of the argument<br>A null argument name is used to denote a function return.                                                                                                                                                                                              |
| POSITION           | NUMBER         | NOT NULL | This column holds the position of this item in the argument list, or 0 for a function return value.                                                                                                                                                                            |
| SEQUENCE           | NUMBER         | NOT NULL | Defines the sequential order of the argument. Argument sequence starts from 1. Return type comes first, and each argument will follow.                                                                                                                                         |
| DATA_LEVEL         | NUMBER         | NOT NULL | Nesting depth of the argument for composite types<br><b>Note:</b> Starting with Oracle Database 18c, the value of this column is always 0, because this view displays only one row for each argument. This view no longer displays multiple rows for composite type arguments. |
| DATA_TYPE          | VARCHAR2 (30)  |          | Datatype of the argument                                                                                                                                                                                                                                                       |
| DEFAULTED          | VARCHAR2 (1)   |          | Specifies whether or not the argument is defaulted                                                                                                                                                                                                                             |
| DEFAULT_VALUE      | LONG           |          | Reserved for future use                                                                                                                                                                                                                                                        |
| DEFAULT_LENGTH     | NUMBER         |          | Reserved for future use                                                                                                                                                                                                                                                        |
| IN_OUT             | VARCHAR2 (9)   |          | Direction of the argument: <ul style="list-style-type: none"> <li>• IN</li> <li>• OUT</li> <li>• IN/OUT</li> </ul>                                                                                                                                                             |
| DATA_LENGTH        | NUMBER         |          | Length of the column (in bytes)                                                                                                                                                                                                                                                |
| DATA_PRECISION     | NUMBER         |          | Length in decimal digits (NUMBER) or binary digits (FLOAT)                                                                                                                                                                                                                     |
| DATA_SCALE         | NUMBER         |          | Digits to the right of the decimal point in a number                                                                                                                                                                                                                           |
| RADIX              | NUMBER         |          | Argument radix for a number                                                                                                                                                                                                                                                    |
| CHARACTER_SET_NAME | VARCHAR2 (44)  |          | Character set name for the argument                                                                                                                                                                                                                                            |
| TYPE_OWNER         | VARCHAR2 (128) |          | Owner of the type of the argument                                                                                                                                                                                                                                              |
| TYPE_NAME          | VARCHAR2 (128) |          | Name of the type of the argument. If the type is a package local type (that is, it is declared in a package specification), then this column displays the name of the package.                                                                                                 |
| TYPE_SUBNAME       | VARCHAR2 (128) |          | Relevant only for package local types. Displays the name of the type declared in the package identified in the TYPE_NAME column.                                                                                                                                               |
| TYPE_LINK          | VARCHAR2 (128) |          | Relevant only for package local types when the package identified in the TYPE_NAME column is a remote package. This column displays the database link used to refer to the remote package.                                                                                     |
| TYPE_OBJECT_TYPE   | VARCHAR2 (7)   |          | Displays the type of the type described by the TYPE_OWNER, TYPE_NAME, and TYPE_SUBNAME columns. Possible values are: <ul style="list-style-type: none"> <li>• TABLE</li> <li>• VIEW</li> <li>• PACKAGE</li> <li>• TYPE</li> </ul>                                              |
| PLS_TYPE           | VARCHAR2 (128) |          | For numeric arguments, the name of the PL/SQL type of the argument. Null otherwise.                                                                                                                                                                                            |

| Column        | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                              |
|---------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CHAR_LENGTH   | NUMBER         |      | Character limit for string datatypes                                                                                                                                                                                                                                                                                                                                                     |
| CHAR_USED     | VARCHAR2 (1)   |      | Indicates whether the byte limit (B) or char limit (C) is official for the string                                                                                                                                                                                                                                                                                                        |
| ORIGIN_CON_ID | VARCHAR2 (256) |      | <p>The ID of the container where the data originates. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root)</li> </ul> |

**Note:**

To list the procedure names in a package, use the `ALL_PROCEduRES` view.

**See Also:**

- `"DBA_ARGUMENTS"`
- `"USER_ARGUMENTS"`
- `"ALL_PLSQL_TYPES"`
- `"ALL_PLSQL_TYPE_ATTRS"`
- `"ALL_PLSQL_COLL_TYPES"`
- `"ALL_PROCEduRES"` for information about the functions and procedures that are accessible to the current user

## 3.84 ALL\_ASSEMBLIES

`ALL_ASSEMBLIES` provides information about assemblies accessible to the current user.

### Related Views

- `DBA_ASSEMBLIES` provides information about all assemblies in the database.
- `USER_ASSEMBLIES` provides information about all assemblies owned by the current user. This view does not display the `OWNER` column.

| Column         | Datatype        | NULL     | Description                                         |
|----------------|-----------------|----------|-----------------------------------------------------|
| OWNER          | VARCHAR2 (128)  | NOT NULL | Owner of the assembly                               |
| ASSEMBLY_NAME  | VARCHAR2 (128)  | NOT NULL | Name of the assembly                                |
| FILE_SPEC      | VARCHAR2 (4000) |          | Operating system file specification of the assembly |
| SECURITY_LEVEL | VARCHAR2 (10)   |          | The maximum security level of the assembly          |
| IDENTITY       | VARCHAR2 (4000) |          | The identity of the assembly                        |

| Column | Datatype     | NULL | Description            |
|--------|--------------|------|------------------------|
| STATUS | VARCHAR2 (7) |      | Status of the assembly |



#### See Also:

- "DBA\_ASSEMBLIES"
- "USER\_ASSEMBLIES"

## 3.85 ALL\_ASSOCIATIONS

ALL\_ASSOCIATIONS describes user-defined statistics associated with objects accessible to the current user.

#### Related Views

- DBA\_ASSOCIATIONS describes all user-defined statistics in the database.
- USER\_ASSOCIATIONS describes user-defined statistics associated with objects owned by the current user.

| Column            | Datatype       | NULL     | Description                                                                                                                                                               |
|-------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_OWNER      | VARCHAR2 (128) | NOT NULL | Owner of the object for which the association is being defined                                                                                                            |
| OBJECT_NAME       | VARCHAR2 (128) | NOT NULL | Name of the object for which the association is being defined                                                                                                             |
| COLUMN_NAME       | VARCHAR2 (128) |          | Column name in the object for which the association is being defined                                                                                                      |
| OBJECT_TYPE       | VARCHAR2 (9)   |          | Kind of object with which statistics are being associated: column, type, package or function, indextype, or domain index.                                                 |
| STATSTYPE_SCHEMA  | VARCHAR2 (128) |          | Owner of the statistics type                                                                                                                                              |
| STATSTYPE_NAME    | VARCHAR2 (128) |          | Name of statistics type that contains the cost, selectivity or statistics functions                                                                                       |
| DEF_SELECTIVITY   | NUMBER         |          | Default selectivity of the object, if any                                                                                                                                 |
| DEF_CPU_COST      | NUMBER         |          | Default CPU cost of the object, if any                                                                                                                                    |
| DEF_IO_COST       | NUMBER         |          | Default I/O cost of the object, if any                                                                                                                                    |
| DEF_NET_COST      | NUMBER         |          | Default networking cost of the object, if any                                                                                                                             |
| INTERFACE_VERSION | NUMBER         |          | Identifies the version number of the <code>ODCIStats</code> interface. Value is 1 for statistics type implementing Oracle8i 8.1; 0 for types implementing Oracle9i 9.0.0. |
| MAINTENANCE_TYPE  | VARCHAR2 (14)  |          | Specifies whether the object is system-managed or user-managed                                                                                                            |

**See Also:**

- ["DBA\\_ASSOCIATIONS"](#)
- ["USER\\_ASSOCIATIONS"](#)

## 3.86 ALL\_ATTRIBUTE\_DIM\_ATTR\_CLASS

ALL\_ATTRIBUTE\_DIM\_ATTR\_CLASS describes the attribute classifications of the attribute dimensions accessible to the current user.

### Related Views

- DBA\_ATTRIBUTE\_DIM\_ATTR\_CLASS describes the attribute classifications of all attribute dimensions in the database.
- USER\_ATTRIBUTE\_DIM\_ATTR\_CLASS describes the attribute classifications of the attribute dimensions owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                            |
|----------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the attribute dimension                                                                                                                                                                                                                                                                                                                                                       |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension                                                                                                                                                                                                                                                                                                                                                        |
| ATTRIBUTE_NAME | VARCHAR2 (128) |          | Name of the attribute                                                                                                                                                                                                                                                                                                                                                                  |
| CLASSIFICATION | VARCHAR2 (128) |          | Classification associated with the attribute                                                                                                                                                                                                                                                                                                                                           |
| VALUE          | CLOB           |          | Value of the classification, or NULL if not specified                                                                                                                                                                                                                                                                                                                                  |
| LANGUAGE       | VARCHAR2 (64)  |          | NLS_LANGUAGE value associated with the classification, or NULL if not specified                                                                                                                                                                                                                                                                                                        |
| ORDER_NUM      | NUMBER         | NOT NULL | Order of the classification in the list of classifications associated with the attribute                                                                                                                                                                                                                                                                                               |
| ORIGIN_CON_ID  | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |

**See Also:**

- ["DBA\\_ATTRIBUTE\\_DIM\\_ATTR\\_CLASS"](#)
- ["USER\\_ATTRIBUTE\\_DIM\\_ATTR\\_CLASS"](#)

## 3.87 ALL\_ATTRIBUTE\_DIM\_ATTR\_CLS

ALL\_ATTRIBUTE\_DIM\_ATTR\_CLS is identical to ALL\_ATTRIBUTE\_DIM\_ATTR\_CLASS.

**See Also:**

"ALL\_ATTRIBUTE\_DIM\_ATTR\_CLASS"

## 3.88 ALL\_ATTRIBUTE\_DIM\_ATTR\_CLS\_AE

ALL\_ATTRIBUTE\_DIM\_ATTR\_CLS\_AE describes the attribute classifications of the attribute dimensions (across all editions) accessible to the current user.

### Related Views

- DBA\_ATTRIBUTE\_DIM\_ATTR\_CLS\_AE describes the attribute classifications of all attribute dimensions (across all editions) in the database.
- USER\_ATTRIBUTE\_DIM\_ATTR\_CLS\_AE describes the attribute classifications of the attribute dimensions (across all editions) owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                         |
|----------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the attribute dimension                                                                                                                                                                                                                                                                                                                                                    |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension                                                                                                                                                                                                                                                                                                                                                     |
| ATTRIBUTE_NAME | VARCHAR2 (128) |          | Name of the attribute                                                                                                                                                                                                                                                                                                                                                               |
| CLASSIFICATION | VARCHAR2 (128) |          | Classification associated with the attribute                                                                                                                                                                                                                                                                                                                                        |
| VALUE          | CLOB           |          | Value of the classification, or NULL if not specified                                                                                                                                                                                                                                                                                                                               |
| LANGUAGE       | VARCHAR2 (64)  |          | NLS_LANGUAGE value associated with the classification, or NULL if not specified                                                                                                                                                                                                                                                                                                     |
| ORDER_NUM      | NUMBER         | NOT NULL | Order of the classification in the list of classifications associated with the attribute                                                                                                                                                                                                                                                                                            |
| ORIGIN_CON_ID  | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |
| EDITION_NAME   | VARCHAR2 (128) |          | Name of the application edition where the attribute dimension is defined                                                                                                                                                                                                                                                                                                            |

**See Also:**

- "DBA\_ATTRIBUTE\_DIM\_ATTR\_CLS\_AE"
- "USER\_ATTRIBUTE\_DIM\_ATTR\_CLS\_AE"

## 3.89 ALL\_ATTRIBUTE\_DIM\_ATTRS

ALL\_ATTRIBUTE\_DIM\_ATTRS describes the attributes of the attribute dimensions accessible to the current user.

### Related Views

- DBA\_ATTRIBUTE\_DIM\_ATTRS describes the attributes of all attribute dimensions in the database.
- USER\_ATTRIBUTE\_DIM\_ATTRS describes the attributes of the attribute dimensions owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                    |
|----------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the attribute dimension                                                                                                                                                                                                                                                                                                                               |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension                                                                                                                                                                                                                                                                                                                                |
| ATTRIBUTE_NAME | VARCHAR2 (128) |          | Name of the attribute dimension attribute                                                                                                                                                                                                                                                                                                                      |
| TABLE_ALIAS    | VARCHAR2 (128) |          | Alias of the table or view in the USING clause to which the column belongs                                                                                                                                                                                                                                                                                     |
| COLUMN_NAME    | VARCHAR2 (128) | NOT NULL | Name of the column in the table or view on which the attribute is defined                                                                                                                                                                                                                                                                                      |
| ORDER_NUM      | NUMBER         | NOT NULL | Order of the attribute in the list of attribute dimension attributes                                                                                                                                                                                                                                                                                           |
| ORIGIN_CON_ID  | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• n: This value is used for rows containing data that originate in the container with container ID n (n = 1 if the row originates in root).</li></ul> |



### See Also:

- "DBA\_ATTRIBUTE\_DIM\_ATTRS"
- "USER\_ATTRIBUTE\_DIM\_ATTRS"

## 3.90 ALL\_ATTRIBUTE\_DIM\_ATTRS\_AE

ALL\_ATTRIBUTE\_DIM\_ATTRS\_AE describes the attributes of the attribute dimensions (across all editions) accessible to the current user.

### Related Views

- DBA\_ATTRIBUTE\_DIM\_ATTRS\_AE describes the attributes of all attribute dimensions (across all editions) in the database.
- USER\_ATTRIBUTE\_DIM\_ATTRS\_AE describes the attributes of the attribute dimensions (across all editions) owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                           |
|----------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the attribute dimension                                                                                                                                                                                                                                                                                                                                                      |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension                                                                                                                                                                                                                                                                                                                                                       |
| ATTRIBUTE_NAME | VARCHAR2 (128) |          | Name of the attribute dimension attribute                                                                                                                                                                                                                                                                                                                                             |
| TABLE_ALIAS    | VARCHAR2 (128) |          | Alias of the table or view in the <code>USING</code> clause to which the column belongs                                                                                                                                                                                                                                                                                               |
| COLUMN_NAME    | VARCHAR2 (128) | NOT NULL | Name of the column in the table or view on which the attribute is defined                                                                                                                                                                                                                                                                                                             |
| ORDER_NUM      | NUMBER         | NOT NULL | Order of the attribute in the list of attribute dimension attributes                                                                                                                                                                                                                                                                                                                  |
| ORIGIN_CON_ID  | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |
| EDITION_NAME   | VARCHAR2 (128) |          | Name of the application edition where the attribute dimension is defined                                                                                                                                                                                                                                                                                                              |



#### See Also:

- "DBA\_ATTRIBUTE\_DIM\_ATTRS\_AE"
- "USER\_ATTRIBUTE\_DIM\_ATTRS\_AE"

## 3.91 ALL\_ATTRIBUTE\_DIM\_CLASS

`ALL_ATTRIBUTE_DIM_CLASS` describes the classifications of the attribute dimensions accessible to the current user.

#### Related Views

- `DBA_ATTRIBUTE_DIM_CLASS` describes the classifications of all attribute dimensions in the database.
- `USER_ATTRIBUTE_DIM_CLASS` describes the classifications of the attribute dimensions owned by the current user. This view does not display the `OWNER` column.

| Column         | Datatype       | NULL     | Description                                                                     |
|----------------|----------------|----------|---------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the attribute dimension                                                |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension                                                 |
| CLASSIFICATION | VARCHAR2 (128) |          | Classification associated with the attribute dimension                          |
| VALUE          | CLOB           |          | Value of the classification, or NULL if not specified                           |
| LANGUAGE       | VARCHAR2 (64)  |          | NLS_LANGUAGE value associated with the classification, or NULL if not specified |

| Column        | Datatype | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                        |
|---------------|----------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORDER_NUM     | NUMBER   | NOT NULL | Order of the classification in the list of classifications associated with the attribute dimension                                                                                                                                                                                                                                                                                 |
| ORIGIN_CON_ID | NUMBER   |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |



#### See Also:

- ["DBA\\_ATTRIBUTE\\_DIM\\_CLASS"](#)
- ["USER\\_ATTRIBUTE\\_DIM\\_CLASS"](#)

## 3.92 ALL\_ATTRIBUTE\_DIM\_CLASS\_AE

ALL\_ATTRIBUTE\_DIM\_CLASS\_AE describes the classifications of the attribute dimensions (across all editions) accessible to the current user.

#### Related Views

- DBA\_ATTRIBUTE\_DIM\_CLASS\_AE describes the classifications of all attribute dimensions (across all editions) in the database.
- USER\_ATTRIBUTE\_DIM\_CLASS\_AE describes the classifications of the attribute dimensions (across all editions) owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                        |
|----------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the attribute dimension                                                                                                                                                                                                                                                                                                                                                   |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension                                                                                                                                                                                                                                                                                                                                                    |
| CLASSIFICATION | VARCHAR2 (128) |          | Classification associated with the attribute dimension                                                                                                                                                                                                                                                                                                                             |
| VALUE          | CLOB           |          | Value of the classification, or NULL if not specified                                                                                                                                                                                                                                                                                                                              |
| LANGUAGE       | VARCHAR2 (64)  |          | NLS_LANGUAGE value associated with the classification, or NULL if not specified                                                                                                                                                                                                                                                                                                    |
| ORDER_NUM      | NUMBER         | NOT NULL | Order of the classification in the list of classifications associated with the attribute dimension                                                                                                                                                                                                                                                                                 |
| ORIGIN_CON_ID  | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |
| EDITION_NAME   | VARCHAR2 (128) |          | Name of the application edition where the attribute dimension is defined                                                                                                                                                                                                                                                                                                           |



**See Also:**

- "DBA\_ATTRIBUTE\_DIM\_CLASS\_AE"
- "USER\_ATTRIBUTE\_DIM\_CLASS\_AE"

## 3.93 ALL\_ATTRIBUTE\_DIM\_JN\_PTHS

ALL\_ATTRIBUTE\_DIM\_JN\_PTHS is identical to ALL\_ATTRIBUTE\_DIM\_JOIN\_PATHS.

**See Also:**

"ALL\_ATTRIBUTE\_DIM\_JOIN\_PATHS"

## 3.94 ALL\_ATTRIBUTE\_DIM\_JN\_PTHS\_AE

ALL\_ATTRIBUTE\_DIM\_JN\_PTHS\_AE describes the join paths for the attribute dimensions (across all editions) accessible to the current user.

**Related Views**

- DBA\_ATTRIBUTE\_DIM\_JN\_PTHS\_AE describes the join paths for all attribute dimensions (across all editions) in the database.
- USER\_ATTRIBUTE\_DIM\_JN\_PTHS\_AE describes the join paths for the attribute dimensions (across all editions) owned by the current user.

| Column         | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                               |
|----------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128)  | NOT NULL | Owner of the attribute dimension                                                                                                                                                                                                                                                                                                                                                          |
| DIMENSION_NAME | VARCHAR2 (128)  | NOT NULL | Name of the attribute dimension                                                                                                                                                                                                                                                                                                                                                           |
| JOIN_PATH_NAME | VARCHAR2 (128)  | NOT NULL | Name of the join path                                                                                                                                                                                                                                                                                                                                                                     |
| ON_CONDITION   | VARCHAR2 (4000) |          | Join condition specified in the ON clause                                                                                                                                                                                                                                                                                                                                                 |
| ORDER_NUM      | NUMBER          | NOT NULL | Order of the classification in the list of classifications associated with the attribute dimension                                                                                                                                                                                                                                                                                        |
| ORIGIN_CON_ID  | NUMBER          |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |
| EDITION_NAME   | VARCHAR2 (128)  |          | Name of the application edition where the attribute dimension is defined                                                                                                                                                                                                                                                                                                                  |

 **See Also:**

- "DBA\_ATTRIBUTE\_DIM\_JN\_PTHS\_AE"
- "USER\_ATTRIBUTE\_DIM\_JN\_PTHS\_AE"

## 3.95 ALL\_ATTRIBUTE\_DIM\_JOIN\_PATHS

ALL\_ATTRIBUTE\_DIM\_JOIN\_PATHS describes the join paths for the attribute dimensions accessible to the current user.

### Related Views

- DBA\_ATTRIBUTE\_DIM\_JOIN\_PATHS describes the join paths for all attribute dimensions in the database.
- USER\_ATTRIBUTE\_DIM\_JOIN\_PATHS describes the join paths for the attribute dimensions owned by the current user. This view does not display the OWNER column.

| Column         | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                         |
|----------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128)  | NOT NULL | Owner of the attribute dimension                                                                                                                                                                                                                                                                                                                                                    |
| DIMENSION_NAME | VARCHAR2 (128)  | NOT NULL | Name of the attribute dimension                                                                                                                                                                                                                                                                                                                                                     |
| JOIN_PATH_NAME | VARCHAR2 (128)  | NOT NULL | Name of the join path                                                                                                                                                                                                                                                                                                                                                               |
| ON_CONDITION   | VARCHAR2 (4000) |          | Join condition specified in the ON clause                                                                                                                                                                                                                                                                                                                                           |
| ORDER_NUM      | NUMBER          | NOT NULL | Order of the classification in the list of classifications associated with the attribute dimension                                                                                                                                                                                                                                                                                  |
| ORIGIN_CON_ID  | NUMBER          |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |

 **See Also:**

- "DBA\_ATTRIBUTE\_DIM\_JOIN\_PATHS"
- "USER\_ATTRIBUTE\_DIM\_JOIN\_PATHS"

## 3.96 ALL\_ATTRIBUTE\_DIM\_KEYS

ALL\_ATTRIBUTE\_DIM\_KEYS describes the keys of the attribute dimensions accessible to the current user.

### Related Views

- DBA\_ATTRIBUTE\_DIM\_KEYS describes the keys of all attribute dimensions in the database.

- **USER\_ATTRIBUTE\_DIM\_KEYS** describes the keys of the attribute dimensions owned by the current user. This view does not display the **OWNER** column.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                               |
|----------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the attribute dimension                                                                                                                                                                                                                                                                                                                                                          |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension                                                                                                                                                                                                                                                                                                                                                           |
| LEVEL_NAME     | VARCHAR2 (128) |          | Name of the level of the key                                                                                                                                                                                                                                                                                                                                                              |
| IS_ALTERNATE   | VARCHAR2 (1)   |          | Indicates whether the attribute dimension key is an alternate key (Y) or not (N)                                                                                                                                                                                                                                                                                                          |
| ATTRIBUTE_NAME | VARCHAR2 (128) |          | Name of the key attribute                                                                                                                                                                                                                                                                                                                                                                 |
| ATTR_ORDER_NUM | NUMBER         | NOT NULL | Order of the attribute in the list of attributes comprising the key                                                                                                                                                                                                                                                                                                                       |
| KEY_ORDER_NUM  | NUMBER         | NOT NULL | Order of the key in the list of keys (if alternate keys are specified)                                                                                                                                                                                                                                                                                                                    |
| ORIGIN_CON_ID  | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |



#### See Also:

- ["DBA\\_ATTRIBUTE\\_DIM\\_KEYS"](#)
- ["USER\\_ATTRIBUTE\\_DIM\\_KEYS"](#)

## 3.97 ALL\_ATTRIBUTE\_DIM\_KEYS\_AE

**ALL\_ATTRIBUTE\_DIM\_KEYS\_AE** describes the keys of the attribute dimensions (across all editions) accessible to the current user.

#### Related Views

- **DBA\_ATTRIBUTE\_DIM\_KEYS\_AE** describes the keys of all attribute dimensions (across all editions) in the database.
- **USER\_ATTRIBUTE\_DIM\_KEYS\_AE** describes the keys of the attribute dimensions (across all editions) owned by the current user. This view does not display the **OWNER** column.

| Column         | Datatype       | NULL     | Description                                                                      |
|----------------|----------------|----------|----------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the attribute dimension                                                 |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension                                                  |
| LEVEL_NAME     | VARCHAR2 (128) |          | Name of the level of the key                                                     |
| IS_ALTERNATE   | VARCHAR2 (1)   |          | Indicates whether the attribute dimension key is an alternate key (Y) or not (N) |
| ATTRIBUTE_NAME | VARCHAR2 (128) |          | Name of the key attribute                                                        |

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                           |
|----------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ATTR_ORDER_NUM | NUMBER         | NOT NULL | Order of the attribute in the list of attributes comprising the key                                                                                                                                                                                                                                                                                                                   |
| KEY_ORDER_NUM  | NUMBER         | NOT NULL | Order of the key in the list of keys (if alternate keys are specified)                                                                                                                                                                                                                                                                                                                |
| ORIGIN_CON_ID  | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |
| EDITION_NAME   | VARCHAR2 (128) |          | Name of the application edition where the attribute dimension is defined                                                                                                                                                                                                                                                                                                              |



#### See Also:

- ["DBA\\_ATTRIBUTE\\_DIM\\_KEYS\\_AE"](#)
- ["USER\\_ATTRIBUTE\\_DIM\\_KEYS\\_AE"](#)

## 3.98 ALL\_ATTRIBUTE\_DIM\_LEVEL\_ATTRS

ALL\_ATTRIBUTE\_DIM\_LEVEL\_ATTRS describes the attributes of the levels of the attribute dimensions accessible to the current user.

#### Related Views

- DBA\_ATTRIBUTE\_DIM\_LEVEL\_ATTRS describes the attributes of the levels of all attribute dimensions in the database.
- USER\_ATTRIBUTE\_DIM\_LEVEL\_ATTRS describes the attributes of the levels of the attribute dimensions owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL | Description                                                              |
|----------------|----------------|------|--------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) |      | Owner of the attribute dimension                                         |
| DIMENSION_NAME | VARCHAR2 (128) |      | Name of the attribute dimension                                          |
| LEVEL_NAME     | VARCHAR2 (128) |      | Name of the attribute dimension level                                    |
| ATTRIBUTE_NAME | VARCHAR2 (128) |      | Name of the attribute determined by the level                            |
| ROLE           | VARCHAR2 (4)   |      | Role of the attribute determined by the level                            |
| IS_MINIMAL_DTM | VARCHAR2 (1)   |      | Indicates whether the attribute is minimally determined (Y) or not (N)   |
| ORDER_NUM      | NUMBER         |      | Order of the attribute in the list of attributes determined by the level |

| Column        | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                        |
|---------------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGIN_CON_ID | NUMBER   |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |



#### See Also:

- ["DBA\\_ATTRIBUTE\\_DIM\\_LEVEL\\_ATTRS"](#)
- ["USER\\_ATTRIBUTE\\_DIM\\_LEVEL\\_ATTRS"](#)

## 3.99 ALL\_ATTRIBUTE\_DIM\_LEVELS

ALL\_ATTRIBUTE\_DIM\_LEVELS describes the levels of the attribute dimensions accessible to the current user.

#### Related Views

- DBA\_ATTRIBUTE\_DIM\_LEVELS describes the levels of all attribute dimensions in the database.
- USER\_ATTRIBUTE\_DIM\_LEVELS describes the levels of the attribute dimensions owned by the current user. This view does not display the OWNER column.

| Column                  | Datatype       | NULL     | Description                                                                        |
|-------------------------|----------------|----------|------------------------------------------------------------------------------------|
| OWNER                   | VARCHAR2 (128) | NOT NULL | Owner of the attribute dimension                                                   |
| DIMENSION_NAME          | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension                                                    |
| LEVEL_NAME              | VARCHAR2 (128) |          | Name of the attribute dimension level                                              |
| SKIP_WHEN_NULL          | VARCHAR2 (1)   |          | Indicates whether to skip the level when the key is NULL; the value can be Y or N. |
| LEVEL_TYPE              | VARCHAR2 (10)  |          | Type of attribute dimension level                                                  |
| MEMBER_NAME_EXPR        | CLOB           | NOT NULL | Expression representing the level member name                                      |
| MEMBER_CAPTION_EXPR     | CLOB           |          | Expression representing the level member caption, or NULL if not specified         |
| MEMBER_DESCRIPTION_EXPR | CLOB           |          | Expression representing the level member description, or NULL if not specified     |
| ORDER_NUM               | NUMBER         | NOT NULL | Order of the level in the list of attribute dimension levels                       |

| Column        | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                         |
|---------------|----------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGIN_CON_ID | NUMBER   |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |

**See Also:**

- ["DBA\\_ATTRIBUTE\\_DIM\\_LEVELS"](#)
- ["USER\\_ATTRIBUTE\\_DIM\\_LEVELS"](#)

## 3.100 ALL\_ATTRIBUTE\_DIM\_LEVELS\_AE

ALL\_ATTRIBUTE\_DIM\_LEVELS\_AE describes the levels of the attribute dimensions (across all editions) accessible to the current user.

### Related Views

- DBA\_ATTRIBUTE\_DIM\_LEVELS\_AE describes the levels of all attribute dimensions (across all editions) in the database.
- USER\_ATTRIBUTE\_DIM\_LEVELS\_AE describes the levels of the attribute dimensions (across all editions) owned by the current user. This view does not display the OWNER column.

| Column                  | Datatype       | NULL     | Description                                                                        |
|-------------------------|----------------|----------|------------------------------------------------------------------------------------|
| OWNER                   | VARCHAR2 (128) | NOT NULL | Owner of the attribute dimension                                                   |
| DIMENSION_NAME          | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension                                                    |
| LEVEL_NAME              | VARCHAR2 (128) |          | Name of the attribute dimension level                                              |
| SKIP_WHEN_NULL          | VARCHAR2 (1)   |          | Indicates whether to skip the level when the key is NULL; the value can be Y or N. |
| LEVEL_TYPE              | VARCHAR2 (10)  |          | Type of attribute dimension level                                                  |
| MEMBER_NAME_EXPR        | CLOB           | NOT NULL | Expression representing the level member name                                      |
| MEMBER_CAPTION_EXPR     | CLOB           |          | Expression representing the level member caption, or NULL if not specified         |
| MEMBER_DESCRIPTION_EXPR | CLOB           |          | Expression representing the level member description, or NULL if not specified     |
| ORDER_NUM               | NUMBER         | NOT NULL | Order of the level in the list of attribute dimension levels                       |

| Column        | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGIN_CON_ID | NUMBER         |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |
| EDITION_NAME  | VARCHAR2 (128) |      | Name of the application edition where the attribute dimension is defined                                                                                                                                                                                                                                                                                                        |

 **See Also:**

- "DBA\_ATTRIBUTE\_DIM\_LEVELS\_AE"
- "USER\_ATTRIBUTE\_DIM\_LEVELS\_AE"

## 3.101 ALL\_ATTRIBUTE\_DIM\_LVL\_ATTRS

ALL\_ATTRIBUTE\_DIM\_LVL\_ATTRS is identical to ALL\_ATTRIBUTE\_DIM\_LEVEL\_ATTRS.

 **See Also:**

- "ALL\_ATTRIBUTE\_DIM\_LEVEL\_ATTRS"

## 3.102 ALL\_ATTRIBUTE\_DIM\_LVL\_ATTRS\_AE

ALL\_ATTRIBUTE\_DIM\_LVL\_ATTRS\_AE describes the attributes of the levels of the attribute dimensions (across all editions) accessible to the current user.

### Related Views

- DBA\_ATTRIBUTE\_DIM\_LVL\_ATTRS\_AE describes the attributes of the levels of all attribute dimensions (across all editions) in the database.
- USER\_ATTRIBUTE\_DIM\_LVL\_ATTRS\_AE describes the attributes of the levels of the attribute dimensions (across all editions) owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL | Description                                   |
|----------------|----------------|------|-----------------------------------------------|
| OWNER          | VARCHAR2 (128) |      | Owner of the attribute dimension              |
| DIMENSION_NAME | VARCHAR2 (128) |      | Name of the attribute dimension               |
| LEVEL_NAME     | VARCHAR2 (128) |      | Name of the attribute dimension level         |
| ATTRIBUTE_NAME | VARCHAR2 (128) |      | Name of the attribute determined by the level |
| ROLE           | VARCHAR2 (4)   |      | Role of the attribute determined by the level |

| Column         | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                        |
|----------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IS_MINIMAL_DTM | VARCHAR2 (1)   |      | Indicates whether the attribute is minimally determined (Y) or not (N)                                                                                                                                                                                                                                                                                                             |
| ORDER_NUM      | NUMBER         |      | Order of the attribute in the list of attributes determined by the level                                                                                                                                                                                                                                                                                                           |
| ORIGIN_CON_ID  | NUMBER         |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |
| EDITION_NAME   | VARCHAR2 (128) |      | Name of the application edition where the attribute dimension is defined                                                                                                                                                                                                                                                                                                           |



#### See Also:

- "DBA\_ATTRIBUTE\_DIM\_LVL\_ATTRS\_AE"
- "USER\_ATTRIBUTE\_DIM\_LVL\_ATTRS\_AE"

## 3.103 ALL\_ATTRIBUTE\_DIM\_LVL\_CLASS

ALL\_ATTRIBUTE\_DIM\_LVL\_CLASS describes the level classifications of the attribute dimensions accessible to the current user.

#### Related Views

- DBA\_ATTRIBUTE\_DIM\_LVL\_CLASS describes the level classifications of all attribute dimensions in the database.
- USER\_ATTRIBUTE\_DIM\_LVL\_CLASS describes the level classifications of the attribute dimensions owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                          |
|----------------|----------------|----------|--------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the attribute dimension                                                     |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension                                                      |
| LEVEL_NAME     | VARCHAR2 (128) |          | Name of the level                                                                    |
| CLASSIFICATION | VARCHAR2 (128) |          | Classification associated with the level                                             |
| VALUE          | CLOB           |          | Value of the classification, or NULL if not specified                                |
| LANGUAGE       | VARCHAR2 (64)  |          | NLS_LANGUAGE value associated with the classification, or NULL if not specified      |
| ORDER_NUM      | NUMBER         | NOT NULL | Order of the classification in the list of classifications associated with the level |



| Column        | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                        |
|---------------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGIN_CON_ID | NUMBER   |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |



#### See Also:

- "DBA\_ATTRIBUTE\_DIM\_LVL\_CLASS"
- "USER\_ATTRIBUTE\_DIM\_LVL\_CLASS"

## 3.104 ALL\_ATTRIBUTE\_DIM\_LVL\_CLS

ALL\_ATTRIBUTE\_DIM\_LVL\_CLS is identical to ALL\_ATTRIBUTE\_DIM\_LVL\_CLASS.



#### See Also:

- "ALL\_ATTRIBUTE\_DIM\_LVL\_CLASS"

## 3.105 ALL\_ATTRIBUTE\_DIM\_LVL\_CLS\_AE

ALL\_ATTRIBUTE\_DIM\_LVL\_CLS\_AE describes the level classifications of the attribute dimensions (across all editions) accessible to the current user.

#### Related Views

- DBA\_ATTRIBUTE\_DIM\_LVL\_CLS\_AE describes the level classifications of all attribute dimensions (across all editions) in the database.
- USER\_ATTRIBUTE\_DIM\_LVL\_CLS\_AE describes the level classifications of the attribute dimensions (across all editions) owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                     |
|----------------|----------------|----------|---------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the attribute dimension                                                |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension                                                 |
| LEVEL_NAME     | VARCHAR2 (128) |          | Name of the level                                                               |
| CLASSIFICATION | VARCHAR2 (128) |          | Classification associated with the level                                        |
| VALUE          | CLOB           |          | Value of the classification, or NULL if not specified                           |
| LANGUAGE       | VARCHAR2 (64)  |          | NLS_LANGUAGE value associated with the classification, or NULL if not specified |

| Column        | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                        |
|---------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORDER_NUM     | NUMBER         | NOT NULL | Order of the classification in the list of classifications associated with the level                                                                                                                                                                                                                                                                                               |
| ORIGIN_CON_ID | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |
| EDITION_NAME  | VARCHAR2 (128) |          | Name of the application edition where the attribute dimension is defined                                                                                                                                                                                                                                                                                                           |

 **See Also:**

- "DBA\_ATTRIBUTE\_DIM\_LVL\_CLS\_AE"
- "USER\_ATTRIBUTE\_DIM\_LVL\_CLS\_AE"

## 3.106 ALL\_ATTRIBUTE\_DIM\_ORD\_ATTRS

ALL\_ATTRIBUTE\_DIM\_ORD\_ATTRS is identical to ALL\_ATTRIBUTE\_DIM\_ORDER\_ATTRS.

 **See Also:**

"ALL\_ATTRIBUTE\_DIM\_ORDER\_ATTRS"

## 3.107 ALL\_ATTRIBUTE\_DIM\_ORD\_ATTRS\_AE

ALL\_ATTRIBUTE\_DIM\_ORD\_ATTRS\_AE describes the order attributes of the attribute dimensions (across all editions) accessible to the current user.

### Related Views

- DBA\_ATTRIBUTE\_DIM\_ORD\_ATTRS\_AE describes the order attributes of all attribute dimensions (across all editions) in the database.
- USER\_ATTRIBUTE\_DIM\_ORD\_ATTRS\_AE describes the order attributes of the attribute dimensions (across all editions) owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                      |
|----------------|----------------|----------|----------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the attribute dimension |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension  |

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                         |
|----------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LEVEL_NAME     | VARCHAR2 (128) |          | Name of the level to order or the name of the level that has the ORDER BY clause                                                                                                                                                                                                                                                                                                    |
| AGG_FUNC       | VARCHAR2 (3)   |          | Aggregation function of the ORDER BY clause: <ul style="list-style-type: none"><li>• MIN</li><li>• MAX</li></ul>                                                                                                                                                                                                                                                                    |
| ATTRIBUTE_NAME | VARCHAR2 (128) |          | Name of the order attribute                                                                                                                                                                                                                                                                                                                                                         |
| ORDER_NUM      | NUMBER         | NOT NULL | Order number of the attribute in the list of order attributes                                                                                                                                                                                                                                                                                                                       |
| CRITERIA       | VARCHAR2 (4)   |          | Criteria of the ordering, either ascending or descending: <ul style="list-style-type: none"><li>• ASC</li><li>• DESC</li></ul>                                                                                                                                                                                                                                                      |
| NULLS_POSITION | VARCHAR2 (5)   |          | Position of ORDER BY values in the orderings: <ul style="list-style-type: none"><li>• FIRST</li><li>• LAST</li></ul>                                                                                                                                                                                                                                                                |
| ORIGIN_CON_ID  | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |
| EDITION_NAME   | VARCHAR2 (128) |          | Name of the application edition where the attribute dimension is defined                                                                                                                                                                                                                                                                                                            |

**See Also:**

- ["DBA\\_ATTRIBUTE\\_DIM\\_ORD\\_ATTRS\\_AE"](#)
- ["USER\\_ATTRIBUTE\\_DIM\\_ORD\\_ATTRS\\_AE"](#)

## 3.108 ALL\_ATTRIBUTE\_DIM\_ORDER\_ATTRS

ALL\_ATTRIBUTE\_DIM\_ORDER\_ATTRS describes the order attributes of the attribute dimensions accessible to the current user.

### Related Views

- DBA\_ATTRIBUTE\_DIM\_ORDER\_ATTRS describes the order attributes of all attribute dimensions in the database.
- USER\_ATTRIBUTE\_DIM\_ORDER\_ATTRS describes the order attributes of the attribute dimensions owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                      |
|----------------|----------------|----------|----------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the attribute dimension |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension  |

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                         |
|----------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LEVEL_NAME     | VARCHAR2 (128) |          | Name of the level to order or the name of the level that has the ORDER BY clause                                                                                                                                                                                                                                                                                                    |
| AGG_FUNC       | VARCHAR2 (3)   |          | Aggregation function of the ORDER BY clause: <ul style="list-style-type: none"><li>• MIN</li><li>• MAX</li></ul>                                                                                                                                                                                                                                                                    |
| ATTRIBUTE_NAME | VARCHAR2 (128) |          | Name of the order attribute                                                                                                                                                                                                                                                                                                                                                         |
| ORDER_NUM      | NUMBER         | NOT NULL | Order number of the attribute in the list of order attributes                                                                                                                                                                                                                                                                                                                       |
| CRITERIA       | VARCHAR2 (4)   |          | Criteria of the ordering, either ascending or descending: <ul style="list-style-type: none"><li>• ASC</li><li>• DESC</li></ul>                                                                                                                                                                                                                                                      |
| NULLS_POSITION | VARCHAR2 (5)   |          | Position of ORDER BY values in the orderings: <ul style="list-style-type: none"><li>• FIRST</li><li>• LAST</li></ul>                                                                                                                                                                                                                                                                |
| ORIGIN_CON_ID  | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |

**See Also:**

- ["DBA\\_ATTRIBUTE\\_DIM\\_ORDER\\_ATTRS"](#)
- ["USER\\_ATTRIBUTE\\_DIM\\_ORDER\\_ATTRS"](#)

## 3.109 ALL\_ATTRIBUTE\_DIM\_TABLES

ALL\_ATTRIBUTE\_DIM\_TABLES describes the tables used by the attribute dimensions accessible to the current user.

### Related Views

- DBA\_ATTRIBUTE\_DIM\_TABLES describes the tables used by all attribute dimensions in the database.
- USER\_ATTRIBUTE\_DIM\_TABLES describes the tables used by the attribute dimensions owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                |
|----------------|----------------|----------|------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of table used by the attribute dimension             |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension                            |
| TABLE_OWNER    | VARCHAR2 (128) | NOT NULL | Owner of the table or view used by the attribute dimension |

| Column        | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                   |
|---------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABLE_NAME    | VARCHAR2 (128) | NOT NULL | Name of the table or view used by the attribute dimension                                                                                                                                                                                                                                                                                                     |
| TABLE_ALIAS   | VARCHAR2 (128) |          | Alias specified for the table or view; if not specified, the name of the table or view                                                                                                                                                                                                                                                                        |
| IS_REMOTE     | VARCHAR2 (1)   |          | Indicates whether the source is a remote table. The values are: <ul style="list-style-type: none"> <li>Y for a remote table</li> <li>N for a local table</li> </ul>                                                                                                                                                                                           |
| ORDER_NUM     | NUMBER         | NOT NULL | Order of the table in the list of tables in the USING clause                                                                                                                                                                                                                                                                                                  |
| ORIGIN_CON_ID | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li>n: This value is used for rows containing data that originate in the container with container ID n (n = 1 if the row originates in root).</li> </ul> |



#### See Also:

- ["DBA\\_ATTRIBUTE\\_DIM\\_TABLES"](#)
- ["USER\\_ATTRIBUTE\\_DIM\\_TABLES"](#)

## 3.110 ALL\_ATTRIBUTE\_DIM\_TABLES\_AE

ALL\_ATTRIBUTE\_DIM\_TABLES\_AE describes the tables used by the attribute dimensions (across all editions) accessible to the current user.

#### Related Views

- DBA\_ATTRIBUTE\_DIM\_TABLES\_AE describes the tables used by all attribute dimensions (across all editions) in the database.
- USER\_ATTRIBUTE\_DIM\_TABLES\_AE describes the tables used by the attribute dimensions (across all editions) owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                            |
|----------------|----------------|----------|----------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of table used by the attribute dimension                                         |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension                                                        |
| TABLE_OWNER    | VARCHAR2 (128) | NOT NULL | Owner of the table or view used by the attribute dimension                             |
| TABLE_NAME     | VARCHAR2 (128) | NOT NULL | Name of the table or view used by the attribute dimension                              |
| TABLE_ALIAS    | VARCHAR2 (128) |          | Alias specified for the table or view; if not specified, the name of the table or view |

| Column        | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IS_REMOTE     | VARCHAR2 (1)   |          | Indicates whether the source is a remote table. The values are: <ul style="list-style-type: none"> <li>Y for a remote table</li> <li>N for a local table</li> </ul>                                                                                                                                                                                                         |
| ORDER_NUM     | NUMBER         | NOT NULL | Order of the table in the list of tables in the USING clause                                                                                                                                                                                                                                                                                                                |
| ORIGIN_CON_ID | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li>n: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |
| EDITION_NAME  | VARCHAR2 (128) |          | Name of the application edition where the attribute dimension is defined                                                                                                                                                                                                                                                                                                    |



#### See Also:

- "DBA\_ATTRIBUTE\_DIM\_TABLES\_AE"
- "USER\_ATTRIBUTE\_DIM\_TABLES\_AE"

## 3.111 ALL\_ATTRIBUTE\_DIMENSIONS

ALL\_ATTRIBUTE\_DIMENSIONS describes the attribute dimensions accessible to the current user.

#### Related Views

- DBA\_ATTRIBUTE\_DIMENSIONS describes all attribute dimensions in the database.
- USER\_ATTRIBUTE\_DIMENSIONS describes the attribute dimensions owned by the current user. This view does not display the OWNER column.

| Column          | Datatype       | NULL     | Description                                                                                                                                                                                                                  |
|-----------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of attribute dimension                                                                                                                                                                                                 |
| DIMENSION_NAME  | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension                                                                                                                                                                                              |
| DIMENSION_TYPE  | VARCHAR2 (8)   |          | Type of the attribute dimension: <ul style="list-style-type: none"> <li>TIME</li> <li>STANDARD</li> </ul>                                                                                                                    |
| CACHE_STAR      | VARCHAR2 (12)  | NOT NULL | Type of the cache for the dimension star table: <ul style="list-style-type: none"> <li>NONE indicates that no cache is being used</li> <li>DYNAMIC</li> <li>MATERIALIZED (the default value when a cache is used)</li> </ul> |
| MAT_TABLE_OWNER | VARCHAR2 (128) |          | The owner of the materialized table                                                                                                                                                                                          |
| MAT_TABLE_NAME  | VARCHAR2 (128) |          | The name of the materialized table                                                                                                                                                                                           |

| Column                 | Datatype     | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|--------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALL_MEMBER_NAME        | CLOB         | NOT NULL | An expression for the name of the ALL member for the attribute dimension                                                                                                                                                                                                                                                                                                           |
| ALL_MEMBER_CAPTION     | CLOB         |          | An expression for the caption for the ALL member of the attribute dimension, or NULL if not specified                                                                                                                                                                                                                                                                              |
| ALL_MEMBER_DESCRIPTION | CLOB         |          | An expression for the description for the ALL member of the attribute dimension                                                                                                                                                                                                                                                                                                    |
| COMPILE_STATE          | VARCHAR2 (7) |          | Compile status of the attribute dimension: <ul style="list-style-type: none"> <li>VALID</li> <li>INVALID</li> </ul>                                                                                                                                                                                                                                                                |
| ORIGIN_CON_ID          | NUMBER       |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |



#### See Also:

- ["DBA\\_ATTRIBUTE\\_DIMENSIONS"](#)
- ["USER\\_ATTRIBUTE\\_DIMENSIONS"](#)

## 3.112 ALL\_ATTRIBUTE\_DIMENSIONS\_AE

ALL\_ATTRIBUTE\_DIMENSIONS\_AE describes the attribute dimensions (across all editions) accessible to the current user.

#### Related Views

- DBA\_ATTRIBUTE\_DIMENSIONS\_AE describes all attribute dimensions (across all editions) in the database.
- USER\_ATTRIBUTE\_DIMENSIONS\_AE describes the attribute dimensions (across all editions) owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                  |
|----------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of attribute dimension                                                                                                                                                                                                 |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension                                                                                                                                                                                              |
| DIMENSION_TYPE | VARCHAR2 (8)   |          | Type of the attribute dimension: <ul style="list-style-type: none"> <li>TIME</li> <li>STANDARD</li> </ul>                                                                                                                    |
| CACHE_STAR     | VARCHAR2 (12)  | NOT NULL | Type of the cache for the dimension star table: <ul style="list-style-type: none"> <li>NONE indicates that no cache is being used</li> <li>DYNAMIC</li> <li>MATERIALIZED (the default value when a cache is used)</li> </ul> |

| Column                 | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAT_TABLE_OWNER        | VARCHAR2 (128) |          | The owner of the materialized table                                                                                                                                                                                                                                                                                                                                                |
| MAT_TABLE_NAME         | VARCHAR2 (128) |          | The name of the materialized table                                                                                                                                                                                                                                                                                                                                                 |
| ALL_MEMBER_NAME        | CLOB)          | NOT NULL | An expression for the name of the ALL member for the attribute dimension                                                                                                                                                                                                                                                                                                           |
| ALL_MEMBER_CAPTION     | CLOB           |          | An expression for the caption for the ALL member of the attribute dimension, or NULL if not specified                                                                                                                                                                                                                                                                              |
| ALL_MEMBER_DESCRIPTION | CLOB           |          | An expression for the description for the ALL member of the attribute dimension                                                                                                                                                                                                                                                                                                    |
| COMPILE_STATE          | VARCHAR2 (7)   |          | Compile status of the attribute dimension: <ul style="list-style-type: none"> <li>VALID</li> <li>INVALID</li> </ul>                                                                                                                                                                                                                                                                |
| ORIGIN_CON_ID          | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |
| EDITION_NAME           | VARCHAR2 (128) |          | Name of the application edition where the attribute dimension is defined                                                                                                                                                                                                                                                                                                           |



#### See Also:

- ["DBA\\_ATTRIBUTE\\_DIMENSIONS\\_AE"](#)
- ["USER\\_ATTRIBUTE\\_DIMENSIONS\\_AE"](#)

## 3.113 ALL\_ATTRIBUTE\_TRANSFORMATIONS

ALL\_ATTRIBUTE\_TRANSFORMATIONS describes the transformation functions for the transformations accessible to the current user.

#### Related Views

- DBA\_ATTRIBUTE\_TRANSFORMATIONS describes the transformation functions for all transformations in the database.
- USER\_ATTRIBUTE\_TRANSFORMATIONS describes the transformation functions for the transformations owned by the current user. This view does not display the OWNER column.

| Column            | Datatype       | NULL     | Description                              |
|-------------------|----------------|----------|------------------------------------------|
| TRANSFORMATION_ID | NUMBER         | NOT NULL | Unique identifier for the transformation |
| OWNER             | VARCHAR2 (128) | NOT NULL | Owning user of the transformation        |
| NAME              | VARCHAR2 (128) | NOT NULL | Transformation name                      |
| FROM_TYPE         | VARCHAR2 (257) |          | Source type name                         |
| TO_TYPE           | VARCHAR2 (385) |          | Target type name                         |



| Column                   | Datatype        | NULL     | Description                               |
|--------------------------|-----------------|----------|-------------------------------------------|
| ATTRIBUTE                | NUMBER          | NOT NULL | Target type attribute number              |
| ATTRIBUTE_TRANSFORMATION | VARCHAR2 (4000) |          | Transformation function for the attribute |

 **See Also:**

- ["DBA\\_ATTRIBUTE\\_TRANSFORMATIONS"](#)
- ["USER\\_ATTRIBUTE\\_TRANSFORMATIONS"](#)

## 3.114 ALL\_AUDIT\_POLICIES

ALL\_AUDIT\_POLICIES describes the fine-grained auditing policies on the tables and views accessible to the current user.

 **Note:**

This view is populated only in an Oracle Database where unified auditing is not enabled. When unified auditing is enabled in Oracle Database, the audit records are populated in the new audit trail and can be viewed from UNIFIED\_AUDIT\_TRAIL.

- See *Oracle Database Security Guide* for more information about unified auditing.
- See *Oracle Database Upgrade Guide* for more information about migrating to unified auditing.

### Related Views

- DBA\_AUDIT\_POLICIES describes all fine-grained auditing policies in the database.
- USER\_AUDIT\_POLICIES describes the fine-grained auditing policies on the tables and views owned by the current user. This view does not display the OBJECT\_SCHEMA column.

| Column        | Datatype        | NULL | Description                                               |
|---------------|-----------------|------|-----------------------------------------------------------|
| OBJECT_SCHEMA | VARCHAR2 (128)  |      | Name of the schema that includes the table or view        |
| OBJECT_NAME   | VARCHAR2 (128)  |      | Name of the table or view                                 |
| POLICY_OWNER  | VARCHAR2 (128)  |      | Owner of the policy                                       |
| POLICY_NAME   | VARCHAR2 (128)  |      | Name of the policy                                        |
| POLICY_TEXT   | VARCHAR2 (4000) |      | Audit condition                                           |
| POLICY_COLUMN | VARCHAR2 (128)  |      | Relevant column                                           |
| PF_SCHEMA     | VARCHAR2 (128)  |      | Owner of the audit handler function                       |
| PF_PACKAGE    | VARCHAR2 (128)  |      | Name of the package containing the audit handler function |
| PF_FUNCTION   | VARCHAR2 (128)  |      | Name of the audit handler function                        |

| Column                | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------|---------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ENABLED               | VARCHAR2 (3)  |      | Indicates whether the policy is enabled (YES) or disabled (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SEL                   | VARCHAR2 (3)  |      | Indicates whether the policy is applied to queries on the object (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| INS                   | VARCHAR2 (3)  |      | Indicates whether the policy is applied to INSERT statements on the object (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| UPD                   | VARCHAR2 (3)  |      | Indicates whether the policy is applied to UPDATE statements on the object (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DEL                   | VARCHAR2 (3)  |      | Indicates whether the policy is applied to DELETE statements on the object (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| AUDIT_TRAIL           | VARCHAR2 (12) |      | Indicates the audit trail to which the audit records generated by this audit policy will be written: <ul style="list-style-type: none"><li>• DB - Audit records are written to DBA_FGA_AUDIT_TRAIL (fine-grained audit trail)</li><li>• DB+EXTENDED - Audit records are written to DBA_FGA_AUDIT_TRAIL (fine-grained audit trail) and the SQL_TEXT and SQL_BIND columns are populated for this policy</li><li>• XML - Audit records are written to V\$XML_AUDIT_TRAIL (XML audit files)</li><li>• XML+EXTENDED - Audit records are written to V\$XML_AUDIT_TRAIL (XML audit files) and the SQL_TEXT and SQL_BIND columns are populated for this policy</li></ul> |
| POLICY_COLUMN_OPTIONS | VARCHAR2 (11) |      | Indicates whether all columns in the AUDIT_COLUMN parameter (ALL_COLUMNS) or any of the columns in the AUDIT_COLUMN parameter (ANY_COLUMNS) are considered for triggering fine-grained auditing                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| COMMON                | VARCHAR2 (3)  |      | Indicates whether the policy applies across multiple containers (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| INHERITED             | VARCHAR2 (3)  |      | Indicates whether the policy was inherited from another container (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

 See Also:

- "DBA\_AUDIT\_POLICIES"
- "USER\_AUDIT\_POLICIES"

## 3.115 ALL\_AUDIT\_POLICY\_COLUMNS

ALL\_AUDIT\_POLICY\_COLUMNS describes the fine-grained auditing policy columns on the tables and views accessible to the current user.



### Note:

This view is populated only in an Oracle Database where unified auditing is not enabled. When unified auditing is enabled in Oracle Database, the audit records are populated in the new audit trail and can be viewed from UNIFIED\_AUDIT\_TRAIL.

- See *Oracle Database Security Guide* for more information about unified auditing.
- See *Oracle Database Upgrade Guide* for more information about migrating to unified auditing.

### Related Views

- DBA\_AUDIT\_POLICY\_COLUMNS describes all fine-grained auditing policy columns in the database.
- USER\_AUDIT\_POLICY\_COLUMNS describes the fine-grained auditing policy columns on the tables and views owned by the current user.

| Column        | Datatype       | NULL | Description                   |
|---------------|----------------|------|-------------------------------|
| OBJECT_SCHEMA | VARCHAR2 (128) |      | Owner of the table or view    |
| OBJECT_NAME   | VARCHAR2 (128) |      | Name of the table or view     |
| POLICY_NAME   | VARCHAR2 (128) |      | Name of the policy            |
| POLICY_COLUMN | VARCHAR2 (128) |      | Relevant column of the policy |



### See Also:

- "DBA\_AUDIT\_POLICY\_COLUMNS"
- "USER\_AUDIT\_POLICY\_COLUMNS"

## 3.116 ALL\_AW\_PS

ALL\_AW\_PS describes the page spaces in the analytic workspaces accessible to the current user.

### Related Views

- DBA\_AW\_PS describes the page spaces in all analytic workspaces in the database.
- USER\_AW\_PS describes the page spaces in the analytic workspaces owned by the current user. This view does not display the OWNER column.

| Column      | Datatype       | NULL     | Description                                    |
|-------------|----------------|----------|------------------------------------------------|
| OWNER       | VARCHAR2 (128) | NOT NULL | Owner of the analytic workspace                |
| AW_NUMBER   | NUMBER         | NOT NULL | Number of the analytic workspace               |
| AW_NAME     | VARCHAR2 (128) |          | Name of the analytic workspace                 |
| PSNUMBER    | NUMBER (10)    |          | Number of the page space                       |
| GENERATIONS | NUMBER         |          | Number of active generations in the page space |
| MAXPAGES    | NUMBER         |          | Maximum pages allocated in the page space      |



#### See Also:

- "DBA\_AW\_PS"
- "USER\_AW\_PS"
- *Oracle OLAP User's Guide* for more information about the OLAP option for Oracle Database

## 3.117 ALL\_AWS

ALL\_AWS describes the analytic workspaces accessible to the current user.

#### Related Views

- DBA\_AWS describes all analytic workspaces in the database.
- USER\_AWS describes the analytic workspaces owned by the current user. This view does not display the OWNER column.

| Column      | Datatype       | NULL     | Description                                                                                                                                       |
|-------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER       | VARCHAR2 (128) | NOT NULL | Owner of the analytic workspace                                                                                                                   |
| AW_NUMBER   | NUMBER         | NOT NULL | Number of the analytic workspace                                                                                                                  |
| AW_NAME     | VARCHAR2 (128) |          | Name of the analytic workspace                                                                                                                    |
| AW_VERSION  | VARCHAR2 (4)   |          | Format version of the analytic workspace: <ul style="list-style-type: none"> <li>• 9.1</li> <li>• 10.1</li> <li>• 10.2</li> <li>• 11.1</li> </ul> |
| PAGESPACES  | NUMBER         |          | Number of pagespaces in the analytic workspace                                                                                                    |
| GENERATIONS | NUMBER         |          | Number of active generations in the analytic workspace                                                                                            |
| FROZEN      | VARCHAR2 (6)   |          | Freeze state of the analytic workspace: <ul style="list-style-type: none"> <li>• Frozen</li> <li>• NoThaw</li> </ul>                              |

**See Also:**

- ["DBA\\_AWS"](#)
- ["USER\\_AWS"](#)
- *Oracle OLAP User's Guide* for more information about the OLAP option for Oracle Database

## 3.118 ALL\_BASE\_TABLE\_MVIEWS

`ALL_BASE_TABLE_MVIEWS` describes the materialized views using materialized view logs accessible to the current user. A materialized view log can be created for a master, base table, or master materialized view. Query this view at the master site or the master materialized view site to show one row for each materialized view using a materialized view log.

**Related Views**

- `DBA_BASE_TABLE_MVIEWS` describes all materialized views using materialized view logs in the database.
- `USER_BASE_TABLE_MVIEWS` describes the materialized views using materialized view logs owned by the current user.

| Column                  | Datatype       | NULL     | Description                                                                  |
|-------------------------|----------------|----------|------------------------------------------------------------------------------|
| OWNER                   | VARCHAR2 (128) | NOT NULL | Schema in which the master table or the master materialized view was created |
| MASTER                  | VARCHAR2 (128) | NOT NULL | Name of the master table or the master materialized view                     |
| MVIEW_LAST_REFRESH_TIME | DATE           | NOT NULL | Date when the materialized view based on the master was last refreshed       |
| MVIEW_ID                | NUMBER (38)    |          | Unique identifier of the materialized view that is based on the master       |

**See Also:**

- ["DBA\\_BASE\\_TABLE\\_MVIEWS"](#)
- ["USER\\_BASE\\_TABLE\\_MVIEWS"](#)

## 3.119 ALL\_BLOCKCHAIN\_ROW\_VERSION\_COLS

`ALL_BLOCKCHAIN_ROW_VERSION_COLS` displays information about row versioned columns in the blockchain tables accessible to the current user.

**Related Views**

- `DBA_BLOCKCHAIN_ROW_VERSION_COLS` displays information about row versioned columns in all blockchain tables in the database.

- `USER_BLOCKCHAIN_ROW_VERSION_COLS` displays information about row versioned columns in the blockchain tables owned by the current user.

| Column           | Datatype       | NULL     | Description                                                                                                   |
|------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------|
| SCHEMA_NAME      | VARCHAR2 (128) | NOT NULL | Schema containing the blockchain table                                                                        |
| TABLE_NAME       | VARCHAR2 (128) | NOT NULL | Name of the blockchain table                                                                                  |
| ROW_VERSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the row version                                                                                       |
| USER_CHAIN       | VARCHAR2 (3)   |          | Indicates whether row versioning with user chains is enabled for the blockchain table (YES) or not (NO)       |
| KEYCOL1_NAME     | VARCHAR2 (128) | NOT NULL | Name of version key column 1                                                                                  |
| KEYCOL2_NAME     | VARCHAR2 (128) |          | Name of version key column 2<br>Null if only one version key column is specified for the row version          |
| KEYCOL3_NAME     | VARCHAR2 (128) |          | Name of version key column 3<br>Null if only one or two version key columns are specified for the row version |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_BLOCKCHAIN\\_ROW\\_VERSION\\_COLS"](#)
- ["USER\\_BLOCKCHAIN\\_ROW\\_VERSION\\_COLS"](#)

## 3.120 ALL\_BLOCKCHAIN\_ROW\_VERSION\_HISTORY

`ALL_BLOCKCHAIN_ROW_VERSION_HISTORY` provides a history of row versions in the blockchain tables accessible to the current user.

This view is populated for a blockchain table with a row version only when rows are purged from that blockchain table. For each different value of the `PDB_GUID` and `KEYCOLn_VALUE` columns, information about only the youngest purged row is kept in the view.

**Related Views**

- `DBA_BLOCKCHAIN_ROW_VERSION_HISTORY` provides a history of row versions in all blockchain tables in the database.
- `USER_BLOCKCHAIN_ROW_VERSION_HISTORY` provides a history of row versions in the blockchain tables owned by the current user. This view does not display the `SCHEMA_NAME` column.

| Column      | Datatype       | NULL     | Description                            |
|-------------|----------------|----------|----------------------------------------|
| SCHEMA_NAME | VARCHAR2 (128) | NOT NULL | Schema containing the blockchain table |

| Column           | Datatype                     | NULL     | Description                                                                                                                                                |
|------------------|------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABLE_NAME       | VARCHAR2 (128)               | NOT NULL | Name of the blockchain table                                                                                                                               |
| ROW_VERSION_NAME | VARCHAR2 (128)               | NOT NULL | Name of the row version                                                                                                                                    |
| PDB_GUID         | RAW (16)                     |          | Global unique identifier of the pluggable database that inserted the row before any GoldenGate processes might have replicated the row to another database |
| KEYCOL1_VALUE    | VARCHAR2 (400)               |          | Value associated with version key column 1                                                                                                                 |
| KEYCOL2_VALUE    | VARCHAR2 (400)               |          | Value associated with version key column 2<br>Null if only one version key column is specified for the row version                                         |
| KEYCOL3_VALUE    | VARCHAR2 (400)               |          | Value associated with version key column 3<br>Null if only one or two version key columns are specified for the row version                                |
| VERSION_NUMBER   | NUMBER                       |          | Row version number                                                                                                                                         |
| USER_CHAIN_HASH  | RAW (2000)                   |          | User chain cryptographic hash                                                                                                                              |
| ROW_CREATE_TIME  | TIMESTAMP (6) WITH TIME ZONE |          | Date and time at which the row version was created                                                                                                         |
| INST_ID          | NUMBER                       |          | Identifier of any instance using a distributed or XA transaction to append to the row version history                                                      |
| TRAN_ID          | VARCHAR2 (22)                |          | Identifier of any distributed transaction branch that is appending to the row version history                                                              |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- "DBA\_BLOCKCHAIN\_ROW\_VERSION\_HISTORY"
- "USER\_BLOCKCHAIN\_ROW\_VERSION\_HISTORY"

## 3.121 ALL\_BLOCKCHAIN\_TABLE\_CHAINS

ALL\_BLOCKCHAIN\_TABLE\_CHAINS displays system chain information for the blockchain tables accessible to the current user.

### Related Views

- DBA\_BLOCKCHAIN\_TABLE\_CHAINS displays system chain information for all blockchain tables in the database.
- USER\_BLOCKCHAIN\_TABLE\_CHAINS displays system chain information for the blockchain tables owned by the current user. This view does not display the SCHEMA\_NAME column.

| Column            | Datatype                     | NULL     | Description                                                                                                |
|-------------------|------------------------------|----------|------------------------------------------------------------------------------------------------------------|
| SCHEMA_NAME       | VARCHAR2 (128)               | NOT NULL | Name of the schema containing the blockchain table                                                         |
| TABLE_NAME        | VARCHAR2 (128)               | NOT NULL | Blockchain table name                                                                                      |
| PDB_GUID          | RAW (16)                     |          | Global unique identifier of the pluggable database that can insert rows into the chain                     |
| INSTANCE_ID       | NUMBER                       | NOT NULL | Identifier of the instance on the PDB that can insert rows into the chain                                  |
| CHAIN_ID          | NUMBER                       | NOT NULL | Chain ID number<br>By default, chains are numbered from 0 to 31.                                           |
| EPOCH_NUMBER      | NUMBER                       |          | Epoch number for this section of the chain                                                                 |
| HASH_DATA_FMT_VER | NUMBER                       |          | Hash data format version for this section of the chain                                                     |
| MIN_SEQ_NUMBER    | NUMBER                       |          | Smallest sequence number in this section of the chain                                                      |
| MAX_SEQ_NUMBER    | NUMBER                       |          | Largest sequence number in this section of the chain                                                       |
| LAST_CREATE_TIME  | TIMESTAMP (6) WITH TIME ZONE |          | Time at which the last row was added to this section of the chain                                          |
| TRAN_ID           | VARCHAR2 (22)                |          | Identifier of any distributed transaction that is appending a row to the chain                             |
| DELETED_SEQ_NUM   | NUMBER                       |          | Largest sequence number for rows in the chain that have been deleted                                       |
| DELETED_ROW_HASH  | RAW (2000)                   |          | Cryptographic hash that was stored in the row of the chain with sequence number DELETED_SEQ_NUM            |
| LAST_ROW_HASH     | RAW (2000)                   |          | Cryptographic hash stored in the last row in this section of the chain with sequence number MAX_SEQ_NUMBER |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_BLOCKCHAIN\\_TABLE\\_CHAINS"](#)
- ["USER\\_BLOCKCHAIN\\_TABLE\\_CHAINS"](#)

## 3.122 ALL\_BLOCKCHAIN\_TABLE\_EPOCHS

ALL\_BLOCKCHAIN\_TABLE\_EPOCHS displays epoch information for the blockchain tables accessible to the current user.

### Related Views

- DBA\_BLOCKCHAIN\_TABLE\_EPOCHS displays epoch information for all blockchain tables in the database.



- `USER_BLOCKCHAIN_TABLE_EPOCHS` displays epoch information for the blockchain tables owned by the current user. This view does not display the `SCHEMA_NAME` column.

| Column                                | Datatype                                 | NULL     | Description                                                                                                                                                                                                                                                     |
|---------------------------------------|------------------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>SCHEMA_NAME</code>              | <code>VARCHAR2(128)</code>               | NOT NULL | Name of the schema containing the blockchain table                                                                                                                                                                                                              |
| <code>TABLE_NAME</code>               | <code>VARCHAR2(128)</code>               | NOT NULL | Blockchain table name                                                                                                                                                                                                                                           |
| <code>EPOCH_NUMBER</code>             | <code>NUMBER</code>                      |          | Epoch number                                                                                                                                                                                                                                                    |
| <code>EPOCH_NAME</code>               | <code>VARCHAR2(11)</code>                |          | Epoch name describes the reason for the epoch and is one of the following values: <ul style="list-style-type: none"> <li>• <code>CREATE</code></li> <li>• <code>IMPORT</code></li> <li>• <code>ADD COLUMN</code></li> <li>• <code>DROP COLUMN</code></li> </ul> |
| <code>PDB_GUID</code>                 | <code>RAW(16)</code>                     |          | Global unique identifier of the pluggable database where the blockchain table epoch was created                                                                                                                                                                 |
| <code>HASH_ALGORITHM</code>           | <code>VARCHAR2(8)</code>                 |          | Algorithm used for computing the cryptographic hash on each row produced in the epoch<br>The value of this column is always <code>SHA2_512</code> .                                                                                                             |
| <code>HASH_DATA_FORMAT_VERSION</code> | <code>NUMBER</code>                      |          | Hash data format version for the epoch                                                                                                                                                                                                                          |
| <code>START_TIME</code>               | <code>TIMESTAMP(6) WITH TIME ZONE</code> |          | Time at which the epoch was created                                                                                                                                                                                                                             |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_BLOCKCHAIN\\_TABLE\\_EPOCHS"](#)
- ["USER\\_BLOCKCHAIN\\_TABLE\\_EPOCHS"](#)

## 3.123 ALL\_BLOCKCHAIN\_TABLE\_HASH\_COL\_ORDER

`ALL_BLOCKCHAIN_TABLE_HASH_COL_ORDER` displays information about columns used to compute the cryptographic hash in the blockchain tables accessible to the current user.

### Related Views

- `DBA_BLOCKCHAIN_TABLE_HASH_COL_ORDER` displays information about columns used to compute the cryptographic hash in all blockchain tables in the database.
- `USER_BLOCKCHAIN_TABLE_HASH_COL_ORDER` displays information about columns used to compute the cryptographic hash in the blockchain tables owned by the current user. This view does not display the `SCHEMA_NAME` column.

| Column             | Datatype       | NULL     | Description                                        |
|--------------------|----------------|----------|----------------------------------------------------|
| SCHEMA_NAME        | VARCHAR2 (128) | NOT NULL | Name of the schema containing the blockchain table |
| TABLE_NAME         | VARCHAR2 (128) | NOT NULL | Blockchain table name                              |
| EPOCH_NUMBER       | NUMBER         |          | Epoch number                                       |
| COLUMN_NAME        | VARCHAR2 (128) |          | Name of the user column or hidden column           |
| COLUMN_POSITION    | NUMBER         |          | Order in which the column is hashed                |
| INTERNAL_COLUMN_ID | NUMBER         |          | Internal column ID                                 |
| COLUMN_DATA_TYPE   | VARCHAR2 (106) |          | Data type of the user column or hidden column      |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_BLOCKCHAIN\\_TABLE\\_HASH\\_COL\\_ORDER"](#)
- ["USER\\_BLOCKCHAIN\\_TABLE\\_HASH\\_COL\\_ORDER"](#)

## 3.124 ALL\_BLOCKCHAIN\_TABLES

ALL\_BLOCKCHAIN\_TABLES describes the blockchain tables accessible to the current user.

### Related Views

- DBA\_BLOCKCHAIN\_TABLES describes all blockchain tables in the database.
- USER\_BLOCKCHAIN\_TABLES describes the blockchain tables owned by the current user. This view does not display the SCHEMA\_NAME column.

| Column        | Datatype       | NULL     | Description                                                                                                                                                                                                                                                |
|---------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCHEMA_NAME   | VARCHAR2 (128) | NOT NULL | The schema containing the blockchain table                                                                                                                                                                                                                 |
| TABLE_NAME    | VARCHAR2 (128) | NOT NULL | Name of the blockchain table                                                                                                                                                                                                                               |
| ROW_RETENTION | NUMBER         |          | Row retention period for the blockchain table, that is, the minimum number of days a row must be retained and cannot be deleted after it is inserted into the table<br>If the value of this column is NULL, then rows can never be deleted from the table. |

| Column                     | Datatype                     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------|------------------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ROW_RETENTION_LOCKED       | VARCHAR2 (3)                 |      | Indicates whether the row retention period for the blockchain table is locked. Possible values: <ul style="list-style-type: none"> <li>• YES: The row retention period is locked. You cannot change the row retention period</li> <li>• NO: The row retention period is not locked. You can change the row retention period to a value higher than the current value with the SQL statement <code>ALTER TABLE ... NO DELETE UNTIL n DAYS AFTER INSERT</code></li> </ul> |
| TABLE_INACTIVITY_RETENTION | NUMBER                       |      | Number of days for which the blockchain table must be inactive before it can be dropped, that is, the number of days that must pass after the most recent row insertion before the table can be dropped<br>A table with no rows can be dropped at any time, regardless of this column value.                                                                                                                                                                            |
| HASH_ALGORITHM             | VARCHAR2 (8)                 |      | Algorithm used for computing the cryptographic hash for each table row                                                                                                                                                                                                                                                                                                                                                                                                  |
| TABLE_VERSION              | VARCHAR2 (7)                 |      | Blockchain table version. Possible values: <ul style="list-style-type: none"> <li>• V1</li> <li>• V2</li> </ul>                                                                                                                                                                                                                                                                                                                                                         |
| CURRENT_EPOCH              | NUMBER                       |      | Current epoch number for the blockchain table                                                                                                                                                                                                                                                                                                                                                                                                                           |
| MAX_SYSTEM_CHAINS          | NUMBER                       |      | Number of system chains in each database instance that can link rows with a cryptographic hash                                                                                                                                                                                                                                                                                                                                                                          |
| DELETE_TIME                | TIMESTAMP (6) WITH TIME ZONE |      | Youngest threshold used to delete rows in the blockchain table                                                                                                                                                                                                                                                                                                                                                                                                          |



#### See Also:

- "DBA\_BLOCKCHAIN\_TABLES"
- "USER\_BLOCKCHAIN\_TABLES"

## 3.125 ALL\_CAPTURE

ALL\_CAPTURE displays information about the capture processes that enqueue the captured changes into queues accessible to the current user.

#### Related View

DBA\_CAPTURE displays information about all capture processes in the database.

| Column       | Datatype       | NULL | Description                                          |
|--------------|----------------|------|------------------------------------------------------|
| CAPTURE_NAME | VARCHAR2 (128) |      | Name of the capture process                          |
| QUEUE_NAME   | VARCHAR2 (128) |      | Name of the queue used for staging captured changes  |
| QUEUE_OWNER  | VARCHAR2 (128) |      | Owner of the queue used for staging captured changes |

| Column                  | Datatype       | NULL | Description                                                                                                                                                                                                                                                                   |
|-------------------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RULE_SET_NAME           | VARCHAR2 (128) |      | Name of the positive rule set used by the capture process for filtering                                                                                                                                                                                                       |
| RULE_SET_OWNER          | VARCHAR2 (128) |      | Owner of the positive rule set                                                                                                                                                                                                                                                |
| CAPTURE_USER            | VARCHAR2 (128) |      | Current user who is enqueueing captured messages                                                                                                                                                                                                                              |
| START_SCN               | NUMBER         |      | System change number (SCN) from which the capture process will start to capture changes. <code>START_SCN</code> is only modified as the result of an <code>ALTER_CAPTURE</code> statement or if the <code>FIRST_SCN</code> moves beyond the existing <code>START_SCN</code> . |
| STATUS                  | VARCHAR2 (8)   |      | Status of the capture process: <ul style="list-style-type: none"> <li>• DISABLED</li> <li>• ENABLED</li> <li>• ABORTED</li> </ul>                                                                                                                                             |
| CAPTURED_SCN            | NUMBER         |      | System change number (SCN) of the last redo log record scanned                                                                                                                                                                                                                |
| APPLIED_SCN             | NUMBER         |      | System change number (SCN) of the most recent message dequeued by the relevant apply processes. All changes below this SCN have been dequeued by all apply processes that apply changes captured by this capture process.                                                     |
| USE_DATABASE_LINK       | VARCHAR2 (3)   |      | Indicates whether the source database name is used as the database link to connect to the source database from the downstream database (YES) or not (NO). If the capture process was created at the source database, then this column will be NULL.                           |
| FIRST_SCN               | NUMBER         |      | System change number (SCN) from which the capture process can be restarted. <code>FIRST_SCN</code> indicates the lowest SCN to which the capture can be repositioned.                                                                                                         |
| SOURCE_DATABASE         | VARCHAR2 (128) |      | Global name of the source database                                                                                                                                                                                                                                            |
| SOURCE_DBID             | NUMBER         |      | Database ID of the source database                                                                                                                                                                                                                                            |
| SOURCE_RESETLOGS_SCN    | NUMBER         |      | Resetlogs system change number (SCN) of the source database                                                                                                                                                                                                                   |
| SOURCE_RESETLOGS_TIME   | NUMBER         |      | Resetlogs time of the source database                                                                                                                                                                                                                                         |
| LOGMINER_ID             | NUMBER         |      | Session ID of the Oracle LogMiner session associated with the capture process                                                                                                                                                                                                 |
| NEGATIVE_RULE_SET_NAME  | VARCHAR2 (128) |      | Name of the negative rule set used by the capture process for filtering                                                                                                                                                                                                       |
| NEGATIVE_RULE_SET_OWNER | VARCHAR2 (128) |      | Owner of the negative rule set used by the capture process for filtering                                                                                                                                                                                                      |
| MAX_CHECKPOINT_SCN      | NUMBER         |      | System change number (SCN) at which the last checkpoint was taken by the capture process                                                                                                                                                                                      |
| REQUIRED_CHECKPOINT_SCN | NUMBER         |      | Lowest checkpoint SCN for which the capture process requires redo information.<br><b>Note:</b> This SCN value does not necessarily correspond with a checkpoint SCN value.                                                                                                    |
| LOGFILE_ASSIGNMENT      | VARCHAR2 (8)   |      | Logfile assignment type for the capture process: <ul style="list-style-type: none"> <li>• IMPLICIT</li> <li>• EXPLICIT</li> </ul>                                                                                                                                             |

| Column                    | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------|-----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS_CHANGE_TIME        | DATE            |      | Time that the STATUS of the capture process was changed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ERROR_NUMBER              | NUMBER          |      | Error number if the capture process was terminated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ERROR_MESSAGE             | VARCHAR2 (4000) |      | Error message if the capture process was terminated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| VERSION                   | VARCHAR2 (64)   |      | Version number of the capture process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CAPTURE_TYPE              | VARCHAR2 (10)   |      | Type of the capture process: <ul style="list-style-type: none"> <li>DOWNSTREAM</li> <li>LOCAL</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| LAST_ENQUEUED_SCN         | NUMBER          |      | Last enqueued system change number (SCN)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CHECKPOINT_RETENTION_TIME | NUMBER          |      | Checkpoint retention time<br><b>Note:</b> When the checkpoint retention time for a capture process is set to INFINITE, then the value displayed in this column is 4294967295.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| START_TIME                | TIMESTAMP (6)   |      | Time from which the capture process will start to capture changes. START_TIME is related to START_SCN and can only be modified by an ALTER_CAPTURE statement.<br>You can modify either START_SCN or START_TIME, but not both at the same time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PURPOSE                   | VARCHAR2 (19)   |      | Purpose of the capture process: <ul style="list-style-type: none"> <li>GoldenGate Capture - A capture process configured using Oracle GoldenGate Extract in integrated capture mode</li> <li>XStream Out - A capture process in an XStream Out configuration</li> <li>AUDIT VAULT - A capture process in an audit vault configuration</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| SOURCE_ROOT_NAME          | VARCHAR2 (128)  |      | The global name of the source root database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CLIENT_NAME               | VARCHAR2 (4000) |      | Client name of the capture process. This is the outbound name for XStream Out, and the extract name for GoldenGate.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CLIENT_STATUS             | VARCHAR2 (8)    |      | Status of the client process: <ul style="list-style-type: none"> <li>DISABLED - For XStream Out if the outbound server is not running; for GoldenGate if the capture process is not running</li> <li>DETACHED - For XStream Out if the outbound server is running, but the XStream client application is not attached to it; For GoldenGate if the capture process is running, but the extract process is not attached to it</li> <li>ATTACHED - For XStream out if the outbound server is running and the XStream client application is attached to it; For GoldenGate if the capture process is running and the extract process is attached to it</li> <li>ABORTED - For XStream out if the outbound server became disabled because it encountered an error; for GoldenGate if the capture process became disabled because it encountered an error</li> </ul> |
| OLDEST_SCN                | NUMBER          |      | Oldest SCN of the transactions currently being processed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Column              | Datatype       | NULL | Description                                    |
|---------------------|----------------|------|------------------------------------------------|
| FILTERED_SCN        | NUMBER         |      | SCN of the low watermark transaction processed |
| USE_SHARED_CAPTURE  | VARCHAR2 (3)   |      | Reserved for future use                        |
| SHARED_CAPTURE_NAME | VARCHAR2 (128) |      | Reserved for future use                        |
| CONVERSION_STATE    | VARCHAR2 (34)  |      | Reserved for future use                        |
| CONVERSION_SCN      | NUMBER         |      | Reserved for future use                        |
| ALT_LOGMNR_SID      | NUMBER         |      | Reserved for future use                        |

**See Also:**

- ["DBA\\_CAPTURE"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_XSTREAM\_ADM.ENABLE\_GG\_XSTREAM\_FOR\_STREAMS procedure

## 3.126 ALL\_CAPTURE\_EXTRA\_ATTRIBUTES

ALL\_CAPTURE\_EXTRA\_ATTRIBUTES displays information about the extra attributes for the capture processes accessible to the current user.

**Related View**

DBA\_CAPTURE\_EXTRA\_ATTRIBUTES displays information about the extra attributes for all capture processes in the database.

| Column         | Datatype       | NULL     | Description                                                                    |
|----------------|----------------|----------|--------------------------------------------------------------------------------|
| CAPTURE_NAME   | VARCHAR2 (128) | NOT NULL | Name of the capture process                                                    |
| ATTRIBUTE_NAME | VARCHAR2 (128) | NOT NULL | Name of the extra attribute                                                    |
| INCLUDE        | VARCHAR2 (3)   |          | Indicates whether the extra attribute is included (YES) or not (NO)            |
| ROW_ATTRIBUTE  | VARCHAR2 (3)   |          | Indicates whether the extra attribute is a row LCR attribute (YES) or not (NO) |
| DDL_ATTRIBUTE  | VARCHAR2 (3)   |          | Indicates whether the extra attribute is a DDL LCR attribute (YES) or not (NO) |

**See Also:**

- ["DBA\\_CAPTURE\\_EXTRA\\_ATTRIBUTES"](#)

## 3.127 ALL\_CAPTURE\_PARAMETERS

ALL\_CAPTURE\_PARAMETERS displays information about the parameters for the capture processes that enqueue the captured changes into queues accessible to the current user.

### Related View

DBA\_CAPTURE\_PARAMETERS displays information about the parameters for all capture processes in the database.

| Column          | Datatype        | NULL     | Description                                                                                                                                                                                                                    |
|-----------------|-----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAPTURE_NAME    | VARCHAR2 (128)  | NOT NULL | Name of the capture process                                                                                                                                                                                                    |
| PARAMETER       | VARCHAR2 (128)  | NOT NULL | Name of the parameter                                                                                                                                                                                                          |
| VALUE           | VARCHAR2 (4000) |          | Parameter value                                                                                                                                                                                                                |
| SET_BY_USER     | VARCHAR2 (3)    |          | Indicates whether the parameter value was set by the user (YES) or was not set by the user (NO). If NO, then the parameter is set to its default value. If YES, then the parameter may or may not be set to its default value. |
| SOURCE_DATABASE | VARCHAR2 (128)  |          | Global name of the container for which the capture parameter is defined                                                                                                                                                        |



### See Also:

"DBA\_CAPTURE\_PARAMETERS"

## 3.128 ALL\_CAPTURE\_PREPARED\_DATABASE

ALL\_CAPTURE\_PREPARED\_DATABASE displays information about when the local database was prepared for instantiation. If the local database was not prepared for instantiation, then this view contains no rows.

### Related View

DBA\_CAPTURE\_PREPARED\_DATABASE displays information about when the local database was prepared for instantiation.

| Column                   | Datatype     | NULL | Description                                                                                                                                                   |
|--------------------------|--------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TIMESTAMP                | DATE         |      | Date and time at which the local database was ready to be instantiated                                                                                        |
| SUPPLEMENTAL_LOG_DATA_PK | VARCHAR2 (8) |      | Status of database-level PRIMARY KEY COLUMNS supplemental logging: <ul style="list-style-type: none"><li>• IMPLICIT</li><li>• EXPLICIT</li><li>• NO</li></ul> |

| Column                        | Datatype    | NULL | Description                                                                                                                                                    |
|-------------------------------|-------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SUPPLEMENTAL_LOG_DATA_UI      | VARCHAR2(8) |      | Status of database-level UNIQUE INDEX COLUMNS supplemental logging: <ul style="list-style-type: none"><li>• IMPLICIT</li><li>• EXPLICIT</li><li>• NO</li></ul> |
| SUPPLEMENTAL_LOG_DATA_FK      | VARCHAR2(8) |      | Status of database-level FOREIGN KEY COLUMNS supplemental logging: <ul style="list-style-type: none"><li>• IMPLICIT</li><li>• EXPLICIT</li><li>• NO</li></ul>  |
| SUPPLEMENTAL_LOG_DATA_AL<br>L | VARCHAR2(8) |      | Status of database-level ALL COLUMNS supplemental logging: <ul style="list-style-type: none"><li>• IMPLICIT</li><li>• EXPLICIT</li><li>• NO</li></ul>          |

**See Also:**

["DBA\\_CAPTURE\\_PREPARED\\_DATABASE"](#)

## 3.129 ALL\_CAPTURE\_PREPARED\_SCHEMAS

ALL\_CAPTURE\_PREPARED\_SCHEMAS displays information about the schemas prepared for instantiation that are accessible to the current user at the local database.

### Related View

DBA\_CAPTURE\_PREPARED\_SCHEMAS displays information about all schemas prepared for instantiation at the local database.

| Column                   | Datatype      | NULL     | Description                                                                                                                                                  |
|--------------------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCHEMA_NAME              | VARCHAR2(128) | NOT NULL | Name of the schema that is ready to be instantiated                                                                                                          |
| TIMESTAMP                | DATE          |          | Date and time at which the schema was ready to be instantiated                                                                                               |
| SUPPLEMENTAL_LOG_DATA_PK | VARCHAR2(8)   |          | Status of schema-level PRIMARY KEY COLUMNS supplemental logging: <ul style="list-style-type: none"><li>• IMPLICIT</li><li>• EXPLICIT</li><li>• NO</li></ul>  |
| SUPPLEMENTAL_LOG_DATA_UI | VARCHAR2(8)   |          | Status of schema-level UNIQUE INDEX COLUMNS supplemental logging: <ul style="list-style-type: none"><li>• IMPLICIT</li><li>• EXPLICIT</li><li>• NO</li></ul> |



| Column                        | Datatype    | NULL | Description                                                                                                                                                 |
|-------------------------------|-------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SUPPLEMENTAL_LOG_DATA_FK      | VARCHAR2(8) |      | Status of schema-level FOREIGN KEY COLUMNS supplemental logging: <ul style="list-style-type: none"><li>• IMPLICIT</li><li>• EXPLICIT</li><li>• NO</li></ul> |
| SUPPLEMENTAL_LOG_DATA_AL<br>L | VARCHAR2(8) |      | Status of schema-level ALL COLUMNS supplemental logging: <ul style="list-style-type: none"><li>• IMPLICIT</li><li>• EXPLICIT</li><li>• NO</li></ul>         |

**See Also:**["DBA\\_CAPTURE\\_PREPARED\\_SCHEMAS"](#)

## 3.130 ALL\_CAPTURE\_PREPARED\_TABLES

ALL\_CAPTURE\_PREPARED\_TABLES displays information about the tables prepared for instantiation that are accessible to the current user at the local database.

### Related View

DBA\_CAPTURE\_PREPARED\_TABLES displays information about all tables prepared for instantiation at the local database.

| Column                   | Datatype      | NULL     | Description                                                                                                                                                 |
|--------------------------|---------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABLE_OWNER              | VARCHAR2(128) | NOT NULL | Owner of the table that is ready to be instantiated                                                                                                         |
| TABLE_NAME               | VARCHAR2(128) | NOT NULL | Name of the table that is ready to be instantiated                                                                                                          |
| SCN                      | NUMBER        | NOT NULL | Smallest system change number (SCN) for which the table can be instantiated                                                                                 |
| TIMESTAMP                | DATE          |          | Date and time at which the table was ready to be instantiated                                                                                               |
| SUPPLEMENTAL_LOG_DATA_PK | VARCHAR2(8)   |          | Status of table-level PRIMARY KEY COLUMNS supplemental logging: <ul style="list-style-type: none"><li>• IMPLICIT</li><li>• EXPLICIT</li><li>• NO</li></ul>  |
| SUPPLEMENTAL_LOG_DATA_UI | VARCHAR2(8)   |          | Status of table-level UNIQUE INDEX COLUMNS supplemental logging: <ul style="list-style-type: none"><li>• IMPLICIT</li><li>• EXPLICIT</li><li>• NO</li></ul> |
| SUPPLEMENTAL_LOG_DATA_FK | VARCHAR2(8)   |          | Status of table-level FOREIGN KEY COLUMNS supplemental logging: <ul style="list-style-type: none"><li>• IMPLICIT</li><li>• EXPLICIT</li><li>• NO</li></ul>  |

| Column                        | Datatype     | NULL | Description                                                                                                                                        |
|-------------------------------|--------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| SUPPLEMENTAL_LOG_DATA_AL<br>L | VARCHAR2 (8) |      | Status of table-level ALL COLUMNS supplemental logging: <ul style="list-style-type: none"><li>• IMPLICIT</li><li>• EXPLICIT</li><li>• NO</li></ul> |

**See Also:**

"DBA\_CAPTURE\_PREPARED\_TABLES"

## 3.131 ALL\_CATALOG

ALL\_CATALOG displays the tables, clusters, views, synonyms, and sequences accessible to the current user.

### Related Views

- DBA\_CATALOG displays all tables, clusters, views, synonyms, and sequences in the entire database.
- USER\_CATALOG displays the tables, clusters, views, synonyms, and sequences in the current user's schema. This view does not display the OWNER column.

| Column     | Datatype       | NULL     | Description                                                        |
|------------|----------------|----------|--------------------------------------------------------------------|
| OWNER      | VARCHAR2 (128) | NOT NULL | Owner of the TABLE, CLUSTER, VIEW, SYNONYM, SEQUENCE, or UNDEFINED |
| TABLE_NAME | VARCHAR2 (128) | NOT NULL | Name of the TABLE, CLUSTER, VIEW, SYNONYM, SEQUENCE, or UNDEFINED  |
| TABLE_TYPE | VARCHAR2 (11)  |          | Type of the TABLE, CLUSTER, VIEW, SYNONYM, SEQUENCE, or UNDEFINED  |

**See Also:**

- "DBA\_CATALOG"
- "USER\_CATALOG"

## 3.132 ALL\_CERTIFICATES

ALL\_CERTIFICATES displays the certificates accessible to the current user which are used for signature verification for blockchain tables.

### Related Views

- DBA\_CERTIFICATES displays all certificates in the database which are used for signature verification for blockchain tables.
- USER\_CERTIFICATES displays the certificates added by the current user which are used for signature verification for blockchain tables. This view does not display the USER\_NAME column.

| Column             | Datatype        | NULL     | Description                                              |
|--------------------|-----------------|----------|----------------------------------------------------------|
| CERTIFICATE_ID     | RAW (16)        | NOT NULL | ID for the certificate                                   |
| USER_NAME          | VARCHAR2 (128)  | NOT NULL | User who added the certificate                           |
| DISTINGUISHED_NAME | VARCHAR2 (2000) |          | Uniquely identifies the entity that owns the certificate |
| CERTIFICATE        | BLOB            |          | Contents of the certificate                              |



### See Also:

- "DBA\_CERTIFICATES"
- "USER\_CERTIFICATES"

## 3.133 ALL\_CLUSTER\_HASH\_EXPRESSIONS

ALL\_CLUSTER\_HASH\_EXPRESSIONS displays hash functions for all hash clusters accessible to the current user.

### Related Views

- DBA\_CLUSTER\_HASH\_EXPRESSIONS displays hash functions for all hash clusters in the database.
- USER\_CLUSTER\_HASH\_EXPRESSIONS displays hash functions for all hash clusters owned by the current user.

| Column          | Datatype       | NULL     | Description                                   |
|-----------------|----------------|----------|-----------------------------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the cluster                          |
| CLUSTER_NAME    | VARCHAR2 (128) | NOT NULL | Name of the cluster                           |
| HASH_EXPRESSION | LONG           |          | Text of the hash function of the hash cluster |

 **See Also:**

- ["DBA\\_CLUSTER\\_HASH\\_EXPRESSIONS"](#)
- ["USER\\_CLUSTER\\_HASH\\_EXPRESSIONS"](#)

## 3.134 ALL\_CLUSTERING\_DIMENSIONS

ALL\_CLUSTERING\_DIMENSIONS describes dimension tables associated with tables with an attribute clustering clause that the user owns or has system privileges for.

### Related Views

- DBA\_CLUSTERING\_DIMENSIONS describes dimension tables associated with all tables with an attribute clustering clause in the database.
- USER\_CLUSTERING\_DIMENSIONS describes dimension tables associated with tables with an attribute clustering clause owned by the user. This view does not display the OWNER column.

| Column          | Datatype       | NULL     | Description                             |
|-----------------|----------------|----------|-----------------------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the attribute clustering table |
| TABLE_NAME      | VARCHAR2 (128) | NOT NULL | Name of the attribute clustering table  |
| DIMENSION_OWNER | VARCHAR2 (128) | NOT NULL | Owner of the dimension table            |
| DIMENSION_NAME  | VARCHAR2 (128) | NOT NULL | Name of the dimension table             |

 **See Also:**

- ["DBA\\_CLUSTERING\\_DIMENSIONS"](#)
- ["USER\\_CLUSTERING\\_DIMENSIONS"](#)
- The ALTER TABLE section in *Oracle Database SQL Language Reference* for information about using the CLUSTERING clause to create an attribute clustering table
- The CREATE TABLE section in *Oracle Database SQL Language Reference* for information about using the CLUSTERING clause to create an attribute clustering table
- *Oracle Database Data Warehousing Guide* for information about dimension tables
- *Oracle Database Data Warehousing Guide* for information about attribute clustering with zone maps

## 3.135 ALL\_CLUSTERING\_JOINS

ALL\_CLUSTERING\_JOINS describes joins to the dimension tables associated with tables with an attribute clustering clause the user owns or has system privileges for.

### Related Views

- DBA\_CLUSTERING\_JOINS describes joins to the dimension tables associated with all tables with an attribute clustering clause in the database.
- USER\_CLUSTERING\_JOINS describes joins to the dimension tables associated with tables with an attribute clustering clause owned by the user. This view does not display the OWNER column.

| Column      | Datatype       | NULL     | Description                             |
|-------------|----------------|----------|-----------------------------------------|
| OWNER       | VARCHAR2 (128) | NOT NULL | Owner of the attribute clustering table |
| TABLE_NAME  | VARCHAR2 (128) | NOT NULL | Name of the attribute clustering table  |
| TAB1_OWNER  | VARCHAR2 (128) | NOT NULL | Table 1 owner of the join               |
| TAB1_NAME   | VARCHAR2 (128) | NOT NULL | Table 1 name of the join                |
| TAB1_COLUMN | VARCHAR2 (128) | NOT NULL | Table 1 column name of the join         |
| TAB2_OWNER  | VARCHAR2 (128) | NOT NULL | Table 2 owner of the join               |
| TAB2_NAME   | VARCHAR2 (128) | NOT NULL | Table 2 name of the join                |
| TAB2_COLUMN | VARCHAR2 (128) | NOT NULL | Table 2 column name of the join         |



### See Also:

- "DBA\_CLUSTERING\_JOINS"
- "USER\_CLUSTERING\_JOINS"
- The ALTER TABLE section in *Oracle Database SQL Language Reference* for information about using the CLUSTERING clause to create an attribute clustering table
- The CREATE TABLE section in *Oracle Database SQL Language Reference* for information about using the CLUSTERING clause to create an attribute clustering table
- *Oracle Database Data Warehousing Guide* for information about dimension tables
- *Oracle Database Data Warehousing Guide* for information about attribute clustering with zone maps

## 3.136 ALL\_CLUSTERING\_KEYS

ALL\_CLUSTERING\_KEYS describes clustering keys for tables with an attribute clustering clause accessible to the user.

### Related Views

- DBA\_CLUSTERING\_KEYS describes clustering keys for all tables with an attribute clustering clause.
- USER\_CLUSTERING\_KEYS describes clustering keys for tables with an attribute clustering clause owned by the user.

| Column        | Datatype       | NULL     | Description                                                     |
|---------------|----------------|----------|-----------------------------------------------------------------|
| OWNER         | VARCHAR2 (128) | NOT NULL | Owner of the table on which the clustering clause is defined    |
| TABLE_NAME    | VARCHAR2 (128) | NOT NULL | Name of the table on which the clustering clause is defined     |
| DETAIL_OWNER  | VARCHAR2 (128) | NOT NULL | Owner of the detailed table contributing to the clustering keys |
| DETAIL_NAME   | VARCHAR2 (128) | NOT NULL | Name of the detailed table contributing to the clustering keys  |
| DETAIL_COLUMN | VARCHAR2 (128) | NOT NULL | Name of the detail column                                       |
| POSITION      | NUMBER         | NOT NULL | Position of the column in the clustering clause                 |
| GROUPID       | NUMBER         | NOT NULL | Group ID of the column in the clustering clause                 |



### See Also:

- "DBA\_CLUSTERING\_KEYS"
- "USER\_CLUSTERING\_KEYS"
- The ALTER TABLE section in *Oracle Database SQL Language Reference* for information about using the CLUSTERING clause to create an attribute clustering table
- The CREATE TABLE section in *Oracle Database SQL Language Reference* for information about using the CLUSTERING clause to create an attribute clustering table
- *Oracle Database Data Warehousing Guide* for information about dimension tables
- *Oracle Database Data Warehousing Guide* for information about attribute clustering with zone maps

## 3.137 ALL\_CLUSTERING\_TABLES

ALL\_CLUSTERING\_TABLES describes tables with an attribute clustering clause that are accessible to the user.

### Related Views

- DBA\_CLUSTERING\_TABLES describes all the tables with an attribute clustering clause.
- USER\_CLUSTERING\_TABLES describes the tables with an attribute clustering clause owned by the user.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TABLE_NAME         | VARCHAR2 (128) | NOT NULL | Name of the table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CLUSTERING_TYPE    | VARCHAR2 (11)  |          | Clustering type: <ul style="list-style-type: none"><li>• INTERLEAVED</li><li>• LINEAR</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                   |
| ON_LOAD            | VARCHAR2 (3)   |          | Indicates whether Oracle will cluster data on load (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ON_DATAMOVEMENT    | VARCHAR2 (3)   |          | Indicates whether Oracle will cluster data on data movement, for example, partition move (YES), or not (NO)                                                                                                                                                                                                                                                                                                                                                                                       |
| VALID              | VARCHAR2 (3)   |          | Indicates if clustering is valid (YES) or not (NO).<br>For clustering with dimension tables, it is required that the joins of the fact table to the dimensions is via primary key or unique key on the dimension table. Therefore, dimension join keys must have a valid primary key or unique key constraint. If the primary key or unique key constraint is not valid, then clustering will not occur.<br>If there are no joins in the CLUSTERING clause, then the value of this column is YES. |
| WITH_ZONEMAP       | VARCHAR2 (3)   |          | Indicates if a zonemap was created with clustering (YES) or not (NO).                                                                                                                                                                                                                                                                                                                                                                                                                             |
| LAST_LOAD_CLST     | TIMESTAMP (6)  |          | Last time the clustering occurred on load                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LAST_DATAMOVE_CLST | TIMESTAMP (6)  |          | Last time the clustering occurred on data movement, for example, partition move                                                                                                                                                                                                                                                                                                                                                                                                                   |

 **See Also:**

- "DBA\_CLUSTERING\_TABLES"
- "USER\_CLUSTERING\_TABLES"
- The ALTER TABLE section in *Oracle Database SQL Language Reference* for information about using the CLUSTERING clause to create an attribute clustering table
- The CREATE TABLE section in *Oracle Database SQL Language Reference* for information about using the CLUSTERING clause to create an attribute clustering table
- *Oracle Database Data Warehousing Guide* for information about dimension tables
- *Oracle Database Data Warehousing Guide* for information about attribute clustering with zone maps

## 3.138 ALL\_CLUSTERS

ALL\_CLUSTERS describes all clusters accessible to the current user.

### Related Views

- DBA\_CLUSTERS describes all clusters in the database.
- USER\_CLUSTERS describes all clusters owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                     |
|--------------------|----------------|----------|-----------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the cluster                                            |
| CLUSTER_NAME       | VARCHAR2 (128) | NOT NULL | Name of the cluster                                             |
| TABLESPACE_NAME    | VARCHAR2 (30)  | NOT NULL | Name of the tablespace containing the cluster                   |
| PCT_FREE           | NUMBER         |          | Minimum percentage of free space in a block                     |
| PCT_USED           | NUMBER         |          | Minimum percentage of used space in a block                     |
| KEY_SIZE           | NUMBER         |          | Estimated size of cluster key plus associated rows              |
| INI_TRANS          | NUMBER         | NOT NULL | Initial number of transactions                                  |
| MAX_TRANS          | NUMBER         | NOT NULL | Maximum number of transactions                                  |
| INITIAL_EXTENT     | NUMBER         |          | Size of the initial extent in bytes                             |
| NEXT_EXTENT        | NUMBER         |          | Size of secondary extents in bytes                              |
| MIN_EXTENTS        | NUMBER         | NOT NULL | Minimum number of extents allowed in the segment                |
| MAX_EXTENTS        | NUMBER         | NOT NULL | Maximum number of extents allowed in the segment                |
| PCT_INCREASE       | NUMBER         |          | Percentage increase in extent size                              |
| FREELISTS          | NUMBER         |          | Number of process freelists allocated to this segment           |
| FREELIST_GROUPS    | NUMBER         |          | Number of freelist groups allocated to this segment             |
| AVG_BLOCKS_PER_KEY | NUMBER         |          | Number of blocks in the table divided by number of cluster keys |



| Column           | Datatype      | NULL | Description                                                                                                                                                                                                                                 |
|------------------|---------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CLUSTER_TYPE     | VARCHAR2 (5)  |      | Type of the cluster: <ul style="list-style-type: none"> <li>• INDEX - B*-Tree index</li> <li>• HASH - Hash</li> </ul>                                                                                                                       |
| FUNCTION         | VARCHAR2 (15) |      | If the cluster is a hash cluster, the hash function                                                                                                                                                                                         |
| HASHKEYS         | NUMBER        |      | If the cluster is a hash cluster, the number of hash keys (hash buckets)                                                                                                                                                                    |
| DEGREE           | VARCHAR2 (10) |      | Number of threads per instance for scanning the cluster, or DEFAULT                                                                                                                                                                         |
| INSTANCES        | VARCHAR2 (10) |      | Number of instances across which the cluster is to be scanned , or DEFAULT                                                                                                                                                                  |
| CACHE            | VARCHAR2 (5)  |      | Indicates whether the cluster is to be cached in the buffer cache (Y) or not (N)                                                                                                                                                            |
| BUFFER_POOL      | VARCHAR2 (7)  |      | Buffer pool to be used for cluster blocks: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• RECYCLE</li> <li>• NULL</li> </ul>                                                                                   |
| FLASH_CACHE      | VARCHAR2 (7)  |      | Database Smart Flash Cache hint to be used for cluster blocks: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> Solaris and Oracle Linux functionality only.                                     |
| CELL_FLASH_CACHE | VARCHAR2 (7)  |      | Cell flash cache hint to be used for cluster blocks: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> <b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information |
| SINGLE_TABLE     | VARCHAR2 (5)  |      | Indicates whether this is a single-table cluster (Y) or not (N)                                                                                                                                                                             |
| DEPENDENCIES     | VARCHAR2 (8)  |      | Indicates whether row-level dependency tracking is enabled (ENABLED) or disabled (DISABLED)                                                                                                                                                 |



#### See Also:

- "DBA\_CLUSTERS"
- "USER\_CLUSTERS"

## 3.139 ALL\_CODE\_ROLE\_PRIVS

ALL\_CODE\_ROLE\_PRIVS describes all the roles that are associated with program units owned or accessible by the current user.

### Related Views

- DBA\_CODE\_ROLE\_PRIVS describes all the roles that are associated with program units in the database.
- USER\_CODE\_ROLE\_PRIVS describes all the roles that are associated with program units owned by current user. This view does not display the OWNER column.

| Column      | Datatype       | NULL     | Description                         |
|-------------|----------------|----------|-------------------------------------|
| OWNER       | VARCHAR2 (128) | NOT NULL | Username of the owner of the object |
| OBJECT_NAME | VARCHAR2 (128) | NOT NULL | Name of the object                  |
| OBJECT_TYPE | VARCHAR2 (9)   |          | Type of the object                  |
| ROLE        | VARCHAR2 (128) | NOT NULL | The role associated with the object |

### See Also:

- "DBA\_CODE\_ROLE\_PRIVS"
- "USER\_CODE\_ROLE\_PRIVS"
- *Oracle Database Security Guide* for more information about granting and revoking roles to and from program units

## 3.140 ALL\_COL\_COMMENTS

ALL\_COL\_COMMENTS displays comments on the columns of the tables and views accessible to the current user.

### Related Views

- DBA\_COL\_COMMENTS displays comments on the columns of all tables and views in the database.
- USER\_COL\_COMMENTS displays comments on the columns of the tables and views owned by the current user. This view does not display the OWNER column.

| Column      | Datatype        | NULL     | Description           |
|-------------|-----------------|----------|-----------------------|
| OWNER       | VARCHAR2 (128)  | NOT NULL | Owner of the object   |
| TABLE_NAME  | VARCHAR2 (128)  | NOT NULL | Name of the object    |
| COLUMN_NAME | VARCHAR2 (128)  | NOT NULL | Name of the column    |
| COMMENTS    | VARCHAR2 (4000) |          | Comment on the column |

| Column        | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                               |
|---------------|----------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGIN_CON_ID | NUMBER   |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with the ID <i>n</i> (<i>n</i>=1 if the data originates in root)</li> </ul> |



#### See Also:

- "DBA\_COL\_COMMENTS"
- "USER\_COL\_COMMENTS"

## 3.141 ALL\_COL\_PENDING\_STATS

ALL\_COL\_PENDING\_STATS describes the pending statistics of the columns accessible to the current user.

#### Related Views

- DBA\_COL\_PENDING\_STATS describes the pending statistics of all columns in the database.
- USER\_COL\_PENDING\_STATS describes the pending statistics of the columns owned by the current user. This view does not display the OWNER column.

| Column            | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                             |
|-------------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER             | VARCHAR2 (128) |      | Owner of the table                                                                                                                                                                                                                                                                                                                      |
| TABLE_NAME        | VARCHAR2 (128) |      | Name of the table                                                                                                                                                                                                                                                                                                                       |
| PARTITION_NAME    | VARCHAR2 (128) |      | Name of the partition                                                                                                                                                                                                                                                                                                                   |
| SUBPARTITION_NAME | VARCHAR2 (128) |      | Name of the subpartition                                                                                                                                                                                                                                                                                                                |
| COLUMN_NAME       | VARCHAR2 (128) |      | Name of the column                                                                                                                                                                                                                                                                                                                      |
| NUM_DISTINCT      | NUMBER         |      | Number of distinct values in the column                                                                                                                                                                                                                                                                                                 |
| LOW_VALUE         | RAW (32)       |      | Low value in the column                                                                                                                                                                                                                                                                                                                 |
| HIGH_VALUE        | RAW (32)       |      | High value in the column                                                                                                                                                                                                                                                                                                                |
| DENSITY           | NUMBER         |      | If a histogram is available on COLUMN_NAME, then this column displays the selectivity of a value that spans fewer than 2 endpoints in the histogram. It does not represent the selectivity of values that span 2 or more endpoints.<br>If a histogram is not available on COLUMN_NAME, then the value of this column is 1/NUM_DISTINCT. |
| NUM_NULLS         | NUMBER         |      | Number of NULLs in the column                                                                                                                                                                                                                                                                                                           |
| AVG_COL_LEN       | NUMBER         |      | Average length of the column (in bytes)                                                                                                                                                                                                                                                                                                 |
| SAMPLE_SIZE       | NUMBER         |      | Sample size used in analyzing the column                                                                                                                                                                                                                                                                                                |
| LAST_ANALYZED     | DATE           |      | Most recent date on which the column was analyzed                                                                                                                                                                                                                                                                                       |

**See Also:**

- "DBA\_COL\_PENDING\_STATS"
- "USER\_COL\_PENDING\_STATS"

## 3.142 ALL\_COL\_PRIVS

ALL\_COL\_PRIVS describes the following types of grants:

- Column object grants for which the current user is the object owner, grantor, or grantee
- Column object grants for which an enabled role or PUBLIC is the grantee

**Related Views**

- DBA\_COL\_PRIVS describes all column object grants in the database.
- USER\_COL\_PRIVS describes the column object grants for which the current user is the object owner, grantor, or grantee.

| Column       | Datatype       | NULL | Description                                                                                                                                                                                                                                            |
|--------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GRANTOR      | VARCHAR2 (128) |      | Name of the user who performed the grant                                                                                                                                                                                                               |
| GRANTEE      | VARCHAR2 (128) |      | Name of the user or role to whom access was granted                                                                                                                                                                                                    |
| TABLE_SCHEMA | VARCHAR2 (128) |      | Schema of the object                                                                                                                                                                                                                                   |
| TABLE_NAME   | VARCHAR2 (128) |      | Name of the object                                                                                                                                                                                                                                     |
| COLUMN_NAME  | VARCHAR2 (128) |      | Name of the column                                                                                                                                                                                                                                     |
| PRIVILEGE    | VARCHAR2 (40)  |      | Privilege on the column: <ul style="list-style-type: none"><li>• INSERT</li><li>• REFERENCES</li><li>• UPDATE</li></ul>                                                                                                                                |
| GRANTABLE    | VARCHAR2 (3)   |      | Indicates whether the privilege was granted with the GRANT OPTION (YES) or not (NO)                                                                                                                                                                    |
| COMMON       | VARCHAR2 (3)   |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"><li>• YES if the privilege was granted commonly (CONTAINER=ALL was used)</li><li>• NO if the privilege was granted locally (CONTAINER=ALL was not used)</li></ul> |
| INHERITED    | VARCHAR2 (3)   |      | Indicates whether the privilege grant was inherited from another container (YES) or not (NO)                                                                                                                                                           |

**See Also:**

- "DBA\_COL\_PRIVS"
- "USER\_COL\_PRIVS"

## 3.143 ALL\_COL\_PRIVS\_MADE

ALL\_COL\_PRIVS\_MADE describes the column object grants for which the current user is the object owner or grantor.

### Related View

USER\_COL\_PRIVS\_MADE describes the column object grants for which the current user is the object owner. This view does not display the OWNER column.

| Column      | Datatype       | NULL | Description                                                                                                                                                                                                                                            |
|-------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GRANTEE     | VARCHAR2 (128) |      | Name of the user or role to whom access was granted                                                                                                                                                                                                    |
| OWNER       | VARCHAR2 (128) |      | Owner of the object                                                                                                                                                                                                                                    |
| TABLE_NAME  | VARCHAR2 (128) |      | Name of the object                                                                                                                                                                                                                                     |
| COLUMN_NAME | VARCHAR2 (128) |      | Name of the column                                                                                                                                                                                                                                     |
| GRANTOR     | VARCHAR2 (128) |      | Name of the user who performed the grant                                                                                                                                                                                                               |
| PRIVILEGE   | VARCHAR2 (40)  |      | Privilege on the column: <ul style="list-style-type: none"><li>• INSERT</li><li>• REFERENCES</li><li>• UPDATE</li></ul>                                                                                                                                |
| GRANTABLE   | VARCHAR2 (3)   |      | Indicates whether the privilege was granted with the GRANT OPTION (YES) or not (NO)                                                                                                                                                                    |
| COMMON      | VARCHAR2 (3)   |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"><li>• YES if the privilege was granted commonly (CONTAINER=ALL was used)</li><li>• NO if the privilege was granted locally (CONTAINER=ALL was not used)</li></ul> |
| INHERITED   | VARCHAR2 (3)   |      | Indicates whether the privilege grant was inherited from another container (YES) or not (NO)                                                                                                                                                           |



### See Also:

"USER\_COL\_PRIVS\_MADE"

## 3.144 ALL\_COL\_PRIVS\_RECD

ALL\_COL\_PRIVS\_RECD describes the following types of grants:

- Column object grants for which the current user is the grantee
- Column object grants for which an enabled role or PUBLIC is the grantee

### Related View

USER\_COL\_PRIVS\_RECD describes the column object grants for which the current user is the grantee. This view does not display the GRANTEE column.

| Column      | Datatype       | NULL | Description                                                                                                                                                                                                                                               |
|-------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GRANTEE     | VARCHAR2 (128) |      | Name of the user or role to whom access was granted                                                                                                                                                                                                       |
| OWNER       | VARCHAR2 (128) |      | Owner of the object                                                                                                                                                                                                                                       |
| TABLE_NAME  | VARCHAR2 (128) |      | Name of the object                                                                                                                                                                                                                                        |
| COLUMN_NAME | VARCHAR2 (128) |      | Name of the column                                                                                                                                                                                                                                        |
| GRANTOR     | VARCHAR2 (128) |      | Name of the user who performed the grant                                                                                                                                                                                                                  |
| PRIVILEGE   | VARCHAR2 (40)  |      | Privilege on the column: <ul style="list-style-type: none"> <li>• INSERT</li> <li>• REFERENCES</li> <li>• UPDATE</li> </ul>                                                                                                                               |
| GRANTABLE   | VARCHAR2 (3)   |      | Indicates whether the privilege was granted with the GRANT OPTION (YES) or not (NO)                                                                                                                                                                       |
| COMMON      | VARCHAR2 (3)   |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"> <li>• YES if the privilege was granted commonly (CONTAINER=ALL was used)</li> <li>• NO if the privilege was granted locally (CONTAINER=ALL was not used)</li> </ul> |
| INHERITED   | VARCHAR2 (3)   |      | Indicates whether the privilege grant was inherited from another container (YES) or not (NO)                                                                                                                                                              |



#### See Also:

"USER\_COL\_PRIVS\_RECD"

## 3.145 ALL\_COLL\_TYPES

ALL\_COLL\_TYPES describes all named collection types (varrays and nested tables) accessible to the current user.

#### Related Views

- DBA\_COLL\_TYPES describes all named collection types in the database.
- USER\_COLL\_TYPES describes all named collection types owned by the current user. This view does not display the OWNER column.

| Column          | Datatype       | NULL     | Description                                                                                                   |
|-----------------|----------------|----------|---------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the collection                                                                                       |
| TYPE_NAME       | VARCHAR2 (128) | NOT NULL | Name of the collection                                                                                        |
| COLL_TYPE       | VARCHAR2 (128) | NOT NULL | Description of the collection, such as VARYING ARRAY, [nested] TABLE                                          |
| UPPER_BOUND     | NUMBER         |          | For varrays only, maximum size                                                                                |
| ELEM_TYPE_MOD   | VARCHAR2 (7)   |          | Type modifier of the element                                                                                  |
| ELEM_TYPE_OWNER | VARCHAR2 (128) |          | Owner of the type upon which the collection is based. This value is useful primarily for a user-defined type. |

| Column             | Datatype       | NULL | Description                                                                                                                                                   |
|--------------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ELEM_TYPE_NAME     | VARCHAR2 (128) |      | Name of the data type or user-defined type upon which the collection is based                                                                                 |
| LENGTH             | NUMBER         |      | Length of CHAR elements or maximum length of VARCHAR or VARCHAR2 elements                                                                                     |
| PRECISION          | NUMBER         |      | Decimal precision of NUMBER or DECIMAL elements; binary precision of FLOAT elements                                                                           |
| SCALE              | NUMBER         |      | Scale of NUMBER or DECIMAL elements                                                                                                                           |
| CHARACTER_SET_NAME | VARCHAR2 (44)  |      | Name of the character set (CHAR_CS   NCHAR_CS)                                                                                                                |
| ELEM_STORAGE       | VARCHAR2 (7)   |      | Obsolete column                                                                                                                                               |
| NULLS_STORED       | VARCHAR2 (3)   |      | Obsolete column                                                                                                                                               |
| CHAR_USED          | VARCHAR2 (1)   |      | Indicates whether the attribute uses BYTE length semantics (B) or CHAR length semantics (C). For NCHAR and NVARCHAR2 attribute types, this value is always C. |



#### See Also:

- "DBA\_COLL\_TYPES"
- "USER\_COLL\_TYPES"

## 3.146 ALL\_CONS\_COLUMNS

ALL\_CONS\_COLUMNS describes columns that are accessible to the current user and that are specified in constraints.

#### Related Views

- DBA\_CONS\_COLUMNS describes all columns in the database that are specified in constraints.
- USER\_CONS\_COLUMNS describes columns that are owned by the current user and that are specified in constraints.

| Column          | Datatype       | NULL     | Description                                                                                                                                                                                                                               |
|-----------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the constraint definition                                                                                                                                                                                                        |
| CONSTRAINT_NAME | VARCHAR2 (128) | NOT NULL | Name of the constraint definition<br>If the constraint is inherited from a data use case domain specified for the column, a system-generated constraint name is displayed, not the constraint name specified in the data use case domain. |
| TABLE_NAME      | VARCHAR2 (128) | NOT NULL | Name of the table with the constraint definition                                                                                                                                                                                          |

| Column       | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------|-----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COLUMN_NAME  | VARCHAR2 (4000) |      | Name of the column or attribute of the object type column specified in the constraint definition<br><b>Note:</b> If you create a constraint on a user-defined REF column, the system creates the constraint on the attributes that make up the REF column. Therefore, the column names displayed in this view are the attribute names, with the REF column name as a prefix, in the following form:<br><br>"REF_name"."attribute" |
| POSITION     | NUMBER          |      | Original position of the column or attribute in the definition of the object                                                                                                                                                                                                                                                                                                                                                      |
| DOMAIN_OWNER | VARCHAR2 (128)  |      | If the constraint is inherited from a data use case domain specified for the column, the owner of the data use case domain                                                                                                                                                                                                                                                                                                        |
| DOMAIN_NAME  | VARCHAR2 (128)  |      | If the constraint is inherited from a data use case domain specified for the column, the name of the data use case domain                                                                                                                                                                                                                                                                                                         |

**See Also:**

- "DBA\_CONS\_COLUMNS"
- "USER\_CONS\_COLUMNS"

## 3.147 ALL\_CONS\_OBJ\_COLUMNS

ALL\_CONS\_OBJ\_COLUMNS displays information about the types that object columns (or attributes) or collection elements have been constrained to, in the tables accessible to the current user.

### Related Views

- DBA\_CONS\_OBJ\_COLUMNS displays information about the types that object columns (or attributes) or collection elements have been constrained to, in all tables in the database.
- USER\_CONS\_OBJ\_COLUMNS displays information about the types that object columns (or attributes) or collection elements have been constrained to, in the tables owned by the current user. This view does not display the OWNER column.

| Column          | Datatype        | NULL | Description                                                      |
|-----------------|-----------------|------|------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128)  |      | Owner of the table                                               |
| TABLE_NAME      | VARCHAR2 (128)  |      | Name of the table containing the object column or attribute      |
| COLUMN_NAME     | VARCHAR2 (4000) |      | Fully qualified name of the object column or attribute           |
| CONS_TYPE_OWNER | VARCHAR2 (128)  |      | Owner of the type that the column (or element) is constrained to |
| CONS_TYPE_NAME  | VARCHAR2 (128)  |      | Name of the type that the column (or element) is constrained to  |



| Column         | Datatype      | NULL | Description                                                                                 |
|----------------|---------------|------|---------------------------------------------------------------------------------------------|
| CONS_TYPE_ONLY | VARCHAR2 (15) |      | Indicates whether the column (or element) is constrained to <b>ONLY</b> type (Y) or not (N) |



#### See Also:

- ["DBA\\_CONS\\_OBJ\\_COLUMNS"](#)
- ["USER\\_CONS\\_OBJ\\_COLUMNS"](#)

## 3.148 ALL\_CONSTRAINTS

ALL\_CONSTRAINTS describes constraint definitions on tables accessible to the current user.

### Related Views

- [DBA\\_CONSTRAINTS](#) describes all constraint definitions in the database.
- [USER\\_CONSTRAINTS](#) describes constraint definitions on tables in the current user's schema.

| Column              | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------|-----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128)  |      | Owner of the constraint definition                                                                                                                                                                                                                                                                                                                                                                                            |
| CONSTRAINT_NAME     | VARCHAR2 (128)  |      | Name of the constraint definition<br>If the constraint is defined in a data use case domain, this column displays a system-generated constraint name. The constraint name specified in the data use case domain is displayed in DOMAIN_CONSTRAINT_NAME.                                                                                                                                                                       |
| CONSTRAINT_TYPE     | VARCHAR2 (1)    |      | Type of the constraint definition: <ul style="list-style-type: none"> <li>• C - Check constraint on a table</li> <li>• P - Primary key</li> <li>• U - Unique key</li> <li>• R - Referential integrity</li> <li>• V - With check option, on a view</li> <li>• O - With read only, on a view</li> <li>• H - Hash expression</li> <li>• F - Constraint that involves a REF column</li> <li>• S - Supplemental logging</li> </ul> |
| TABLE_NAME          | VARCHAR2 (128)  |      | Name associated with the table (or view) with the constraint definition                                                                                                                                                                                                                                                                                                                                                       |
| SEARCH_CONDITION    | LONG            |      | Text of search condition for a check constraint. This column returns the correct value only when the row originates from the current container.                                                                                                                                                                                                                                                                               |
| SEARCH_CONDITION_VC | VARCHAR2 (4000) |      | Text of search condition for a check constraint. This column may truncate the search condition.                                                                                                                                                                                                                                                                                                                               |
| R_OWNER             | VARCHAR2 (128)  |      | Owner of the table referred to in a referential constraint                                                                                                                                                                                                                                                                                                                                                                    |
| R_CONSTRAINT_NAME   | VARCHAR2 (128)  |      | Name of the unique constraint definition for the referenced table                                                                                                                                                                                                                                                                                                                                                             |

| Column                 | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DOMAIN_OWNER           | VARCHAR2 (128) |      | If the constraint is inherited from a data use case domain, the owner of the data use case domain                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| DOMAIN_NAME            | VARCHAR2 (128) |      | If the constraint is inherited from a data use case domain, the name of the data use case domain                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| DOMAIN_CONSTRAINT_NAME | VARCHAR2 (128) |      | If the constraint is inherited from a data use case domain, the name of the constraint definition, as specified in the data use case domain                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DELETE_RULE            | VARCHAR2 (9)   |      | Delete rule for a referential constraint: <ul style="list-style-type: none"> <li>CASCADE</li> <li>SET NULL</li> <li>NO ACTION</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| STATUS                 | VARCHAR2 (8)   |      | Enforcement status of the constraint: <ul style="list-style-type: none"> <li>ENABLED</li> <li>DISABLED</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| DEFERRABLE             | VARCHAR2 (14)  |      | Indicates whether the constraint is deferrable (DEFERRABLE) or not (NOT DEFERRABLE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DEFERRED               | VARCHAR2 (9)   |      | Indicates whether the constraint was initially deferred (DEFERRED) or not (IMMEDIATE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| VALIDATED              | VARCHAR2 (13)  |      | When STATUS = ENABLED, possible values are: <ul style="list-style-type: none"> <li>VALIDATED - All data obeys the constraint (that is, the existing data in the table was validated when the constraint was enabled, as well as any subsequent data entered into the table)</li> <li>NOT VALIDATED - All data may not obey the constraint (that is, the existing data in the table was not validated when the constraint was enabled, but subsequent data entered into the table was validated)</li> </ul> When STATUS = DISABLED, possible values are: <ul style="list-style-type: none"> <li>VALIDATED - All data obeys the constraint, but the unique index on the constraint has been dropped. This setting is useful in data warehousing environments, but has some restrictions. Refer to <i>Oracle Database Data Warehousing Guide</i> for more information on this setting.</li> <li>NOT VALIDATED - All data may not obey the constraint</li> </ul> |
| GENERATED              | VARCHAR2 (14)  |      | Indicates whether the name of the constraint is user-generated (USER NAME) or system-generated (GENERATED NAME)<br><br>If the constraint is defined in a data use case domain, the value of this column is always GENERATED NAME and applies to the system-generated name for the constraint (CONSTRAINT_NAME), not the user-specified name for the constraint (DOMAIN_CONSTRAINT_NAME).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Column        | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                       |
|---------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BAD           | VARCHAR2 (3)   |      | Indicates whether this constraint specifies a century in an ambiguous manner (BAD) or not (NULL). To avoid errors resulting from this ambiguity, rewrite the constraint using the TO_DATE function with a four-digit year.<br><b>See Also:</b> the TO_DATE function in <i>Oracle Database SQL Language Reference</i> and <i>Oracle Database Development Guide</i> |
| RELY          | VARCHAR2 (4)   |      | When VALIDATED = NOT VALIDATED, this column indicates whether the constraint is to be taken into account for query rewrite (RELY) or not (NULL).<br>When VALIDATED = VALIDATED, this column is not meaningful.<br><b>See Also:</b> constraints in <i>Oracle Database SQL Language Reference</i>                                                                   |
| PRECHECK      | VARCHAR2 (10)  |      | Indicates whether the constraint is a precheckable JSON constraint (PRECHECK) or not (NOPRECHECK)                                                                                                                                                                                                                                                                 |
| LAST_CHANGE   | DATE           |      | When the constraint was last enabled or disabled                                                                                                                                                                                                                                                                                                                  |
| INDEX_OWNER   | VARCHAR2 (128) |      | Name of the user owning the index                                                                                                                                                                                                                                                                                                                                 |
| INDEX_NAME    | VARCHAR2 (128) |      | Name of the index (only shown for unique and primary-key constraints)                                                                                                                                                                                                                                                                                             |
| INVALID       | VARCHAR2 (7)   |      | Indicates whether the constraint is invalid (INVALID) or not (NULL)                                                                                                                                                                                                                                                                                               |
| VIEW_RELATED  | VARCHAR2 (14)  |      | Indicates whether the constraint depends on a view (DEPEND ON VIEW) or not (NULL)                                                                                                                                                                                                                                                                                 |
| ORIGIN_CON_ID | VARCHAR2 (256) |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>n: This value is used for rows containing data that originate in the container with container ID n (n = 1 if the row originates in root)</li></ul>         |

**See Also:**

- ["DBA\\_CONSTRAINTS"](#)
- ["USER\\_CONSTRAINTS"](#)

## 3.149 ALL\_CONTEXT

ALL\_CONTEXT describes all context namespaces in the current session for which attributes and values have been specified using the DBMS\_SESSION.SET\_CONTEXT procedure. This view does not display the TYPE and ORIGIN\_CON\_ID columns.

### Related View

DBA\_CONTEXT describes all context namespaces defined in the database, regardless whether any attributes have been specified for them using the DBMS\_SESSION.SET\_CONTEXT procedure.

| Column    | Datatype       | NULL     | Description                                                                         |
|-----------|----------------|----------|-------------------------------------------------------------------------------------|
| NAMESPACE | VARCHAR2 (128) | NOT NULL | Name of the context namespace                                                       |
| SCHEMA    | VARCHAR2 (128) | NOT NULL | Schema name of the designated package that can set attributes using this namespace  |
| PACKAGE   | VARCHAR2 (128) | NOT NULL | Package name of the designated package that can set attributes using this namespace |



### See Also:

- "DBA\_CONTEXT"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_SESSION.SET\_CONTEXT procedure

## 3.150 ALL\_CREDENTIALS

ALL\_CREDENTIALS lists all credentials visible to the user.

### Related Views

- DBA\_CREDENTIALS lists all credentials in the database.
- USER\_CREDENTIALS lists credentials owned by the current user. This view does not display the OWNER column.

| Column          | Datatype        | NULL     | Description                                                                                                 |
|-----------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128)  | NOT NULL | Owner of the credential                                                                                     |
| CREDENTIAL_NAME | VARCHAR2 (128)  | NOT NULL | Name of the credential                                                                                      |
| USERNAME        | VARCHAR2 (128)  |          | Name of the user that will be used to log in to the remote database or the remote or local operating system |
| WINDOWS_DOMAIN  | VARCHAR2 (30)   |          | For a Windows target, the Windows domain to use when logging in                                             |
| COMMENTS        | VARCHAR2 (4000) |          | Comments on the credential                                                                                  |
| ENABLED         | VARCHAR2 (5)    |          | Indicates whether this credential is enabled (TRUE) or not (FALSE)                                          |

**Note:**

DBMS\_CREDENTIAL lists credentials that can be used to run external procedures, or by DBMS\_SCHEDULER for remote or external jobs, or for storing or retrieving files from the operating system.

If a credential is disabled, then any of the actions above that attempts to use the credential will fail.

**See Also:**

- ["DBA\\_CREDENTIALS"](#)
- ["USER\\_CREDENTIALS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_CREDENTIAL package
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_SCHEDULER package

## 3.151 ALL\_CUBE\_ATTR\_VISIBILITY

ALL\_CUBE\_ATTR\_VISIBILITY describes the OLAP attributes visible for the dimensions, hierarchies, and levels accessible to the current user.

**Related Views**

- DBA\_CUBE\_ATTR\_VISIBILITY describes all OLAP attributes visible for the dimensions, hierarchies, and levels in the database.
- USER\_CUBE\_ATTR\_VISIBILITY describes the OLAP attributes visible for the dimensions, hierarchies, and levels owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL | Description                                                                  |
|----------------|----------------|------|------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) |      | Owner of the cube dimension                                                  |
| DIMENSION_NAME | VARCHAR2 (128) |      | Name of a cube dimension (such as TIME)                                      |
| ATTRIBUTE_NAME | VARCHAR2 (128) |      | Name of an attribute of the dimension (such as LONG_DESCRIPTION or END_DATE) |
| HIERARCHY_NAME | VARCHAR2 (128) |      | Name of a hierarchy for the dimension (such as CALENDAR)                     |
| LEVEL_NAME     | VARCHAR2 (128) |      | Name of the dimension level (such as MONTH)                                  |

| Column    | Datatype     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------|--------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FROM_TYPE | VARCHAR2(10) |      | Identifies the dimension type that the current row derives the attribute visibility from. Possible values: <ul style="list-style-type: none"> <li>DIMENSION - Derives the attribute visibility from itself.</li> <li>HIERARCHY - Derives the attribute visibility from the VisibleAttributes explicitly set on the associated DIMENSION or itself.</li> <li>DIM_LEVEL - Derives the attribute visibility from the VisibleAttributes explicitly set on the associated DIMENSION or itself.</li> <li>HIER_LEVEL - Derives the attribute visibility from the VisibleAttributes explicitly set on the associated DIMENSION, HIERARCHY, DIM_LEVEL, or itself.</li> </ul> |
| TO_TYPE   | VARCHAR2(10) |      | Identifies the dimension type for the current row. Possible values: <ul style="list-style-type: none"> <li>DIMENSION - When the TO_TYPE is DIMENSION, then only the DIMENSION_NAME is populated.</li> <li>HIERARCHY - When the TO_TYPE is HIERARCHY, then only the DIMENSION_NAME and HIERARCHY_NAME are populated.</li> <li>DIM_LEVEL - When the TO_TYPE is DIM_LEVEL, then only the DIMENSION_NAME and LEVEL_NAME are populated.</li> <li>HIER_LEVEL - When the TO_TYPE is HIER_LEVEL, then only the HIERARCHY_NAME and LEVEL_NAME are populated.</li> </ul>                                                                                                      |



#### See Also:

- "DBA\_CUBE\_ATTR\_VISIBILITY"
- "USER\_CUBE\_ATTR\_VISIBILITY"

## 3.152 ALL\_CUBE\_ATTRIBUTES

ALL\_CUBE\_ATTRIBUTES describes the attributes for the OLAP cube dimensions accessible to the current user.

#### Related Views

- DBA\_CUBE\_ATTRIBUTES describes the attributes for all OLAP cube dimensions in the database.
- USER\_CUBE\_ATTRIBUTES describes the attributes for the OLAP cube dimensions owned by the current user. This view does not display the OWNER column.

| Column | Datatype      | NULL     | Description                 |
|--------|---------------|----------|-----------------------------|
| OWNER  | VARCHAR2(128) | NOT NULL | Owner of the cube dimension |

| Column                | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DIMENSION_NAME        | VARCHAR2 (128)  | NOT NULL | Name of a cube dimension (such as TIME)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ATTRIBUTE_NAME        | VARCHAR2 (128)  | NOT NULL | Name of an attribute of the dimension (such as LONG_DESCRIPTION or END_DATE)                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ATTRIBUTE_ID          | NUMBER          | NOT NULL | ID of the attribute of the dimension                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TARGET_DIMENSION_NAME | VARCHAR2 (128)  |          | Name of the target dimension of the attribute                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ATTRIBUTE_ROLE        | VARCHAR2 (17)   |          | Special role this attribute plays; NULL if none: <ul style="list-style-type: none"> <li>• SHORT_DESCRIPTION</li> <li>• LONG_DESCRIPTION</li> <li>• DESCRIPTION</li> <li>• TIME_SPAN</li> <li>• END_DATE</li> </ul>                                                                                                                                                                                                                                                                                                                |
| DESCRIPTION           | NVARCHAR2 (300) |          | Description of the attribute in the session language                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ATTRIBUTE_GROUP_NAME  | VARCHAR2 (200)  |          | Name of the attribute group                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| DATA_TYPE             | VARCHAR2 (106)  |          | Data type of the attribute, (such as VARCHAR2 or FLOAT)                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DATA_LENGTH           | NUMBER          | NOT NULL | Length of a text data type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| DATA_PRECISION        | NUMBER          |          | Precision of a numeric data type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DATA_SCALE            | NUMBER          |          | Scale of a numeric data type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CREATE_INDEX          | VARCHAR2 (3)    |          | Create index flag of the OLAP attribute. Possible values: <ul style="list-style-type: none"> <li>• YES: The attribute is represented in the AW as a relation.<br/>Setting CreateIndex="True" in the metadata guarantees that it will be represented in the AW as a relation.</li> <li>• NO: The attribute is not represented in the AW as a relation.<br/>Setting CreateIndex="False" in the metadata does not guarantee that it will be represented in the AW as a variable; the system will make that determination.</li> </ul> |
| IS_MULTI_LINGUAL      | VARCHAR2 (3)    |          | Shows the setting for the IsMultiLingual flag of the OLAP Attribute. Possible values: <ul style="list-style-type: none"> <li>• YES: The attribute is set as multilingual.<br/>Setting IsMultiLingual to True in the metadata means that the attribute can have a value per language instead of a single value.</li> <li>• NO: The attribute is not set as multilingual.<br/>Setting IsMultiLingual to False in the metadata means that the attribute has only one value, independent of language.</li> </ul>                      |

 **See Also:**

- ["DBA\\_CUBE\\_ATTRIBUTES"](#)
- ["USER\\_CUBE\\_ATTRIBUTES"](#)

## 3.153 ALL\_CUBE\_BUILD\_PROCESSES

ALL\_CUBE\_BUILD\_PROCESSES describes the OLAP build processes and maintenance scripts accessible to the current user.

### Related Views

- DBA\_CUBE\_BUILD\_PROCESSES describes all OLAP build processes and maintenance scripts in the database.
- USER\_CUBE\_BUILD\_PROCESSES describes the OLAP build processes and maintenance scripts owned by the current user. This view does not display the OWNER column.

| Column             | Datatype        | NULL     | Description                                              |
|--------------------|-----------------|----------|----------------------------------------------------------|
| OWNER              | VARCHAR2 (128)  | NOT NULL | Owner of the build process                               |
| BUILD_PROCESS_NAME | VARCHAR2 (128)  | NOT NULL | Name of the build process                                |
| BUILD_PROCESS_ID   | NUMBER          | NOT NULL | ID of the build process                                  |
| BUILD_PROCESS      | CLOB            |          | Syntax of the build process                              |
| DESCRIPTION        | NVARCHAR2 (300) |          | Description of the build process in the session language |



### See Also:

- "DBA\_CUBE\_BUILD\_PROCESSES"
- "USER\_CUBE\_BUILD\_PROCESSES"

## 3.154 ALL\_CUBE\_CALCULATED\_MEMBERS

ALL\_CUBE\_CALCULATED\_MEMBERS describes the calculated members for the OLAP cube dimensions accessible to the current user.

### Related Views

- DBA\_CUBE\_CALCULATED\_MEMBERS describes the calculated members for all OLAP cube dimensions in the database.
- USER\_CUBE\_CALCULATED\_MEMBERS describes the calculated members for the OLAP cube dimensions owned by the current user. This view does not display the OWNER column.

| Column              | Datatype       | NULL     | Description                                                                     |
|---------------------|----------------|----------|---------------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128) | NOT NULL | Owner of the cube dimension                                                     |
| DIMENSION_NAME      | VARCHAR2 (128) | NOT NULL | Name of a cube dimension                                                        |
| MEMBER_NAME         | VARCHAR2 (128) | NOT NULL | Name of a calculated member in the cube dimension                               |
| IS_CUSTOM_AGGREGATE | VARCHAR2 (3)   |          | Indicates whether the calculated member is a custom aggregate (YES) or not (NO) |



| Column       | Datatype      | NULL | Description                                                                                                                                                                                                                              |
|--------------|---------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STORAGE_TYPE | VARCHAR2 (10) |      | Storage type of the calculated member: <ul style="list-style-type: none"><li>DYNAMIC - Value of the member is calculated for a query</li><li>PRECOMPUTE - Value of the member is calculated and stored during data maintenance</li></ul> |
| EXPRESSION   | CLOB          |      | Expression used to generate the value of the calculated member                                                                                                                                                                           |

**See Also:**

- "DBA\_CUBE\_CALCULATED\_MEMBERS"
- "USER\_CUBE\_CALCULATED\_MEMBERS"

## 3.155 ALL\_CUBE\_DIM\_LEVELS

ALL\_CUBE\_DIM\_LEVELS describes the OLAP dimension levels accessible to the current user.

**Related Views**

- DBA\_CUBE\_DIM\_LEVELS describes all OLAP dimension levels in the database.
- USER\_CUBE\_DIM\_LEVELS describes the OLAP dimension levels owned by the current user. This view does not display the OWNER column.

| Column         | Datatype        | NULL     | Description                                                |
|----------------|-----------------|----------|------------------------------------------------------------|
| OWNER          | VARCHAR2 (128)  | NOT NULL | Owner of the dimension                                     |
| DIMENSION_NAME | VARCHAR2 (128)  | NOT NULL | Name of a dimension, such as CUSTOMER                      |
| LEVEL_NAME     | VARCHAR2 (128)  | NOT NULL | Name of a level in the dimension, such as WAREHOUSE        |
| LEVEL_ID       | NUMBER          | NOT NULL | ID of the dimension level                                  |
| DESCRIPTION    | NVARCHAR2 (300) |          | Description of the dimension level in the session language |

**See Also:**

- "DBA\_CUBE\_DIM\_LEVELS"
- "USER\_CUBE\_DIM\_LEVELS"

## 3.156 ALL\_CUBE\_DIM\_MODELS

ALL\_CUBE\_DIM\_MODELS describes the models for the OLAP dimensions accessible to the current user.

### Related Views

- DBA\_CUBE\_DIM\_MODELS describes the models for all OLAP dimensions in the database.
- USER\_CUBE\_DIM\_MODELS describes the models for the OLAP dimensions owned by the current user. This view does not display the OWNER column.

| Column         | Datatype        | NULL     | Description                                      |
|----------------|-----------------|----------|--------------------------------------------------|
| OWNER          | VARCHAR2 (128)  | NOT NULL | Owner of the cube dimension                      |
| DIMENSION_NAME | VARCHAR2 (128)  | NOT NULL | Name of a cube dimension                         |
| MODEL_NAME     | VARCHAR2 (128)  | NOT NULL | Name of a model for the cube dimension           |
| MODEL_ID       | NUMBER          | NOT NULL | ID of the model                                  |
| DESCRIPTION    | NVARCHAR2 (300) |          | Description of the model in the session language |



### See Also:

- "DBA\_CUBE\_DIM\_MODELS"
- "USER\_CUBE\_DIM\_MODELS"

## 3.157 ALL\_CUBE\_DIM\_VIEW\_COLUMNS

ALL\_CUBE\_DIM\_VIEW\_COLUMNS describes the columns of the relational views of the OLAP cube dimensions accessible to the current user.

### Related Views

- DBA\_CUBE\_DIM\_VIEW\_COLUMNS describes the columns of the relational views of all OLAP cube dimensions in the database.
- USER\_CUBE\_DIM\_VIEW\_COLUMNS describes the columns of the relational views of the OLAP cube dimensions owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL | Description                                                            |
|----------------|----------------|------|------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) |      | Owner of the cube dimension                                            |
| DIMENSION_NAME | VARCHAR2 (128) |      | Name of a cube dimension, such as PRODUCT                              |
| VIEW_NAME      | VARCHAR2 (128) |      | Name of a view of the dimension, such as PRODUCT_VIEW                  |
| COLUMN_NAME    | VARCHAR2 (128) |      | Name of a column in the view, such as LONG_DESCRIPTION or WAREHOUSE_ID |

| Column      | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COLUMN_TYPE | VARCHAR2 (11)  |      | Type of the column: <ul style="list-style-type: none"><li>• KEY - A key of the dimension view (that is, the dimension value itself)</li><li>• LEVEL_NAME - Name of the level (if any) corresponding to a row in the view</li><li>• DIM_ORDER - A column by which the results may be ordered (if present)</li><li>• MEMBER_TYPE</li><li>• ATTRIBUTE - An attribute owned by the dimension</li></ul> |
| OBJECT_NAME | VARCHAR2 (128) |      | Name of the level or attribute represented in the column, such as LONG_DESCRIPTION or WAREHOUSE_ID                                                                                                                                                                                                                                                                                                 |

 See Also:

- "DBA\_CUBE\_DIM\_VIEW\_COLUMNS"
- "USER\_CUBE\_DIM\_VIEW\_COLUMNS"

## 3.158 ALL\_CUBE\_DIM\_VIEWS

ALL\_CUBE\_DIM\_VIEWS describes the relational views of the OLAP dimensions accessible to the current user.

### Related Views

- DBA\_CUBE\_DIM\_VIEWS describes the relational views of all OLAP dimensions in the database.
- USER\_CUBE\_DIM\_VIEWS describes the relational views of the OLAP dimensions owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                |
|----------------|----------------|----------|------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the cube dimension                                |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of a cube dimension, such as PRODUCT                  |
| VIEW_NAME      | VARCHAR2 (128) | NOT NULL | Name of a view of the cube dimension, such as PRODUCT_VIEW |

 See Also:

- "DBA\_CUBE\_DIM\_VIEWS"
- "USER\_CUBE\_DIM\_VIEWS"

## 3.159 ALL\_CUBE\_DIMENSIONALITY

ALL\_CUBE\_DIMENSIONALITY describes the dimension order for the OLAP cubes accessible to the current user.

### Related Views

- DBA\_CUBE\_DIMENSIONALITY describes the dimension order for all OLAP cubes in the database.
- USER\_CUBE\_DIMENSIONALITY describes the dimension order for the OLAP cubes owned by the current user. This view does not display the OWNER column.

| Column              | Datatype       | NULL     | Description                                                                                                                                                                                                                                    |
|---------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128) | NOT NULL | Owner of the cube                                                                                                                                                                                                                              |
| CUBE_NAME           | VARCHAR2 (128) | NOT NULL | Name of a cube, such as UNITS_CUBE                                                                                                                                                                                                             |
| DIMENSION_NAME      | VARCHAR2 (128) | NOT NULL | Name of a dimension of the cube, such as PRODUCT                                                                                                                                                                                               |
| DIMENSIONALITY_NAME | VARCHAR2 (200) |          | The name of a dimensionality of the cube. For example, a cube dimensioned by the PRODUCT dimension can have a product dimension named PRODUCT_DIM.                                                                                             |
| DIMENSIONALITY_ID   | NUMBER         | NOT NULL | ID of the cube dimensionality                                                                                                                                                                                                                  |
| ORDER_NUM           | NUMBER         | NOT NULL | Order number of the dimension in the cube                                                                                                                                                                                                      |
| IS_SPARSE           | NUMBER         |          | Indicates whether the dimension is sparse in the cube (1) or not sparse (0)                                                                                                                                                                    |
| ET_ATTR_PREFIX      | VARCHAR2 (200) |          | Specifies the prefix that will be added to the column names in the Materialized Views to ensure uniqueness. If the user does not specify an ET_ATTR_PREFIX for any dimensions in a cube, then they default in the pattern D1_, D2_, and so on. |

### See Also:

- "DBA\_CUBE\_DIMENSIONALITY"
- "USER\_CUBE\_DIMENSIONALITY"

## 3.160 ALL\_CUBE\_DIMENSIONS

ALL\_CUBE\_DIMENSIONS describes the OLAP cube dimensions accessible to the current user.

### Related Views

- DBA\_CUBE\_DIMENSIONS describes all OLAP cube dimensions in the database.
- USER\_CUBE\_DIMENSIONS describes the OLAP cube dimensions owned by the current user. This view does not display the OWNER column.

| Column                     | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                      | VARCHAR2 (128)  | NOT NULL | Owner of the cube dimension                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DIMENSION_NAME             | VARCHAR2 (128)  | NOT NULL | Name of a cube dimension, such as <code>TIME</code>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DIMENSION_ID               | NUMBER          | NOT NULL | ID of the cube dimension                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DIMENSION_TYPE             | VARCHAR2 (17)   |          | Type of the OLAP cube dimension: <ul style="list-style-type: none"> <li>• <code>STANDARD</code></li> <li>• <code>TIME</code></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| AW_NAME                    | VARCHAR2 (128)  |          | Name of the analytic workspace that contains the cube dimension, such as <code>GLOBAL</code>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DEFAULT_HIERARCHY_NAME     | VARCHAR2 (128)  |          | Name of the default hierarchy for the cube dimension, such as <code>FISCAL</code>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| DESCRIPTION                | NVARCHAR2 (300) |          | Description of the cube dimension in the session language                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| HIERARCHY_CONSISTENCY_RULE | VARCHAR2 (200)  |          | Hierarchy consistency rule of the OLAP cube dimension. Possible values: <ul style="list-style-type: none"> <li>• <code>CONSISTENT</code></li> <li>• <code>STAR_CONSISTENT</code></li> <li>• <code>SOLVE_CONSISTENT</code></li> </ul>                                                                                                                                                                                                                                                                                                                                         |
| ADD_UNIQUE_KEY_PREFIX      | VARCHAR2 (3)    |          | Add_Unique_Key_Prefix flag of the OLAP cube dimension. Possible values: <ul style="list-style-type: none"> <li>• <b>YES:</b> This is the value if <code>AddUniqueKeyPrefix="True"</code> was set in the metadata.<br/>This tells the system to add the level name prefix to the dimension members. This should be done when a dimension member can have the same value across different levels, for example, New York (state) and New York (city).</li> <li>• <b>NO:</b> This is the value if <code>AddUniqueKeyPrefix="True"</code> was not set in the metadata.</li> </ul> |
| CUSTOM_ORDER               | CLOB            |          | The textual representation of the sort orderby clause used to load dimension members into the AW                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

#### See Also:

- ["DBA\\_CUBE\\_DIMENSIONS"](#)
- ["USER\\_CUBE\\_DIMENSIONS"](#)

## 3.161 ALL\_CUBE\_HIER\_LEVELS

`ALL_CUBE_HIER_LEVELS` describes the hierarchy levels for the OLAP cube dimensions accessible to the current user.

#### Related Views

- `DBA_CUBE_HIER_LEVELS` describes the hierarchy levels for all OLAP cube dimensions in the database.

- `USER_CUBE_HIER_LEVELS` describes the hierarchy levels for the OLAP cube dimensions owned by the current user. This view does not display the `OWNER` column.

| Column             | Datatype        | NULL     | Description                                                          |
|--------------------|-----------------|----------|----------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128)  | NOT NULL | Owner of the cube dimension                                          |
| DIMENSION_NAME     | VARCHAR2 (128)  | NOT NULL | Name of a cube dimension, such as <code>TIME</code>                  |
| HIERARCHY_NAME     | VARCHAR2 (128)  | NOT NULL | Name of a hierarchy for the dimension, such as <code>CALENDAR</code> |
| LEVEL_NAME         | VARCHAR2 (128)  | NOT NULL | Name of the dimension level, such as <code>MONTH</code>              |
| HIERARCHY_LEVEL_ID | NUMBER          | NOT NULL | ID of the hierarchy level                                            |
| ORDER_NUM          | NUMBER          | NOT NULL | Order number of the level within the hierarchy; 0 is the top level   |
| DESCRIPTION        | NVARCHAR2 (300) |          | Description of the level in the session language                     |



#### See Also:

- ["DBA\\_CUBE\\_HIER\\_LEVELS"](#)
- ["USER\\_CUBE\\_HIER\\_LEVELS"](#)

## 3.162 ALL\_CUBE\_HIER\_VIEW\_COLUMNS

`ALL_CUBE_HIER_VIEW_COLUMNS` describes the columns of the relational hierarchy views of the OLAP cube dimensions accessible to the current user.

#### Related Views

- `DBA_CUBE_HIER_VIEW_COLUMNS` describes the columns of the relational hierarchy views of all OLAP cube dimensions in the database.
- `USER_CUBE_HIER_VIEW_COLUMNS` describes the columns of the relational hierarchy views of the OLAP cube dimensions owned by the current user. This view does not display the `OWNER` column.

| Column         | Datatype       | NULL | Description                                                                                |
|----------------|----------------|------|--------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) |      | Owner of the cube dimension                                                                |
| DIMENSION_NAME | VARCHAR2 (128) |      | Name of a cube dimension, such as <code>TIME</code>                                        |
| HIERARCHY_NAME | VARCHAR2 (128) |      | Name of a hierarchy for the cube dimension, such as <code>CALENDAR</code>                  |
| VIEW_NAME      | VARCHAR2 (128) |      | Name of a view of the hierarchy, such as <code>TIME_CALENDAR_VIEW</code>                   |
| COLUMN_NAME    | VARCHAR2 (128) |      | Name of a column in the view, such as <code>CALENDAR_QUARTER</code> or <code>PARENT</code> |

| Column      | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COLUMN_TYPE | VARCHAR2 (11)  |      | Type of the column: <ul style="list-style-type: none"> <li>• KEY - A key of the hierarchy view (that is, the hierarchy value itself)</li> <li>• PARENT - Dimension value of the parent of the current row in the view (or NULL if no parent)</li> <li>• LEVEL_NAME - Name of the level (if any) corresponding to a row in the view</li> <li>• DEPTH - Depth in the hierarchy tree of the current row in the view</li> <li>• HIER_ORDER - A column by which the results may be ordered (if present)</li> <li>• MEMBER_TYPE</li> <li>• ATTRIBUTE - An attribute owned by the hierarchy</li> <li>• LEVEL - One of the level columns comprising the hierarchy</li> </ul> |
| OBJECT_NAME | VARCHAR2 (128) |      | Name of a level or attribute for the dimension                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |



#### See Also:

- "DBA\_CUBE\_HIER\_VIEW\_COLUMNS"
- "USER\_CUBE\_HIER\_VIEW\_COLUMNS"

## 3.163 ALL\_CUBE\_HIER\_VIEWS

ALL\_CUBE\_HIER\_VIEWS describes the hierarchies for the OLAP cube dimensions accessible to the current user.

#### Related Views

- DBA\_CUBE\_HIER\_VIEWS describes the hierarchies for all OLAP cube dimensions in the database.
- USER\_CUBE\_HIER\_VIEWS describes the hierarchies for the OLAP cube dimensions owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                  |
|----------------|----------------|----------|--------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the cube dimension                                  |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of a cube dimension, such as TIME                       |
| HIERARCHY_NAME | VARCHAR2 (128) | NOT NULL | Name of a hierarchy for the cube dimension, such as CALENDAR |
| VIEW_NAME      | VARCHAR2 (128) | NOT NULL | Name of a view of the hierarchy, such as TIME_CALENDAR_VIEW  |

**See Also:**

- "DBA\_CUBE\_HIER\_VIEWS"
- "USER\_CUBE\_HIER\_VIEWS"

## 3.164 ALL\_CUBE\_HIERARCHIES

ALL\_CUBE\_HIERARCHIES describes the OLAP dimension hierarchies accessible to the current user.

### Related Views

- DBA\_CUBE\_HIERARCHIES describes all OLAP dimension hierarchies in the database.
- USER\_CUBE\_HIERARCHIES describes the OLAP dimension hierarchies owned by the current user. This view does not display the OWNER column.

| Column             | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                      |
|--------------------|-----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128)  | NOT NULL | Owner of the dimension                                                                                                                                                                                                                                                                                                                           |
| DIMENSION_NAME     | VARCHAR2 (128)  | NOT NULL | Name of a dimension, such as TIME                                                                                                                                                                                                                                                                                                                |
| HIERARCHY_NAME     | VARCHAR2 (128)  | NOT NULL | Name of a hierarchy for the dimension, such as CALENDAR                                                                                                                                                                                                                                                                                          |
| HIERARCHY_ID       | NUMBER          | NOT NULL | ID of the hierarchy                                                                                                                                                                                                                                                                                                                              |
| HIERARCHY_TYPE     | VARCHAR2 (5)    |          | Type of the hierarchy: <ul style="list-style-type: none"> <li>• LEVEL</li> <li>• VALUE</li> </ul>                                                                                                                                                                                                                                                |
| DESCRIPTION        | NVARCHAR2 (300) |          | Description of the hierarchy in the session language                                                                                                                                                                                                                                                                                             |
| IS_RAGGED          | NUMBER          |          | Indicates whether ragged hierarchies are permitted in subsequent builds. User dimensions that are enabled for materialized views and Time dimensions are set to 0. Builds then check the data for ragged hierarchies and fail if one is detected. When User dimensions are set to 1, the builds do not check for ragged hierarchies.             |
| IS_SKIP_LEVEL      | NUMBER          |          | Indicates whether skip-level hierarchies are permitted in subsequent builds. User dimensions that are enabled for materialized views and Time dimensions are set to 0. Builds then check the data for skip-level hierarchies and fail if one is detected. When User dimensions are set to 1, the builds do not check for skip-level hierarchies. |
| REFRESH_MVIEW_NAME | VARCHAR2 (200)  |          | Name of the Refresh Materialized View associated with the hierarchy                                                                                                                                                                                                                                                                              |
| CUSTOM_ORDER       | CLOB            |          | The textual representation of the sort orderby clause used to load dimension members of the hierarchy into the AW                                                                                                                                                                                                                                |



**See Also:**

- "DBA\_CUBE\_HIERARCHIES"
- "USER\_CUBE\_HIERARCHIES"

## 3.165 ALL\_CUBE\_MEASURES

ALL\_CUBE\_MEASURES describes the measures for the OLAP cubes accessible to the current user.

**Related Views**

- DBA\_CUBE\_MEASURES describes the measures for all OLAP cubes in the database.
- USER\_CUBE\_MEASURES describes the measures for the OLAP cubes owned by the current user. This view does not display the OWNER column.

| Column              | Datatype        | NULL     | Description                                                                                                                                                                                                                    |
|---------------------|-----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128)  | NOT NULL | Owner of the cube                                                                                                                                                                                                              |
| CUBE_NAME           | VARCHAR2 (128)  | NOT NULL | Name of a cube, such as UNITS_CUBE                                                                                                                                                                                             |
| MEASURE_NAME        | VARCHAR2 (128)  | NOT NULL | Name of a measure in the cube, such as SALES                                                                                                                                                                                   |
| MEASURE_ID          | NUMBER          | NOT NULL | ID of a measure                                                                                                                                                                                                                |
| OVERRIDE_SOLVE_SPEC | CLOB            |          | Syntax text for the measure's consistent solve specification that overrides that of its cube                                                                                                                                   |
| MEASURE_TYPE        | VARCHAR2 (7)    |          | Type of the OLAP measure: <ul style="list-style-type: none"> <li>• BASE - Base measures store the data</li> <li>• DERIVED - Derived measures calculate the data from base measures; also called calculated measures</li> </ul> |
| EXPRESSION          | CLOB            |          | Expression that provides the values of the measure                                                                                                                                                                             |
| DESCRIPTION         | NVARCHAR2 (300) |          | Description of the measure in the session language                                                                                                                                                                             |
| DATA_TYPE           | VARCHAR2 (106)  |          | Data type of the measure, such as NUMBER                                                                                                                                                                                       |
| DATA_LENGTH         | NUMBER          | NOT NULL | Length of a character data type                                                                                                                                                                                                |
| DATA_PRECISION      | NUMBER          |          | Precision of a numeric data type                                                                                                                                                                                               |
| DATA_SCALE          | NUMBER          |          | Scale of a numeric data type                                                                                                                                                                                                   |
| LOOP_VAR_OVERRIDE   | VARCHAR2 (200)  |          | The value that overrides the \$LOOP_VAR property of the OLAP derived measure                                                                                                                                                   |
| LOOP_DENSE_OVERRIDE | VARCHAR2 (200)  |          | The value that overrides the \$LOOP_DENSE property of the OLAP derived measure                                                                                                                                                 |
| LOOP_TYPE           | VARCHAR2 (200)  |          | The \$LOOP_TYPE property of the OLAP derived measure. <p>Possible values:</p> <ul style="list-style-type: none"> <li>• INNER</li> <li>• OUTER</li> <li>• DENSE</li> </ul>                                                      |

**See Also:**

- ["DBA\\_CUBE\\_MEASURES"](#)
- ["USER\\_CUBE\\_MEASURES"](#)

## 3.166 ALL\_CUBE\_NAMED\_BUILD\_SPECS

ALL\_CUBE\_NAMED\_BUILD\_SPECS describes the OLAP cube named build specifications in the database that are accessible by the user.

**Related Views**

- DBA\_CUBE\_NAMED\_BUILD\_SPECS describes the OLAP cube named build specifications in the database.
- USER\_CUBE\_NAMED\_BUILD\_SPECS describes the OLAP cube named build specifications in the database that are owned by the current user. This view does not display the OWNER column.

| Column           | Datatype       | NULL     | Description                                     |
|------------------|----------------|----------|-------------------------------------------------|
| OWNER            | VARCHAR2 (128) | NOT NULL | Owner of the OLAP named build specification     |
| CUBE_NAME        | VARCHAR2 (128) | NOT NULL | Name of the OLAP cube                           |
| NAMED_BUILD_SPEC | CLOB           |          | Name of the OLAP cube named build specification |

**See Also:**

- ["DBA\\_CUBE\\_NAMED\\_BUILD\\_SPECS"](#)
- ["USER\\_CUBE\\_NAMED\\_BUILD\\_SPECS"](#)

## 3.167 ALL\_CUBE\_SUB\_PARTITION\_LEVELS

ALL\_CUBE\_SUB\_PARTITION\_LEVELS describes the OLAP secondary partition levels in the database that are accessible by the user.

**Related Views**

- DBA\_CUBE\_SUB\_PARTITION\_LEVELS describes the OLAP secondary partition levels in the database.
- USER\_CUBE\_SUB\_PARTITION\_LEVELS describes the OLAP secondary partition levels in the database that are owned by the current user. This view does not display the OWNER column.

| Column    | Datatype       | NULL | Description                                 |
|-----------|----------------|------|---------------------------------------------|
| OWNER     | VARCHAR2 (128) |      | Owner of the OLAP secondary partition level |
| CUBE_NAME | VARCHAR2 (128) |      | Name of the OLAP cube                       |

| Column                    | Datatype       | NULL | Description                                                                                 |
|---------------------------|----------------|------|---------------------------------------------------------------------------------------------|
| SUB_PARTITION_LEVEL_NAME  | VARCHAR2 (200) |      | Name of the secondary partition level of the OLAP cube                                      |
| PRECOMPUTE_PERCENT        | NUMBER         |      | Precompute percent of the secondary partition level of the OLAP cube                        |
| PARTITION_DIMENSION_NAME  | VARCHAR2 (128) |      | Name of the cube dimension for which there is a secondary partition level on the OLAP cube  |
| PARTITION_HIERARCHY_NAME  | VARCHAR2 (128) |      | Name of the hierarchy for which there is a secondary partition level on the OLAP cube       |
| PARTITION_LEVEL_NAME      | VARCHAR2 (128) |      | Name of the hierarchy level for which there is a secondary partition level on the OLAP cube |
| SUB_PARTITION_LEVEL_ORDER | NUMBER         |      | Order number of the secondary partition level on the OLAP cube                              |

#### See Also:

- "DBA\_CUBE\_SUB\_PARTITION\_LEVELS"
- "USER\_CUBE\_SUB\_PARTITION\_LEVELS"

## 3.168 ALL\_CUBE\_VIEW\_COLUMNS

ALL\_CUBE\_VIEW\_COLUMNS describes the columns of the relational views of the OLAP cubes accessible to the current user.

#### Related Views

- DBA\_CUBE\_VIEW\_COLUMNS describes the columns of relational views of all OLAP cubes in the database.
- USER\_CUBE\_VIEW\_COLUMNS describes the columns of relational views of OLAP cubes owned by the current user. This view does not display the OWNER column.

| Column      | Datatype       | NULL | Description                                                                                    |
|-------------|----------------|------|------------------------------------------------------------------------------------------------|
| OWNER       | VARCHAR2 (128) |      | Owner of the cube                                                                              |
| CUBE_NAME   | VARCHAR2 (128) |      | Name of a cube, such as UNITS_CUBE                                                             |
| VIEW_NAME   | VARCHAR2 (128) |      | Name of a view of the cube, such as PRODUCT_VIEW                                               |
| COLUMN_NAME | VARCHAR2 (128) |      | Name of a column in the view, such as DIM_KEY or LEVEL_NAME                                    |
| COLUMN_TYPE | VARCHAR2 (7)   |      | Type of the column: <ul style="list-style-type: none"> <li>• MEASURE</li> <li>• KEY</li> </ul> |
| OBJECT_NAME | VARCHAR2 (128) |      | Name of the measure or dimension represented in the column                                     |

**See Also:**

- "DBA\_CUBE\_VIEW\_COLUMNS"
- "USER\_CUBE\_VIEW\_COLUMNS"

## 3.169 ALL\_CUBE\_VIEWS

ALL\_CUBE\_VIEWS describes the relational views of the OLAP cubes accessible to the current user.

**Related Views**

- DBA\_CUBE\_VIEWS describes the relational views of all OLAP cubes in the database.
- USER\_CUBE\_VIEWS describes the relational views of the OLAP cubes owned by the current user. This view does not display the OWNER column.

| Column    | Datatype       | NULL     | Description                                         |
|-----------|----------------|----------|-----------------------------------------------------|
| OWNER     | VARCHAR2 (128) | NOT NULL | Owner of the cube                                   |
| CUBE_NAME | VARCHAR2 (128) | NOT NULL | Name of a cube, such as UNITS_CUBE                  |
| VIEW_NAME | VARCHAR2 (128) | NOT NULL | Name of a view of the cube, such as UNITS_CUBE_VIEW |

**See Also:**

- "DBA\_CUBE\_VIEWS"
- "USER\_CUBE\_VIEWS"

## 3.170 ALL\_CUBES

ALL\_CUBES describes the OLAP cubes accessible to the current user.

**Related Views**

- DBA\_CUBES describes all OLAP cubes in the database.
- USER\_CUBES describes the OLAP cubes owned by the current user. This view does not display the OWNER column.

| Column                | Datatype       | NULL     | Description                                                           |
|-----------------------|----------------|----------|-----------------------------------------------------------------------|
| OWNER                 | VARCHAR2 (128) |          | Owner of the cube                                                     |
| CUBE_NAME             | VARCHAR2 (128) | NOT NULL | Name of a cube, such as UNITS_CUBE                                    |
| CUBE_ID               | NUMBER         | NOT NULL | ID of a cube                                                          |
| AW_NAME               | VARCHAR2 (128) |          | Name of the analytic workspace that contains the cube, such as GLOBAL |
| CONSISTENT_SOLVE_SPEC | CLOB           |          | Default aggregation rules for the cube                                |

| Column                   | Datatype        | NULL | Description                                                                                                                                                                |
|--------------------------|-----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DESCRIPTION              | NVARCHAR2 (300) |      | Description of the cube in the session language                                                                                                                            |
| SPARSE_TYPE              | VARCHAR2 (200)  |      | Text value indicating the type of sparsity for the OLAP cube                                                                                                               |
| PRECOMPUTE_CONDITION     | CLOB            |      | Condition syntax representing the precompute condition of the OLAP cube                                                                                                    |
| PRECOMPUTE_PERCENT       | NUMBER          |      | Percentage of aggregate data values that are calculated and stored during data maintenance. If the cube is partitioned, then this percentage is for the bottom partitions. |
| PRECOMPUTE_PERCENT_TOP   | NUMBER          |      | Percentage of aggregate data values in the top partition that are calculated and stored during data maintenance                                                            |
| PARTITION_DIMENSION_NAME | VARCHAR2 (128)  |      | Name of the dimension used to partition the cube, such as <code>TIME</code>                                                                                                |
| PARTITION_HIERARCHY_NAME | VARCHAR2 (128)  |      | Name of the dimension hierarchy used to partition the cube, such as <code>CALENDAR</code>                                                                                  |
| PARTITION_LEVEL_NAME     | VARCHAR2 (128)  |      | Name of the level used to partition the cube, such as <code>QUARTER</code>                                                                                                 |
| REFRESH_MVIEW_NAME       | VARCHAR2 (200)  |      | Name of the refresh materialized view for the OLAP cube                                                                                                                    |
| REWRITE_MVIEW_NAME       | VARCHAR2 (200)  |      | Name of the rewrite materialized view for the OLAP cube                                                                                                                    |
| DEFAULT_BUILD_SPEC       | CLOB            |      | The default build specification for the OLAP cube                                                                                                                          |
| MEASURE_STORAGE          | VARCHAR2 (200)  |      | The measure storage for the OLAP cube. Possible values: <ul style="list-style-type: none"> <li>• <code>INDEPENDENT</code></li> <li>• <code>SHARED</code></li> </ul>        |
| SQL_CUBE_STORAGE_TYPE    | CLOB            |      | The SQL cube storage type for the OLAP cube. This value represents a SQL data type.                                                                                        |
| CUBE_STORAGE_TYPE        | VARCHAR2 (200)  |      | The cube storage type for the OLAP cube. This value represents a DML data type.                                                                                            |



#### See Also:

- ["DBA\\_CUBES"](#)
- ["USER\\_CUBES"](#)

## 3.171 ALL\_DB\_LINKS

`ALL_DB_LINKS` describes the database links accessible to the current user.

### Related Views

- `DBA_DB_LINKS` describes all database links in the database.
- `USER_DB_LINKS` describes the database links owned by the current user. This view does not display the `OWNER` column.

| Column           | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------|-----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128)  | NOT NULL | Owner of the database link                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DB_LINK          | VARCHAR2 (128)  | NOT NULL | Name of the database link                                                                                                                                                                                                                                                                                                                                                                                                                  |
| USERNAME         | VARCHAR2 (128)  |          | Name of the user to be used when connecting to a remote database                                                                                                                                                                                                                                                                                                                                                                           |
| CREDENTIAL_NAME  | VARCHAR2 (128)  |          | Name of the credential to be used when connecting to a remote database                                                                                                                                                                                                                                                                                                                                                                     |
| CREDENTIAL_OWNER | VARCHAR2 (128)  |          | Owner of the credential to be used when connecting to a remote database                                                                                                                                                                                                                                                                                                                                                                    |
| HOST             | VARCHAR2 (2000) |          | Oracle Net connect string                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CREATED          | DATE            | NOT NULL | Creation time of the database link                                                                                                                                                                                                                                                                                                                                                                                                         |
| HIDDEN           | VARCHAR2 (3)    |          | For internal use only                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SHARD_INTERNAL   | VARCHAR2 (3)    |          | Indicates whether the database link is used to support operations across sharded databases. Possible values: <ul style="list-style-type: none"> <li>• YES: The database link is used and managed for to support sharded databases</li> <li>• NO: The database link is not used and managed to support sharded databases</li> </ul> Users should not alter or delete database links that are used and managed to support sharded databases. |
| VALID            | VARCHAR2 (3)    |          | Indicates whether the database link is valid and usable. Possible values: <ul style="list-style-type: none"> <li>• YES: The database link is valid and usable.</li> <li>• NO: The database link is invalid and unusable.</li> </ul>                                                                                                                                                                                                        |
| INTRA_CDB        | VARCHAR2 (3)    |          | For internal use only                                                                                                                                                                                                                                                                                                                                                                                                                      |



#### See Also:

- "DBA\_DB\_LINKS"
- "USER\_DB\_LINKS"
- "DBA\_DB\_LINK\_SOURCES"
- "DBA\_EXTERNAL\_SCN\_ACTIVITY"

## 3.172 ALL\_DEF\_AUDIT\_OPTS

ALL\_DEF\_AUDIT\_OPTS contains default object-auditing options that will be applied when objects are created.

The output for each column takes one of the following forms:

- -/-: no default auditing
- S/-: auditing whenever successful
- -/S: auditing whenever not successful

**Note:**

This view is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored and are viewable with this view. See *Oracle Database Security Guide* for more information about how this desupport works.

| Column | Datatype     | NULL | Description                                           |
|--------|--------------|------|-------------------------------------------------------|
| ALT    | VARCHAR2 (3) |      | Auditing ALTER WHENEVER SUCCESSFUL / UNSUCCESSFUL     |
| AUD    | VARCHAR2 (3) |      | Auditing AUDIT WHENEVER SUCCESSFUL / UNSUCCESSFUL     |
| COM    | VARCHAR2 (3) |      | Auditing COMMENT WHENEVER SUCCESSFUL / UNSUCCESSFUL   |
| DEL    | VARCHAR2 (3) |      | Auditing DELETE WHENEVER SUCCESSFUL / UNSUCCESSFUL    |
| GRA    | VARCHAR2 (3) |      | Auditing GRANT WHENEVER SUCCESSFUL / UNSUCCESSFUL     |
| IND    | VARCHAR2 (3) |      | Auditing INDEX WHENEVER SUCCESSFUL / UNSUCCESSFUL     |
| INS    | VARCHAR2 (3) |      | Auditing INSERT WHENEVER SUCCESSFUL / UNSUCCESSFUL    |
| LOC    | VARCHAR2 (3) |      | Auditing LOCK WHENEVER SUCCESSFUL / UNSUCCESSFUL      |
| REN    | VARCHAR2 (3) |      | Auditing RENAME WHENEVER SUCCESSFUL / UNSUCCESSFUL    |
| SEL    | VARCHAR2 (3) |      | Auditing SELECT WHENEVER SUCCESSFUL / UNSUCCESSFUL    |
| UPD    | VARCHAR2 (3) |      | Auditing UPDATE WHENEVER SUCCESSFUL / UNSUCCESSFUL    |
| EXE    | VARCHAR2 (3) |      | Auditing EXECUTE WHENEVER SUCCESSFUL / UNSUCCESSFUL   |
| FBK    | VARCHAR2 (3) |      | Auditing FLASHBACK WHENEVER SUCCESSFUL / UNSUCCESSFUL |
| REA    | VARCHAR2 (3) |      | Auditing READ WHENEVER SUCCESSFUL / UNSUCCESSFUL      |

## 3.173 ALL\_DEPENDENCIES

ALL\_DEPENDENCIES describes dependencies between procedures, packages, functions, package bodies, and triggers accessible to the current user, including dependencies on views created without any database links. This view does not display the SCHEMAID column.

### Related Views

- DBA\_DEPENDENCIES describes all dependencies between objects in the database. This view does not display the SCHEMAID column.
- USER\_DEPENDENCIES describes dependencies between objects in the current user's schema. This view does not display the OWNER column.

| Column | Datatype       | NULL     | Description         |
|--------|----------------|----------|---------------------|
| OWNER  | VARCHAR2 (128) | NOT NULL | Owner of the object |

| Column               | Datatype       | NULL     | Description                                                                                                         |
|----------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------|
| NAME                 | VARCHAR2 (128) | NOT NULL | Name of the object                                                                                                  |
| TYPE                 | VARCHAR2 (18)  |          | Type of the object                                                                                                  |
| REFERENCED_OWNER     | VARCHAR2 (128) |          | Owner of the referenced object (remote owner if remote object)                                                      |
| REFERENCED_NAME      | VARCHAR2 (128) |          | Name of the referenced object                                                                                       |
| REFERENCED_TYPE      | VARCHAR2 (18)  |          | Type of the referenced object                                                                                       |
| REFERENCED_LINK_NAME | VARCHAR2 (128) |          | Name of the link to the parent object (if remote)                                                                   |
| DEPENDENCY_TYPE      | VARCHAR2 (4)   |          | Indicates whether the dependency is a <code>REF</code> dependency ( <code>REF</code> ) or not ( <code>HARD</code> ) |



#### See Also:

- ["DBA\\_DEPENDENCIES"](#)
- ["USER\\_DEPENDENCIES"](#)

## 3.174 ALL\_DEQUEUE\_QUEUES

`ALL_DEQUEUE_QUEUES` describes all queues on which the current user has dequeue privileges. If the user has any Advanced Queuing system privileges, such as `DEQUEUE ANY QUEUE` or `MANAGE ANY QUEUE`, then this view describes all queues in the database.

| Column          | Datatype       | NULL     | Description                                                                                                                                               |
|-----------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the queue                                                                                                                                        |
| NAME            | VARCHAR2 (128) | NOT NULL | Name of the queue                                                                                                                                         |
| QUEUE_TABLE     | VARCHAR2 (128) | NOT NULL | Name of the table in which the queue data resides                                                                                                         |
| QID             | NUMBER         | NOT NULL | Object number of the queue                                                                                                                                |
| QUEUE_TYPE      | VARCHAR2 (20)  |          | Type of the queue. Possible values: <ul style="list-style-type: none"> <li>• <code>EXCEPTION_QUEUE</code></li> <li>• <code>NORMAL_QUEUE</code></li> </ul> |
| MAX_RETRIES     | NUMBER         |          | Maximum number of retries allowed when dequeuing from the queue                                                                                           |
| RETRY_DELAY     | NUMBER         |          | Time interval between retries                                                                                                                             |
| ENQUEUE_ENABLED | VARCHAR2 (7)   |          | Indicates whether the queue is enabled for enqueue ( <code>YES</code> ) or not ( <code>NO</code> )                                                        |
| DEQUEUE_ENABLED | VARCHAR2 (7)   |          | Indicates whether the queue is enabled for dequeue ( <code>YES</code> ) or not ( <code>NO</code> )                                                        |
| RETENTION       | VARCHAR2 (40)  |          | Time interval that processed messages are retained in the queue, or <code>FOREVER</code>                                                                  |
| USER_COMMENT    | VARCHAR2 (50)  |          | User-specified comment                                                                                                                                    |
| NETWORK_NAME    | VARCHAR2 (512) |          | Network name of the queue service                                                                                                                         |
| SHARDED         | VARCHAR2 (5)   |          | <code>TRUE</code> if the queue is sharded, <code>FALSE</code> otherwise                                                                                   |



| Column         | Datatype      | NULL | Description                                                                                                                                                      |
|----------------|---------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUE_CATEGORY | VARCHAR2 (25) |      | Queue category. Possible values: <ul style="list-style-type: none"> <li>• Classic Queue</li> <li>• Sharded Queue</li> <li>• Transactional Event Queue</li> </ul> |
| RECIPIENTS     | VARCHAR2 (8)  |      | SINGLE or MULTIPLE recipients                                                                                                                                    |

## 3.175 ALL\_DIM\_ATTRIBUTES

ALL\_DIM\_ATTRIBUTES describes the relationship between a dimension level and a functionally dependent column. The level columns and the dependent column must be in the same table.

### Related Views

- DBA\_DIM\_ATTRIBUTES describes all such dimension relationships in the database.
- USER\_DIM\_ATTRIBUTES describes all such dimension attributes in the current user's schema.

| Column         | Datatype       | NULL     | Description                                                                              |
|----------------|----------------|----------|------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the dimension                                                                   |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the dimension                                                                    |
| ATTRIBUTE_NAME | VARCHAR2 (128) |          | Name of the attribute                                                                    |
| LEVEL_NAME     | VARCHAR2 (128) |          | Name of the hierarchy level                                                              |
| COLUMN_NAME    | VARCHAR2 (128) | NOT NULL | Dependent column name                                                                    |
| INFERRED       | CHAR (1)       |          | Indicates whether the attribute is inferred from a JOIN KEY specification (Y) or not (N) |



### See Also:

- "DBA\_DIM\_ATTRIBUTES"
- "USER\_DIM\_ATTRIBUTES"

## 3.176 ALL\_DIM\_CHILD\_OF

ALL\_DIM\_CHILD\_OF describes hierarchical relationships of 1 to  $n$  between the pairs of levels in the dimensions accessible to the current user.

### Related Views

- DBA\_DIM\_CHILD\_OF describes all such hierarchical relationships in the database.
- USER\_DIM\_CHILD\_OF describes all such hierarchical attributes in the current user's schema.

| Column | Datatype       | NULL     | Description            |
|--------|----------------|----------|------------------------|
| OWNER  | VARCHAR2 (128) | NOT NULL | Owner of the dimension |

| Column            | Datatype       | NULL     | Description                                                                     |
|-------------------|----------------|----------|---------------------------------------------------------------------------------|
| DIMENSION_NAME    | VARCHAR2 (128) | NOT NULL | Name of the dimension                                                           |
| HIERARCHY_NAME    | VARCHAR2 (128) |          | Hierarchy name                                                                  |
| POSITION          | NUMBER         | NOT NULL | Hierarchical position within this hierarchy, position 1 being the most detailed |
| CHILD_LEVEL_NAME  | VARCHAR2 (128) |          | Child side of 1:n relationship                                                  |
| JOIN_KEY_ID       | VARCHAR2 (40)  |          | If non-null, then the child joins to the parent                                 |
| PARENT_LEVEL_NAME | VARCHAR2 (128) |          | Parent side of 1:n relationship in relation to the CHILD_LEVEL_NAME             |

**See Also:**

- ["DBA\\_DIM\\_CHILD\\_OF"](#)
- ["USER\\_DIM\\_CHILD\\_OF"](#)

## 3.177 ALL\_DIM\_HIERARCHIES

ALL\_DIM\_HIERARCHIES describes all dimension hierarchies accessible to the current user.

**Related Views**

- DBA\_DIM\_HIERARCHIES describes all such hierarchies in the database.
- USER\_DIM\_HIERARCHIES describes all such hierarchies owned by the current user.

| Column         | Datatype       | NULL     | Description            |
|----------------|----------------|----------|------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the dimension |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the dimension  |
| HIERARCHY_NAME | VARCHAR2 (128) |          | Hierarchy name         |

**See Also:**

- ["DBA\\_DIM\\_HIERARCHIES"](#)
- ["USER\\_DIM\\_HIERARCHIES"](#)

## 3.178 ALL\_DIM\_JOIN\_KEY

ALL\_DIM\_JOIN\_KEY describes the joins between two dimension tables that are accessible to the current user. The join is always specified between a parent dimension level column and a child column.

### Related Views

- DBA\_DIM\_JOIN\_KEY describes all such joins in the database.
- USER\_DIM\_JOIN\_KEY describes all such joins owned by the current user.

| Column            | Datatype       | NULL     | Description                                         |
|-------------------|----------------|----------|-----------------------------------------------------|
| OWNER             | VARCHAR2 (128) | NOT NULL | Owner of the dimension                              |
| DIMENSION_NAME    | VARCHAR2 (128) | NOT NULL | Name of the dimension                               |
| DIM_KEY_ID        | NUMBER         | NOT NULL | Join key ID (unique within a dimension)             |
| LEVEL_NAME        | VARCHAR2 (128) |          | Name of the hierarchy level                         |
| KEY_POSITION      | NUMBER         | NOT NULL | Ordinal position of the key column within the level |
| HIERARCHY_NAME    | VARCHAR2 (128) |          | Name of the hierarchy                               |
| CHILD_JOIN_OWNER  | VARCHAR2 (128) | NOT NULL | Owner of the join column table                      |
| CHILD_JOIN_TABLE  | VARCHAR2 (128) | NOT NULL | Name of the join column table                       |
| CHILD_JOIN_COLUMN | VARCHAR2 (128) | NOT NULL | Name of the join column                             |
| CHILD_LEVEL_NAME  | VARCHAR2 (128) |          | Name of the child hierarchy level of the join key   |

### See Also:

- "DBA\_DIM\_JOIN\_KEY"
- "USER\_DIM\_JOIN\_KEY"

## 3.179 ALL\_DIM\_LEVEL\_KEY

ALL\_DIM\_LEVEL\_KEY describes a column of a dimension level accessible to the current user. The position of a column within a level is specified by KEY\_POSITION.

### Related Views

- DBA\_DIM\_LEVEL\_KEY describes all columns of dimension levels in the database.
- USER\_DIM\_LEVEL\_KEY describes all columns of dimension levels owned by the current user.

| Column         | Datatype       | NULL     | Description                                         |
|----------------|----------------|----------|-----------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the dimension                              |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the dimension                               |
| LEVEL_NAME     | VARCHAR2 (128) |          | Name of the hierarchy level                         |
| KEY_POSITION   | NUMBER         | NOT NULL | Ordinal position of the key column within the level |

| Column      | Datatype       | NULL     | Description            |
|-------------|----------------|----------|------------------------|
| COLUMN_NAME | VARCHAR2 (128) | NOT NULL | Name of the key column |

**See Also:**

- "DBA\_DIM\_LEVEL\_KEY"
- "USER\_DIM\_LEVEL\_KEY"

## 3.180 ALL\_DIM\_LEVELS

ALL\_DIM\_LEVELS describes the dimension levels accessible to the current user. All columns of a dimension level must come from the same relation.

**Related Views**

- DBA\_DIM\_LEVELS describes all dimension levels in the database.
- USER\_DIM\_LEVELS describes the levels of all dimensions owned by the current user.

| Column          | Datatype       | NULL     | Description                                                                           |
|-----------------|----------------|----------|---------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the dimension                                                                |
| DIMENSION_NAME  | VARCHAR2 (128) | NOT NULL | Name of the dimension                                                                 |
| LEVEL_NAME      | VARCHAR2 (128) |          | Unique within a dimension                                                             |
| NUM_COLUMNS     | NUMBER         |          | Number of columns in the level definition                                             |
| DETAILOBJ_OWNER | VARCHAR2 (128) | NOT NULL | Owner of the detail object that the keys of this level come from                      |
| DETAILOBJ_NAME  | VARCHAR2 (128) | NOT NULL | Name of the table that the keys of this level come from                               |
| SKIP_WHEN_NULL  | VARCHAR2 (1)   |          | Indicates whether the level is declared with the SKIP WHEN NULL clause (Y) or not (N) |

**See Also:**

- "DBA\_DIM\_LEVELS"
- "USER\_DIM\_LEVELS"

## 3.181 ALL\_DIMENSIONS

ALL\_DIMENSIONS describes the dimension objects accessible to the current user.

**Related Views**

- DBA\_DIMENSIONS describes all dimensions in the database.
- USER\_DIMENSIONS describes the dimensions in the current user's schema.

| Column         | Datatype       | NULL     | Description                                                                                                                        |
|----------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the dimension                                                                                                             |
| DIMENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the dimension                                                                                                              |
| INVALID        | VARCHAR2 (1)   |          | Indicates whether the dimension is invalid (Y) or valid (N)                                                                        |
| COMPILE_STATE  | VARCHAR2 (13)  |          | Compile status of the dimension: <ul style="list-style-type: none"><li>• INVALID</li><li>• NEEDS_COMPILE</li><li>• ERROR</li></ul> |
| REVISION       | NUMBER         |          | Dimension revision level                                                                                                           |

**See Also:**

- "DBA\_DIMENSIONS"
- "USER\_DIMENSIONS"

## 3.182 ALL\_DIRECTORIES

ALL\_DIRECTORIES describes all directories accessible to the current user.

### Related View

DBA\_DIRECTORIES describes all directories in the database.

| Column         | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                        |
|----------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128)  | NOT NULL | Owner of the directory (always SYS)                                                                                                                                                                                                                                                                                                                                                |
| DIRECTORY_NAME | VARCHAR2 (128)  | NOT NULL | Name of the directory                                                                                                                                                                                                                                                                                                                                                              |
| DIRECTORY_PATH | VARCHAR2 (4000) |          | Operating system pathname for the directory                                                                                                                                                                                                                                                                                                                                        |
| ORIGIN_CON_ID  | VARCHAR2 (256)  |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root)</li></ul> |

**See Also:**

- "DBA\_DIRECTORIES"

## 3.183 ALL\_DOMAIN\_COLS

ALL\_DOMAIN\_COLS describes columns of the data use case domains accessible to the current user.

This view displays use case domain column attributes. Use case domain columns with alternative data types are displayed for each possible data type.

### Related Views

- DBA\_DOMAIN\_COLS describes columns of all data use case domains in the database.
- USER\_DOMAIN\_COLS describes columns of the data use case domains owned by the current user.

| Column               | Datatype       | NULL     | Description                                                                                                                                               |
|----------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                | VARCHAR2 (128) | NOT NULL | Owner of the use case domain                                                                                                                              |
| DOMAIN_NAME          | VARCHAR2 (128) | NOT NULL | Name of the use case domain                                                                                                                               |
| COLUMN_NAME          | VARCHAR2 (128) | NOT NULL | Name of the column                                                                                                                                        |
| COLUMN_ID            | NUMBER         | NOT NULL | Column number in the use case domain                                                                                                                      |
| DATA_TYPE_ID         | NUMBER         | NOT NULL | Indicates whether this row represents the primary (1) or secondary (2) data type specification for the column                                             |
| DATA_TYPE            | VARCHAR2 (106) |          | Data type of the column                                                                                                                                   |
| DATA_LENGTH          | NUMBER         |          | Length of the column (in bytes)                                                                                                                           |
| DATA_PRECISION       | NUMBER         |          | Decimal precision for NUMBER data type; binary precision for FLOAT data type; null for all other data types                                               |
| DATA_SCALE           | NUMBER         |          | Digits to the right of the decimal point in a number; null for all other data types                                                                       |
| NULLABLE             | VARCHAR2 (1)   |          | Indicates whether a column allows NULLS. The value is N if there is a NOT NULL constraint on the column.                                                  |
| DATA_DEFAULT         | CLOB           |          | Default value for the column                                                                                                                              |
| DEFAULT_LENGTH       | NUMBER         |          | Length of the default value for the column (in bytes)                                                                                                     |
| DEFAULT_ON_NULL      | VARCHAR2 (3)   |          | Indicates whether the column has DEFAULT ON NULL for INSERT semantics (YES) or not (NO)                                                                   |
| DEFAULT_ON_NULL_UPD  | VARCHAR2 (3)   |          | Indicates whether the column has DEFAULT ON NULL for UPDATE semantics (YES) or not (NO)                                                                   |
| CHARACTER_SET_NAME   | VARCHAR2 (44)  |          | For character type columns, the name of the character set for the column: <ul style="list-style-type: none"> <li>• CHAR_CS</li> <li>• NCHAR_CS</li> </ul> |
| CHAR_COL_DECL_LENGTH | NUMBER         |          | For character type columns, the declared length of the column (in bytes)                                                                                  |
| COLLATION            | VARCHAR2 (100) |          | For character type columns, the collation for the column<br>If a collation was not specified, the value of this column is null.                           |
| EXACT                | BOOLEAN        |          | Indicates whether the column data type specification is strict (TRUE) or not (FALSE)                                                                      |

| Column       | Datatype | NULL | Description                                                                                                                    |
|--------------|----------|------|--------------------------------------------------------------------------------------------------------------------------------|
| CHAR_LENGTH  | NUMBER   |      | For character type columns, the length of the column (in characters)                                                           |
| DISCRIMINANT | BOOLEAN  |      | Indicates whether the column is a discriminant column in a flexible domain ( <code>TRUE</code> ) or not ( <code>FALSE</code> ) |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- `"DBA_DOMAIN_COLS"`
- `"USER_DOMAIN_COLS"`

## 3.184 ALL\_DOMAIN\_CONSTRAINTS

`ALL_DOMAIN_CONSTRAINTS` describes constraint definitions in the data use case domains accessible to the current user.

### Related Views

- `DBA_DOMAIN_CONSTRAINTS` describes constraint definitions in all data use case domains in the database.
- `USER_DOMAIN_CONSTRAINTS` describes constraint definitions in the data use case domains owned by the current user.

| Column           | Datatype      | NULL     | Description                                                                                                                                                                             |
|------------------|---------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME             | VARCHAR2(128) | NOT NULL | Name of the constraint definition                                                                                                                                                       |
| DOMAIN_OWNER     | VARCHAR2(128) | NOT NULL | Owner of the use case domain in which the constraint is defined                                                                                                                         |
| DOMAIN_NAME      | VARCHAR2(128) | NOT NULL | Name of the use case domain in which the constraint is defined                                                                                                                          |
| CONSTRAINT_TYPE  | VARCHAR2(1)   |          | Type of the constraint definition<br>The value of this column is always <code>C</code> , which means the constraint is either a check constraint or a <code>NOT NULL</code> constraint. |
| SEARCH_CONDITION | CLOB          |          | Text of the search condition for a check constraint                                                                                                                                     |
| STATUS           | VARCHAR2(8)   |          | Enforcement status of the constraint: <ul style="list-style-type: none"><li>• <code>ENABLED</code></li><li>• <code>DISABLED</code></li></ul>                                            |

| Column     | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------|---------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DEFERRABLE | VARCHAR2 (14) |      | Indicates whether the constraint is deferrable (DEFERRABLE) or not (NOT DEFERRABLE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| DEFERRED   | VARCHAR2 (9)  |      | Indicates whether the constraint was initially deferred (DEFERRED) or not (IMMEDIATE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| VALIDATED  | VARCHAR2 (13) |      | <p>When STATUS = ENABLED, possible values are:</p> <ul style="list-style-type: none"> <li>VALIDATED - All data obeys the constraint (that is, the existing data in the table was validated when the constraint was enabled, as well as any subsequent data entered into the table)</li> <li>NOT VALIDATED - All data may not obey the constraint (that is, the existing data in the table was not validated when the constraint was enabled, but subsequent data entered into the table was validated)</li> </ul> <p>When STATUS = DISABLED, possible values are:</p> <ul style="list-style-type: none"> <li>VALIDATED - All data obeys the constraint, but the unique index on the constraint has been dropped. This setting is useful in data warehousing environments, but has some restrictions. Refer to <i>Oracle Database Data Warehousing Guide</i> for more information on this setting.</li> <li>NOT VALIDATED - All data may not obey the constraint</li> </ul> |
| GENERATED  | VARCHAR2 (14) |      | Indicates whether the name of the constraint is user-generated (USER NAME) or system-generated (GENERATED NAME)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| BAD        | VARCHAR2 (3)  |      | <p>Indicates whether the constraint specifies a century in an ambiguous manner (BAD) or not (null). To avoid errors resulting from this ambiguity, rewrite the constraint using the TO_DATE function with a four-digit year.</p> <p><b>See Also:</b> the TO_DATE function in <i>Oracle Database SQL Language Reference</i> and <i>Oracle Database Development Guide</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| RELY       | VARCHAR2 (4)  |      | <p>When VALIDATED = NOT VALIDATED, this column indicates whether the constraint is to be taken into account for query rewrite (RELY) or not (null).</p> <p>When VALIDATED = VALIDATED, this column is not meaningful.</p> <p><b>See Also:</b> constraints in <i>Oracle Database SQL Language Reference</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| INVALID    | VARCHAR2 (7)  |      | Indicates whether the constraint is invalid (INVALID) or not (null)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |



| Column        | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------|----------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGIN_CON_ID | NUMBER   |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li><math>n</math>: This value is used for rows containing data that originate in the container with container ID <math>n</math> (<math>n = 1</math> if the row originates in root).</li></ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- "DBA\_DOMAIN\_CONSTRAINTS"
- "USER\_DOMAIN\_CONSTRAINTS"

## 3.185 ALL\_DOMAINS

ALL\_DOMAINS describes the data use case domains accessible to the current user.

### Related Views

- DBA\_DOMAINS describes all data use case domains in the database.
- USER\_DOMAINS describes the data use case domains owned by the current user.

| Column           | Datatype       | NULL     | Description                                                                                                            |
|------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128) | NOT NULL | Owner of the use case domain                                                                                           |
| NAME             | VARCHAR2 (128) | NOT NULL | Name of the use case domain                                                                                            |
| COLS             | NUMBER         | NOT NULL | Number of columns in the use case domain                                                                               |
| DISCRIMINANTCOLS | NUMBER         |          | For flexible domains, the number of discriminant columns in the use case domain. Otherwise, 0.                         |
| BUILTIN          | BOOLEAN        |          | Indicates whether the use case domain is built-in (TRUE) or not (FALSE)                                                |
| DATA_DISPLAY     | CLOB           |          | Text of the DISPLAY expression for the use case domain                                                                 |
| DISPLAY_LENGTH   | NUMBER         |          | Length of the DISPLAY expression for the use case domain (in bytes)<br>Null if a DISPLAY expression was not specified. |
| DATA_ORDER       | CLOB           |          | Text of the ORDER expression for the use case domain                                                                   |

| Column          | Datatype      | NULL | Description                                                                                                                                   |
|-----------------|---------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| ORDER_LENGTH    | NUMBER        |      | Length of the <code>ORDER</code> expression for the use case domain (in bytes)<br>Null if an <code>ORDER</code> expression was not specified. |
| SELECTOR        | CLOB          |      | For flexible domains, the text of the domain selector expression. Otherwise, null.                                                            |
| SELECTOR_LENGTH | NUMBER        |      | For flexible domains, the length of the domain selector expression (in bytes). Otherwise, null.                                               |
| TYPE            | VARCHAR2 (10) |      | Use case domain type: <ul style="list-style-type: none"><li>• <code>ENUMERATED</code></li><li>• <code>FLEXIBLE</code></li></ul>               |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- `"DBA_DOMAINS"`
- `"USER_DOMAINS"`

## 3.186 ALL\_EDITION\_COMMENTS

`ALL_EDITION_COMMENTS` describes the comments on the editions accessible to the current user.

**Related View**

`DBA_EDITION_COMMENTS` describes the comments on all editions in the database.

| Column       | Datatype        | NULL     | Description         |
|--------------|-----------------|----------|---------------------|
| EDITION_NAME | VARCHAR2 (128)  | NOT NULL | Name of the edition |
| COMMENTS     | VARCHAR2 (4000) |          | Edition comments    |

**See Also:**

`"DBA_EDITION_COMMENTS"`

## 3.187 ALL\_EDITIONING\_VIEW\_COLS

ALL\_EDITIONING\_VIEW\_COLS describes the relationship between the columns of the editioning views accessible to the current user and the table columns to which they map.

### Related Views

- DBA\_EDITIONING\_VIEW\_COLS describes the relationship between the columns of all editioning views in the database and the table columns to which they map.
- USER\_EDITIONING\_VIEW\_COLS describes the relationship between the columns of the editioning views owned by the current user and the table columns to which they map. This view does not display the OWNER column.

| Column            | Datatype       | NULL     | Description                                                               |
|-------------------|----------------|----------|---------------------------------------------------------------------------|
| OWNER             | VARCHAR2 (128) | NOT NULL | Owner of an editioning view                                               |
| VIEW_NAME         | VARCHAR2 (128) | NOT NULL | Name of an editioning view                                                |
| VIEW_COLUMN_ID    | NUMBER         | NOT NULL | Column number within the editioning view                                  |
| VIEW_COLUMN_NAME  | VARCHAR2 (128) | NOT NULL | Name of the column in the editioning view                                 |
| TABLE_COLUMN_ID   | NUMBER         | NOT NULL | Column number of a table column to which this editioning view column maps |
| TABLE_COLUMN_NAME | VARCHAR2 (128) | NOT NULL | Name of a table column to which this editioning view column maps          |



### See Also:

- ["DBA\\_EDITIONING\\_VIEW\\_COLS"](#)
- ["USER\\_EDITIONING\\_VIEW\\_COLS"](#)

## 3.188 ALL\_EDITIONING\_VIEW\_COLS\_AE

ALL\_EDITIONING\_VIEW\_COLS\_AE describes the relationship between the columns of the editioning views (across all editions) accessible to the current user and the table columns to which they map.

### Related Views

- DBA\_EDITIONING\_VIEW\_COLS\_AE describes the relationship between the columns of all editioning views (across all editions) in the database and the table columns to which they map.
- USER\_EDITIONING\_VIEW\_COLS\_AE describes the relationship between the columns of the editioning views (across all editions) owned by the current user and the table columns to which they map. This view does not display the OWNER column.

| Column | Datatype       | NULL     | Description                 |
|--------|----------------|----------|-----------------------------|
| OWNER  | VARCHAR2 (128) | NOT NULL | Owner of an editioning view |

| Column            | Datatype       | NULL     | Description                                                               |
|-------------------|----------------|----------|---------------------------------------------------------------------------|
| VIEW_NAME         | VARCHAR2 (128) | NOT NULL | Name of an editioning view                                                |
| VIEW_COLUMN_ID    | NUMBER         | NOT NULL | Column number within the editioning view                                  |
| VIEW_COLUMN_NAME  | VARCHAR2 (128) | NOT NULL | Name of the column in the editioning view                                 |
| TABLE_COLUMN_ID   | NUMBER         | NOT NULL | Column number of a table column to which this editioning view column maps |
| TABLE_COLUMN_NAME | VARCHAR2 (128) | NOT NULL | Name of a table column to which this editioning view column maps          |
| EDITION_NAME      | VARCHAR2 (128) |          | Name of the application edition where the editioning view is defined      |

 **See Also:**

- ["DBA\\_EDITIONING\\_VIEW\\_COLS\\_AE"](#)
- ["USER\\_EDITIONING\\_VIEW\\_COLS\\_AE"](#)

## 3.189 ALL\_EDITIONING\_VIEWS

ALL\_EDITIONING\_VIEWS describes the editioning views accessible to the current user.

### Related Views

- DBA\_EDITIONING\_VIEWS describes all editioning views in the database.
- USER\_EDITIONING\_VIEWS describes the editioning views owned by the current user. This view does not display the OWNER column.

| Column     | Datatype       | NULL     | Description                             |
|------------|----------------|----------|-----------------------------------------|
| OWNER      | VARCHAR2 (128) | NOT NULL | Owner of an editioning view             |
| VIEW_NAME  | VARCHAR2 (128) | NOT NULL | Name of an editioning view              |
| TABLE_NAME | VARCHAR2 (128) | NOT NULL | Name of an editioning view's base table |

 **See Also:**

- ["DBA\\_EDITIONING\\_VIEWS"](#)
- ["USER\\_EDITIONING\\_VIEWS"](#)

## 3.190 ALL\_EDITIONING\_VIEWS\_AE

ALL\_EDITIONING\_VIEWS\_AE describes the editioning views (across all editions) accessible to the current user.

### Related Views

- DBA\_EDITIONING\_VIEWS\_AE describes all editioning views (across all editions) in the database.
- USER\_EDITIONING\_VIEWS\_AE describes the editioning views (across all editions) owned by the current user. This view does not display the OWNER column.

| Column       | Datatype       | NULL     | Description                                                          |
|--------------|----------------|----------|----------------------------------------------------------------------|
| OWNER        | VARCHAR2 (128) | NOT NULL | Owner of an editioning view                                          |
| VIEW_NAME    | VARCHAR2 (128) | NOT NULL | Name of an editioning view                                           |
| TABLE_NAME   | VARCHAR2 (128) | NOT NULL | Name of an editioning view's base table                              |
| EDITION_NAME | VARCHAR2 (128) |          | Name of the application edition where the editioning view is defined |

### See Also:

- ["DBA\\_EDITIONING\\_VIEWS\\_AE"](#)
- ["USER\\_EDITIONING\\_VIEWS\\_AE"](#)

## 3.191 ALL\_EDITIONS

ALL\_EDITIONS describes the editions accessible to the current user.

### Related View

DBA\_EDITIONS describes all editions in the database.

| Column              | Datatype       | NULL     | Description                                                    |
|---------------------|----------------|----------|----------------------------------------------------------------|
| EDITION_NAME        | VARCHAR2 (128) | NOT NULL | Name of the edition                                            |
| PARENT_EDITION_NAME | VARCHAR2 (128) |          | Name of the parent edition for this edition                    |
| USABLE              | VARCHAR2 (3)   |          | Indicates whether the edition is usable (YES) or unusable (NO) |

### See Also:

- ["DBA\\_EDITIONS"](#)
- *Oracle Database Development Guide* for more information about editions

## 3.192 ALL\_ENCRYPTED\_COLUMNS

ALL\_ENCRYPTED\_COLUMNS displays encryption algorithm information for the encrypted columns in the tables accessible to the current user.

### Related Views

- DBA\_ENCRYPTED\_COLUMNS displays encryption algorithm information for all encrypted columns in the database.
- USER\_ENCRYPTED\_COLUMNS displays encryption algorithm information for the encrypted columns in the tables owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                           |
|----------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the table                                                                                                                                                                                                                    |
| TABLE_NAME     | VARCHAR2 (128) | NOT NULL | Name of the table                                                                                                                                                                                                                     |
| COLUMN_NAME    | VARCHAR2 (128) | NOT NULL | Name of the column                                                                                                                                                                                                                    |
| ENCRYPTION_ALG | VARCHAR2 (29)  |          | Encryption algorithm used to protect secrecy of data in this column: <ul style="list-style-type: none"><li>• 3 Key Triple DES 168 bits key</li><li>• AES 128 bits key</li><li>• AES 192 bits key</li><li>• AES 256 bits key</li></ul> |
| SALT           | VARCHAR2 (3)   |          | Indicates whether the column is encrypted with SALT (YES) or not (NO)                                                                                                                                                                 |
| INTEGRITY_ALG  | VARCHAR2 (12)  |          | Integrity algorithm used for the column: <ul style="list-style-type: none"><li>• SHA-1</li><li>• NOMAC</li></ul>                                                                                                                      |

### See Also:

- ["DBA\\_ENCRYPTED\\_COLUMNS"](#)
- ["USER\\_ENCRYPTED\\_COLUMNS"](#)

## 3.193 ALL\_ERROR\_TRANSLATIONS

ALL\_ERROR\_TRANSLATIONS describes all error translations accessible to the user.

### Related Views

- DBA\_ERROR\_TRANSLATIONS describes all error translations in the database.
- USER\_ERROR\_TRANSLATIONS describes all error translations owned by the user. This view does not display the OWNER column.

| Column              | Datatype        | NULL     | Description                                          |
|---------------------|-----------------|----------|------------------------------------------------------|
| OWNER               | VARCHAR2 (128)  | NOT NULL | Owner of the SQL translation profile                 |
| PROFILE_NAME        | VARCHAR2 (128)  | NOT NULL | Name of the SQL translation profile                  |
| ERROR_CODE          | NUMBER          | NOT NULL | The Oracle error code                                |
| TRANSLATED_CODE     | NUMBER          |          | The translated error code                            |
| TRANSLATED_SQLSTATE | VARCHAR2 (5)    |          | The translated SQLSTATE                              |
| ENABLED             | VARCHAR2 (5)    |          | TRUE if the translation is enabled, FALSE otherwise. |
| REGISTRATION_TIME   | TIMESTAMP (6)   |          | Time the translation was registered                  |
| COMMENTS            | VARCHAR2 (4000) |          | Comment on the translation                           |

**See Also:**

- "DBA\_ERROR\_TRANSLATIONS"
- "USER\_ERROR\_TRANSLATIONS"

## 3.194 ALL\_ERRORS

ALL\_ERRORS describes the current errors on the stored objects accessible to the current user.

**Related Views**

- DBA\_ERRORS describes the current errors on all stored objects in the database.
- USER\_ERRORS describes the current errors on the stored objects owned by the current user. This view does not display the OWNER column.

| Column   | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                      |
|----------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER    | VARCHAR2 (128) | NOT NULL | Owner of the object                                                                                                                                                                                                                                                                              |
| NAME     | VARCHAR2 (128) | NOT NULL | Name of the object                                                                                                                                                                                                                                                                               |
| TYPE     | VARCHAR2 (12)  |          | Type of the object: <ul style="list-style-type: none"><li>• VIEW</li><li>• PROCEDURE</li><li>• FUNCTION</li><li>• PACKAGE</li><li>• PACKAGE BODY</li><li>• TRIGGER</li><li>• TYPE</li><li>• TYPE BODY</li><li>• LIBRARY</li><li>• JAVA SOURCE</li><li>• JAVA CLASS</li><li>• DIMENSION</li></ul> |
| SEQUENCE | NUMBER         | NOT NULL | Sequence number (for ordering purposes)                                                                                                                                                                                                                                                          |
| LINE     | NUMBER         | NOT NULL | Line number at which the error occurred                                                                                                                                                                                                                                                          |
| POSITION | NUMBER         | NOT NULL | Position in the line at which the error occurred                                                                                                                                                                                                                                                 |

| Column         | Datatype        | NULL     | Description                                                            |
|----------------|-----------------|----------|------------------------------------------------------------------------|
| TEXT           | VARCHAR2 (4000) | NOT NULL | Text of the error                                                      |
| ATTRIBUTE      | VARCHAR2 (9)    |          | Indicates whether the error is an error (ERROR) or a warning (WARNING) |
| MESSAGE_NUMBER | NUMBER          |          | Numeric error number (without any prefix)                              |

**See Also:**

- "DBA\_ERRORS"
- "USER\_ERRORS"

## 3.195 ALL\_ERRORS\_AE

ALL\_ERRORS\_AE describes the current errors on the stored objects (across all editions) accessible to the current user.

### Related Views

- DBA\_ERRORS\_AE describes the current errors on all stored objects (across all editions) in the database.
- USER\_ERRORS\_AE describes the current errors on the stored objects (across all editions) owned by the current user. This view does not display the OWNER column.

| Column         | Datatype        | NULL     | Description                                                                                                                                                                                                                                                |
|----------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128)  | NOT NULL | Owner of the object                                                                                                                                                                                                                                        |
| NAME           | VARCHAR2 (128)  | NOT NULL | Name of the object                                                                                                                                                                                                                                         |
| TYPE           | VARCHAR2 (12)   |          | Type of the object: <ul style="list-style-type: none"><li>• TYPE</li><li>• TYPE BODY</li><li>• VIEW</li><li>• PROCEDURE</li><li>• FUNCTION</li><li>• PACKAGE</li><li>• PACKAGE BODY</li><li>• TRIGGER</li><li>• JAVA SOURCE</li><li>• JAVA CLASS</li></ul> |
| SEQUENCE       | NUMBER          | NOT NULL | Sequence number (for ordering purposes)                                                                                                                                                                                                                    |
| LINE           | NUMBER          | NOT NULL | Line number at which this error occurred                                                                                                                                                                                                                   |
| POSITION       | NUMBER          | NOT NULL | Position in the line at which this error occurred                                                                                                                                                                                                          |
| TEXT           | VARCHAR2 (4000) | NOT NULL | Text of the error                                                                                                                                                                                                                                          |
| ATTRIBUTE      | VARCHAR2 (9)    |          | Indicates whether the error is an error (ERROR) or a warning (WARNING)                                                                                                                                                                                     |
| MESSAGE_NUMBER | NUMBER          |          | Numeric error number (without any prefix)                                                                                                                                                                                                                  |



| Column       | Datatype       | NULL | Description                                       |
|--------------|----------------|------|---------------------------------------------------|
| EDITION_NAME | VARCHAR2 (128) |      | Name of the edition in which the object is actual |

**See Also:**

- ["DBA\\_ERRORS\\_AE"](#)
- ["USER\\_ERRORS\\_AE"](#)

## 3.196 ALL\_EVALUATION\_CONTEXT\_TABLES

ALL\_EVALUATION\_CONTEXT\_TABLES describes the tables in the rule evaluation contexts accessible to the current user.

**Related Views**

- DBA\_EVALUATION\_CONTEXT\_TABLES describes the tables in all rule evaluation contexts in the database.
- USER\_EVALUATION\_CONTEXT\_TABLES describes the tables in the rule evaluation contexts owned by the current user. This view does not display the EVALUATION\_CONTEXT\_OWNER column.

| Column                   | Datatype        | NULL     | Description                                      |
|--------------------------|-----------------|----------|--------------------------------------------------|
| EVALUATION_CONTEXT_OWNER | VARCHAR2 (128)  | NOT NULL | Owner of the evaluation context                  |
| EVALUATION_CONTEXT_NAME  | VARCHAR2 (128)  | NOT NULL | Name of the evaluation context                   |
| TABLE_ALIAS              | VARCHAR2 (128)  |          | Alias for a table in the evaluation context      |
| TABLE_NAME               | VARCHAR2 (4000) |          | Name of the table referred to by the table alias |

**See Also:**

- ["DBA\\_EVALUATION\\_CONTEXT\\_TABLES"](#)
- ["USER\\_EVALUATION\\_CONTEXT\\_TABLES"](#)

## 3.197 ALL\_EVALUATION\_CONTEXT\_VARS

ALL\_EVALUATION\_CONTEXT\_VARS describes the variables in the rule evaluation contexts accessible to the current user.

**Related Views**

- DBA\_EVALUATION\_CONTEXT\_VARS describes the variables in all rule evaluation contexts in the database.

- `USER_EVALUATION_CONTEXT_VARS` describes the variables in the rule evaluation contexts owned by the current user. This view does not display the `EVALUATION_CONTEXT_OWNER` column.

| Column                                | Datatype                    | NULL     | Description                                                                                                                                                                                |
|---------------------------------------|-----------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>EVALUATION_CONTEXT_OWNER</code> | <code>VARCHAR2(128)</code>  | NOT NULL | Owner of the evaluation context                                                                                                                                                            |
| <code>EVALUATION_CONTEXT_NAME</code>  | <code>VARCHAR2(128)</code>  | NOT NULL | Name of the evaluation context                                                                                                                                                             |
| <code>VARIABLE_NAME</code>            | <code>VARCHAR2(128)</code>  |          | Name of a variable in the evaluation context                                                                                                                                               |
| <code>VARIABLE_TYPE</code>            | <code>VARCHAR2(4000)</code> |          | Datatype of the variable                                                                                                                                                                   |
| <code>VARIABLE_VALUE_FUNCTION</code>  | <code>VARCHAR2(4000)</code> |          | Function used to retrieve the value of the variable; NULL for variables that are not implicit                                                                                              |
| <code>VARIABLE_METHOD_FUNCTION</code> | <code>VARCHAR2(228)</code>  |          | Function used to retrieve the result of method invocation on the variable. Such a function can speed up evaluation, if there are many simple rules that invoke the method on the variable. |

 See Also:

- `"DBA_EVALUATION_CONTEXT_VARS"`
- `"USER_EVALUATION_CONTEXT_VARS"`

## 3.198 ALL\_EVALUATION\_CONTEXTS

`ALL_EVALUATION_CONTEXTS` describes the rule evaluation contexts accessible to the current user.

### Related Views

- `DBA_EVALUATION_CONTEXTS` describes all rule evaluation contexts in the database.
- `USER_EVALUATION_CONTEXTS` describes the rule evaluation contexts owned by the current user. This view does not display the `EVALUATION_CONTEXT_OWNER` column.

| Column                                  | Datatype                    | NULL     | Description                                                        |
|-----------------------------------------|-----------------------------|----------|--------------------------------------------------------------------|
| <code>EVALUATION_CONTEXT_OWNER</code>   | <code>VARCHAR2(128)</code>  | NOT NULL | Owner of the evaluation context                                    |
| <code>EVALUATION_CONTEXT_NAME</code>    | <code>VARCHAR2(128)</code>  | NOT NULL | Name of the evaluation context                                     |
| <code>EVALUATION_FUNCTION</code>        | <code>VARCHAR2(4000)</code> |          | Evaluation function associated with the evaluation context, if any |
| <code>EVALUATION_CONTEXT_COMMENT</code> | <code>VARCHAR2(4000)</code> |          | Comment specified with the evaluation context, if any              |

 See Also:

- `"DBA_EVALUATION_CONTEXTS"`
- `"USER_EVALUATION_CONTEXTS"`

## 3.199 ALL\_EXPRESSION\_STATISTICS

ALL\_EXPRESSION\_STATISTICS provides expression usage tracking statistics for tables that are accessible to the current user.

### Related Views

- DBA\_EXPRESSION\_STATISTICS provides expression usage tracking statistics for all the tables in the database.
- USER\_EXPRESSION\_STATISTICS provides expression usage tracking statistics for tables owned by the current user. This view does not display the OWNER column.

| Column           | Datatype       | NULL     | Description                                                                                                                                                                                |
|------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER            | VARCHAR2(128)  | NOT NULL | Owner of the table                                                                                                                                                                         |
| TABLE_NAME       | VARCHAR2(128)  | NOT NULL | Name of the table contained in the expression                                                                                                                                              |
| EXPRESSION_ID    | NUMBER         |          | Expression ID of the current expression                                                                                                                                                    |
| SNAPSHOT         | VARCHAR2(10)   |          | Type of snapshot for the expression: <ul style="list-style-type: none"><li>• LATEST: Latest snapshot</li><li>• CUMULATIVE: Cumulative snapshot</li><li>• WINDOW: Window snapshot</li></ul> |
| EVALUATION_COUNT | NUMBER         |          | Number of times the expression has been evaluated                                                                                                                                          |
| FIXED_COST       | NUMBER         | NOT NULL | Optimizer fixed cost of evaluating the expression                                                                                                                                          |
| DYNAMIC_COST     | NUMBER         |          | Optimizer dynamic cost of evaluating the expression                                                                                                                                        |
| EXPRESSION_TEXT  | VARCHAR2(4000) | NOT NULL | Text of the expression                                                                                                                                                                     |
| CREATED          | DATE           | NOT NULL | Time this expression is first evaluated                                                                                                                                                    |
| LAST_MODIFIED    | DATE           |          | Time this expression is last evaluated                                                                                                                                                     |

### See Also:

- "DBA\_EXPRESSION\_STATISTICS"
- "USER\_EXPRESSION\_STATISTICS"
- "V\$EXP\_STATS"

## 3.200 ALL\_EXTERNAL\_LOCATIONS

ALL\_EXTERNAL\_LOCATIONS describes the locations (data sources) of the external tables accessible to the current user.

### Related Views

- DBA\_EXTERNAL\_LOCATIONS describes the locations (data sources) of all external tables in the database.
- USER\_EXTERNAL\_LOCATIONS describes the locations (data sources) of the external tables owned by the current user. This view does not display the OWNER column.

| Column          | Datatype        | NULL     | Description                                                   |
|-----------------|-----------------|----------|---------------------------------------------------------------|
| OWNER           | VARCHAR2 (128)  | NOT NULL | Owner of the external table location                          |
| TABLE_NAME      | VARCHAR2 (128)  | NOT NULL | Name of the corresponding external table                      |
| LOCATION        | VARCHAR2 (4000) |          | External table location clause                                |
| DIRECTORY_OWNER | CHAR (3)        |          | Owner of the directory containing the external table location |
| DIRECTORY_NAME  | VARCHAR2 (128)  |          | Name of the directory containing the external table location  |



#### See Also:

- "DBA\_EXTERNAL\_LOCATIONS"
- "USER\_EXTERNAL\_LOCATIONS"

## 3.201 ALL\_EXTERNAL\_TABLES

ALL\_EXTERNAL\_TABLES describes the external tables accessible to the current user.

#### Related Views

- DBA\_EXTERNAL\_TABLES describes all external tables in the database.
- USER\_EXTERNAL\_TABLES describes the external tables owned by the current user. This view does not display the OWNER column.

| Column                  | Datatype       | NULL     | Description                                                                                                                                      |
|-------------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                   | VARCHAR2 (128) | NOT NULL | Owner of the external table                                                                                                                      |
| TABLE_NAME              | VARCHAR2 (128) | NOT NULL | Name of the external table                                                                                                                       |
| TYPE_OWNER              | CHAR (3)       |          | Owner of the implementation type for the external table access driver                                                                            |
| TYPE_NAME               | VARCHAR2 (128) | NOT NULL | Name of the implementation type for the external table access driver                                                                             |
| DEFAULT_DIRECTORY_OWNER | CHAR (3)       |          | Owner of the default directory for the external table                                                                                            |
| DEFAULT_DIRECTORY_NAME  | VARCHAR2 (128) | NOT NULL | Name of the default directory for the external table                                                                                             |
| REJECT_LIMIT            | VARCHAR2 (40)  |          | Reject limit for the external table, or UNLIMITED                                                                                                |
| ACCESS_TYPE             | VARCHAR2 (7)   |          | Type of access parameters for the external table: <ul style="list-style-type: none"> <li>• BLOB</li> <li>• CLOB</li> </ul>                       |
| ACCESS_PARAMETERS       | CLOB           |          | Access parameters for the external table                                                                                                         |
| PROPERTY                | VARCHAR2 (10)  |          | Property of the external table: <ul style="list-style-type: none"> <li>• REFERENCED - Referenced columns</li> <li>• ALL - All columns</li> </ul> |
| INMEMORY                | VARCHAR2 (8)   |          | Indicates whether the In-Memory Column Store (IM column store) is enabled (ENABLED) or disabled (DISABLED) for this table                        |

| Column               | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------|---------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INMEMORY_COMPRESSION | VARCHAR2 (17) |      | <p>Indicates the compression level for the IM column store:</p> <ul style="list-style-type: none"><li>• NO MEMCOMPRESS</li><li>• FOR DML</li><li>• FOR CAPACITY [ HIGH   LOW ]</li><li>• FOR QUERY [ HIGH   LOW ]</li><li>• NULL</li></ul> <p>This column has a value based on where the segments lie for a table. For example, if the table is partitioned and is enabled for the IM column store, the value is NULL for ALL_EXTERNAL_TABLES but non-NULL for ALL_XTERNAL_TAB_PARTITIONS.</p> |

 **See Also:**

- "DBA\_EXTERNAL\_TABLES"
- "USER\_EXTERNAL\_TABLES"

## 3.202 ALL\_GG\_AUTO\_CDR\_COLUMN\_GROUPS

ALL\_GG\_AUTO\_CDR\_COLUMN\_GROUPS provides details about Oracle GoldenGate automatic conflict detection and resolution (CDR) column groups owned by the current user.

### Related View

DBA\_GG\_AUTO\_CDR\_COLUMN\_GROUPS provides details about all of the Oracle GoldenGate automatic CDR column groups in the database.

| Column            | Datatype       | NULL     | Description                 |
|-------------------|----------------|----------|-----------------------------|
| TABLE_OWNER       | VARCHAR2 (128) | NOT NULL | Owner of the table          |
| TABLE_NAME        | VARCHAR2 (128) | NOT NULL | Table name                  |
| COLUMN_GROUP_NAME | VARCHAR2 (128) | NOT NULL | Column group name           |
| RESOLUTION_COLUMN | VARCHAR2 (128) | NOT NULL | Timestamp resolution column |

 **See Also:**

"DBA\_GG\_AUTO\_CDR\_COLUMN\_GROUPS"

## 3.203 ALL\_GG\_AUTO\_CDR\_COLUMNS

ALL\_GG\_AUTO\_CDR\_COLUMNS provides details about Oracle GoldenGate automatic conflict detection and resolution (CDR) columns owned by the current user.

### Related View

DBA\_GG\_AUTO\_CDR\_COLUMNS provides details about all of the Oracle GoldenGate automatic CDR columns in the database.

| Column            | Datatype       | NULL | Description                 |
|-------------------|----------------|------|-----------------------------|
| TABLE_OWNER       | VARCHAR2 (128) |      | Owner of the table          |
| TABLE_NAME        | VARCHAR2 (128) |      | Table name                  |
| COLUMN_GROUP_NAME | VARCHAR2 (128) |      | Column group name           |
| COLUMN_NAME       | VARCHAR2 (128) |      | Column name                 |
| RESOLUTION_COLUMN | VARCHAR2 (128) |      | Timestamp resolution column |



### See Also:

"DBA\_GG\_AUTO\_CDR\_COLUMNS"

## 3.204 ALL\_GG\_AUTO\_CDR\_TABLES

ALL\_GG\_AUTO\_CDR\_TABLES provides details about tables configured for Oracle GoldenGate automatic conflict detection and resolution (CDR) that are owned by the current user.

### Related View

DBA\_GG\_AUTO\_CDR\_TABLES provides details about all the tables configured for Oracle GoldenGate automatic conflict detection and resolution (CDR).

| Column                 | Datatype       | NULL     | Description                                                                                                                                                                     |
|------------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABLE_OWNER            | VARCHAR2 (128) | NOT NULL | Owner of the table                                                                                                                                                              |
| TABLE_NAME             | VARCHAR2 (128) | NOT NULL | Table name                                                                                                                                                                      |
| RESOLUTION_GRANULARITY | VARCHAR2 (6)   |          | Resolution granularity: <ul style="list-style-type: none"><li>• ROW</li><li>• COLUMN</li></ul>                                                                                  |
| FETCHCOLS              | VARCHAR2 (3)   |          | Extract fetchcols configuration: <ul style="list-style-type: none"><li>• Yes: Extract will fetch non-scalar data</li><li>• No: Extract will not fetch non-scalar data</li></ul> |
| RECORD_CONFLICTS       | VARCHAR2 (3)   |          | Monitoring of conflicts: <ul style="list-style-type: none"><li>• Yes: Conflict info is recorded</li><li>• No: Conflict info is not recorded</li></ul>                           |
| USE_CUSTOM_HANDLERS    | VARCHAR2 (4)   |          | Use of customized or automatic conflict handlers: <ul style="list-style-type: none"><li>• All: If using custom handlers</li><li>• None: If using automatic handlers</li></ul>   |

| Column                  | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ROW_RESOLUTION_METHOD   | VARCHAR2 (18)  |          | Indicates which row-level conflict resolution method to use when the old value of the logical change record (LCR) timestamp column is different from the timestamp column value in the table. Possible values: <ul style="list-style-type: none"> <li>• <b>EARLIEST_TIMESTAMP</b>: The conflict will be resolved in favor of the LCR when the new value of the LCR timestamp column is <i>less than</i> the timestamp column value in the table</li> <li>• <b>LATEST_TIMESTAMP</b>: The conflict will be resolved in favor of the LCR when the new value of the LCR timestamp column is <i>greater than</i> the timestamp column value in the table</li> </ul> |
| DELETE_ALWAYS_WINS      | VARCHAR2 (3)   |          | When a conflict occurs between a delete operation and another operation, a <b>YES</b> value indicates that the delete operation succeeds and the other operation is discarded, and a <b>NO</b> value indicates that there is no special preference for the delete operation                                                                                                                                                                                                                                                                                                                                                                                    |
| IGNORE_SITE_PRIORITY    | VARCHAR2 (3)   |          | When a conflict occurs between a target table change and a source table change, and <b>SITE_PRIORITY</b> has been specified, this value indicates whether <b>SITE_PRIORITY</b> should be ignored ( <b>YES</b> ) or not ( <b>NO</b> )                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TOMBSTONE_TABLE         | VARCHAR2 (128) |          | Tombstone table name (if table has delete tombstoning enabled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| ROW_RESOLUTION_COLUMN   | VARCHAR2 (128) | NOT NULL | Name of row-level timestamp column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| KEY_VERSION_COLUMN      | VARCHAR2 (8)   |          | Indicates whether the table contains a hidden column named <b>KEYVER\$\$</b> , which contains a version timestamp<br>Possible values: <ul style="list-style-type: none"> <li>• <b>KEYVER\$\$</b> - The table contains a <b>KEYVER\$\$</b> column</li> <li>• <b>NONE</b> - The table does not contain a <b>KEYVER\$\$</b> column</li> </ul>                                                                                                                                                                                                                                                                                                                     |
| EXISTING_DATA_TIMESTAMP | TIMESTAMP (6)  |          | Timestamp to give existing rows when a new timestamp column is added                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |



#### See Also:

"DBA\_GG\_AUTO\_CDR\_TABLES"

## 3.205 ALL\_GG\_INBOUND\_PROGRESS

**ALL\_GG\_INBOUND\_PROGRESS** displays information about the progress made by the GoldenGate inbound servers accessible to the current user.

#### Related View

**DBA\_GG\_INBOUND\_PROGRESS** displays information about the progress made by all GoldenGate inbound servers in the database.

| Column                      | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SERVER_NAME                 | VARCHAR2 (128)  | NOT NULL | Name of the inbound server                                                                                                                                                                                                                                                                                                                                                                                |
| PROCESSED_LOW_POSITION      | VARCHAR2 (4000) |          | Position of the processed low transaction                                                                                                                                                                                                                                                                                                                                                                 |
| APPLIED_LOW_POSITION        | VARCHAR2 (4000) |          | All messages with commit position less than this value have been applied.<br><br>This column should be used to view the progress of the GoldenGate apply. This column will hold an Oracle SCN numeric value in text format for an Oracle source database. For a non-Oracle source database, this column will hold the apply low position in GoldenGate CSN text format for that specific source database. |
| APPLIED_HIGH_POSITION       | VARCHAR2 (4000) |          | Highest commit position of a transaction that has been applied                                                                                                                                                                                                                                                                                                                                            |
| SPILL_POSITION              | VARCHAR2 (4000) |          | Position of the spill low watermark of the transactions currently being applied                                                                                                                                                                                                                                                                                                                           |
| OLDEST_POSITION             | VARCHAR2 (4000) |          | Earliest position of the transactions currently being applied                                                                                                                                                                                                                                                                                                                                             |
| APPLIED_LOW_SCN             | NUMBER          | NOT NULL | All SCN below or equal to this number have been successfully applied. This column is not applicable for GoldenGate replication since the source database may be non-Oracle.                                                                                                                                                                                                                               |
| APPLIED_TIME                | DATE            |          | Time at which the APPLIED_MESSAGE_NUMBER message was applied                                                                                                                                                                                                                                                                                                                                              |
| APPLIED_MESSAGE_CREATE_TIME | DATE            |          | Time at which the APPLIED_MESSAGE_NUMBER message was created                                                                                                                                                                                                                                                                                                                                              |
| SOURCE_DATABASE             | VARCHAR2 (128)  |          | Database where the transaction originated                                                                                                                                                                                                                                                                                                                                                                 |
| SOURCE_ROOT_NAME            | VARCHAR2 (128)  |          | The global name of the source root database where all transactions originated                                                                                                                                                                                                                                                                                                                             |
| LOGBSN                      | VARCHAR2 (4000) |          | Log BSN value from the GoldenGate trail file                                                                                                                                                                                                                                                                                                                                                              |



**See Also:**

"DBA\_GG\_INBOUND\_PROGRESS"

## 3.206 ALL\_GOLDENGATE\_INBOUND

ALL\_GOLDENGATE\_INBOUND displays information about the GoldenGate inbound servers accessible to the current user.

### Related View

DBA\_GOLDENGATE\_INBOUND displays information about all GoldenGate inbound servers in the database.

| Column        | Datatype        | NULL | Description                                                        |
|---------------|-----------------|------|--------------------------------------------------------------------|
| REPLICAT_NAME | VARCHAR2 (4000) |      | The name of the replicat group created from GGSCI using GoldenGate |



| Column       | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SERVER_NAME  | VARCHAR2 (128)  | NOT NULL | Name of the inbound server                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| APPLY_USER   | VARCHAR2 (128)  |          | Name of the user who can connect to the inbound server and apply messages                                                                                                                                                                                                                                                                                                                                                                                                       |
| USER_COMMENT | VARCHAR2 (4000) |          | User comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CREATE_DATE  | TIMESTAMP (6)   |          | Date when inbound server was created                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| STATUS       | VARCHAR2 (8)    |          | Status of the inbound server: <ul style="list-style-type: none"><li>• <b>DISABLED</b> - The inbound server is not running.</li><li>• <b>DETACHED</b> - The inbound server is running, but the GoldenGate client application is not attached to it.</li><li>• <b>ATTACHED</b> - The inbound server is running, and the GoldenGate client application is attached to it.</li><li>• <b>ABORTED</b> - The inbound server became disabled because it encountered an error.</li></ul> |

**See Also:**

"DBA\_GOLDENGATE\_INBOUND"

## 3.207 ALL\_GOLDENGATE\_PRIVILEGES

ALL\_GOLDENGATE\_PRIVILEGES displays details about Oracle GoldenGate privileges for the user. Oracle GoldenGate privileges are granted using the DBMS\_GOLDENGATE\_AUTH package.

### Related Views

- DBA\_GOLDENGATE\_PRIVILEGES displays details about Oracle GoldenGate privileges for all users who have been granted Oracle GoldenGate privileges.
- USER\_GOLDENGATE\_PRIVILEGES displays details about Oracle GoldenGate privileges. This view does not display the USERNAME column.

| Column         | Datatype       | NULL     | Description                                                                                                                              |
|----------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------|
| USERNAME       | VARCHAR2 (128) | NOT NULL | Name of the user that is granted the privilege                                                                                           |
| PRIVILEGE_TYPE | VARCHAR2 (7)   |          | Type of privilege granted: <ul style="list-style-type: none"><li>• APPLY</li><li>• CAPTURE</li><li>• *: Both APPLY and CAPTURE</li></ul> |

| Column                  | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------|---------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GRANT_SELECT_PRIVILEGES | VARCHAR2 (3)  |      | Shows whether the set of privileges granted to the administrator make the administrator a full privilege administrator or a minimum privilege administrator: <ul style="list-style-type: none"><li>• YES: The administrator has the SELECT_CATALOG_ROLE role and other privileges, is considered a full privilege administrator, and can manage any Oracle GoldenGate configuration.</li><li>• NO: The administrator is considered a minimum privilege administrator, and can only manage Oracle GoldenGate configurations where the apply_user or capture_user (based on the PRIVILEGE_TYPE column) matches the username.</li></ul> |
| CREATE_TIME             | TIMESTAMP (6) |      | Time at which the privilege was granted                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| LAST_MODIFIED           | TIMESTAMP (6) |      | Time at which the privilege was last modified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

 **See Also:**

- "DBA\_GOLDENGATE\_PRIVILEGES"
- "USER\_GOLDENGATE\_PRIVILEGES"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_GOLDENGATE\_AUTH package

## 3.208 ALL\_GOLDENGATE\_RULES

ALL\_GOLDENGATE\_RULES displays information about the GoldenGate rules accessible to the current user.

### Related View

DBA\_GOLDENGATE\_RULES displays information about all GoldenGate server rules in the database.

| Column              | Datatype       | NULL | Description                                                                                                                                                   |
|---------------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPONENT_NAME      | VARCHAR2 (128) |      | Name of the GoldenGate process                                                                                                                                |
| COMPONENT_TYPE      | VARCHAR2 (12)  |      | Type of the GoldenGate process: <ul style="list-style-type: none"><li>• CAPTURE</li><li>• APPLY</li></ul>                                                     |
| COMPONENT_RULE_TYPE | VARCHAR2 (9)   |      | For global, schema or table rules, the GoldenGate type of the rule: <ul style="list-style-type: none"><li>• TABLE</li><li>• SCHEMA</li><li>• GLOBAL</li></ul> |
| RULE_SET_OWNER      | VARCHAR2 (128) |      | Owner of the rule set                                                                                                                                         |
| RULE_SET_NAME       | VARCHAR2 (128) |      | Name of the rule set                                                                                                                                          |

| Column                  | Datatype       | NULL     | Description                                                                                                                                                    |
|-------------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RULE_SET_TYPE           | CHAR(8)        |          | Type of the rule set: <ul style="list-style-type: none"> <li>• POSITIVE</li> <li>• NEGATIVE</li> </ul>                                                         |
| RULE_OWNER              | VARCHAR2(128)  | NOT NULL | Owner of the rule                                                                                                                                              |
| RULE_NAME               | VARCHAR2(128)  | NOT NULL | Name of the rule                                                                                                                                               |
| RULE_TYPE               | VARCHAR2(9)    |          | For global, schema or table rules, the type of the rule: <ul style="list-style-type: none"> <li>• DML</li> <li>• DDL</li> </ul>                                |
| RULE_CONDITION          | CLOB           |          | Current rule condition                                                                                                                                         |
| SCHEMA_NAME             | VARCHAR2(128)  |          | For table and schema rules, the schema name                                                                                                                    |
| OBJECT_NAME             | VARCHAR2(128)  |          | For table rules, the table name                                                                                                                                |
| INCLUDE_TAGGED_LCR      | VARCHAR2(3)    |          | For global, schema or table rules, indicates whether to include tagged LCRs (YES) or not (NO)                                                                  |
| SUBSETTING_OPERATION    | VARCHAR2(6)    |          | For subset rules, the type of operation: <ul style="list-style-type: none"> <li>• INSERT</li> <li>• UPDATE</li> <li>• DELETE</li> </ul>                        |
| DML_CONDITION           | VARCHAR2(4000) |          | For subset rules, the row subsetting condition                                                                                                                 |
| SOURCE_DATABASE         | VARCHAR2(128)  |          | For global, schema or table rules, the name of the database where the LCRs originated                                                                          |
| ORIGINAL_RULE_CONDITION | VARCHAR2(4000) |          | For rules created by GoldenGate administrative APIs, the original rule condition when the rule was created                                                     |
| SAME_RULE_CONDITION     | VARCHAR2(3)    |          | For rules created by GoldenGate administrative APIs, indicates whether the current rule condition is the same as the original rule condition (YES) or not (NO) |
| SOURCE_ROOT_NAME        | VARCHAR2(128)  |          | The global name of the source root database where the transactions originated                                                                                  |
| SOURCE_CONTAINER_NAME   | VARCHAR2(128)  |          | The container name of the database where the transactions originated                                                                                           |



**See Also:**

"DBA\_GOLDENGATE\_RULES"

## 3.209 ALL\_HEAT\_MAP\_SEG\_HISTOGRAM

ALL\_HEAT\_MAP\_SEG\_HISTOGRAM displays segment access information for all segments visible to the user.

### Related Views

- DBA\_HEAT\_MAP\_SEG\_HISTOGRAM displays segment access information for all segments.
- USER\_HEAT\_MAP\_SEG\_HISTOGRAM displays segment access information for segments owned by the user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                   |
|----------------|----------------|----------|---------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Table owner                                                   |
| OBJECT_NAME    | VARCHAR2 (128) | NOT NULL | Name of the object                                            |
| SUBOBJECT_NAME | VARCHAR2 (128) |          | Name of the sub-object                                        |
| TRACK_TIME     | DATE           |          | System time when the segment access was tracked               |
| SEGMENT_WRITE  | VARCHAR2 (3)   |          | Indicates whether the segment has write access (YES or NO)    |
| FULL_SCAN      | VARCHAR2 (3)   |          | Indicates whether the segment has full table scan (YES or NO) |
| LOOKUP_SCAN    | VARCHAR2 (3)   |          | Indicates whether the segment has lookup scan (YES or NO)     |

**See Also:**

- ["DBA\\_HEAT\\_MAP\\_SEG\\_HISTOGRAM"](#)
- ["USER\\_HEAT\\_MAP\\_SEG\\_HISTOGRAM"](#)

## 3.210 ALL\_HEAT\_MAP\_SEGMENT

ALL\_HEAT\_MAP\_SEGMENT displays the latest segment access time for all segments visible to the user. The timestamps in the view are coarse with a granularity of a day reflecting the flush times of the heat map.

### Related Views

- DBA\_HEAT\_MAP\_SEGMENT displays the latest segment access time for all segments.
- USER\_HEAT\_MAP\_SEGMENT displays the latest segment access time for all segments owned by the user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                               |
|--------------------|----------------|----------|-----------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Table owner                                               |
| OBJECT_NAME        | VARCHAR2 (128) | NOT NULL | Name of the object                                        |
| SUBOBJECT_NAME     | VARCHAR2 (128) |          | Name of the sub-object                                    |
| SEGMENT_WRITE_TIME | DATE           |          | Latest timestamp on which the segment has write access    |
| SEGMENT_READ_TIME  | DATE           |          | Latest timestamp on which the segment has read access     |
| FULL_SCAN          | DATE           |          | Latest timestamp on which the segment has full table scan |
| LOOKUP_SCAN        | DATE           |          | Latest timestamp on which the segment has index scan      |

**See Also:**

- ["DBA\\_HEAT\\_MAP\\_SEGMENT"](#)
- ["USER\\_HEAT\\_MAP\\_SEGMENT"](#)

## 3.211 ALL\_HIER\_CLASS

ALL\_HIER\_CLASS describes the classifications of the hierarchies accessible to the current user.

### Related Views

- DBA\_HIER\_CLASS describes the classifications of all hierarchies in the database.
- USER\_HIER\_CLASS describes the classifications of the hierarchies owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                         |
|----------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the hierarchy                                                                                                                                                                                                                                                                                                                                                              |
| HIER_NAME      | VARCHAR2 (128) | NOT NULL | Name of the hierarchy                                                                                                                                                                                                                                                                                                                                                               |
| CLASSIFICATION | VARCHAR2 (128) |          | Classification associated with the hierarchy                                                                                                                                                                                                                                                                                                                                        |
| VALUE          | CLOB           |          | Value of the classification or NULL if not specified                                                                                                                                                                                                                                                                                                                                |
| LANGUAGE       | VARCHAR2 (64)  |          | NLS_LANGUAGE value associated with the classification or NULL if not specified                                                                                                                                                                                                                                                                                                      |
| ORDER_NUM      | NUMBER         | NOT NULL | Order of the classification in the list of classifications associated with the hierarchy                                                                                                                                                                                                                                                                                            |
| ORIGIN_CON_ID  | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |

**See Also:**

- ["DBA\\_HIER\\_CLASS"](#)
- ["USER\\_HIER\\_CLASS"](#)

## 3.212 ALL\_HIER\_CLASS\_AE

ALL\_HIER\_CLASS\_AE describes the classifications of the hierarchies (across all editions) accessible to the current user.

### Related Views

- DBA\_HIER\_CLASS\_AE describes the classifications of all hierarchies (across all editions) in the database.
- USER\_HIER\_CLASS\_AE describes the classifications of the hierarchies (across all editions) owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                    |
|----------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the hierarchy                                                                                                                                                                                                                                                                                                                                         |
| HIER_NAME      | VARCHAR2 (128) | NOT NULL | Name of the hierarchy                                                                                                                                                                                                                                                                                                                                          |
| CLASSIFICATION | VARCHAR2 (128) |          | Classification associated with the hierarchy                                                                                                                                                                                                                                                                                                                   |
| VALUE          | CLOB           |          | Value of the classification or NULL if not specified                                                                                                                                                                                                                                                                                                           |
| LANGUAGE       | VARCHAR2 (64)  |          | NLS_LANGUAGE value associated with the classification or NULL if not specified                                                                                                                                                                                                                                                                                 |
| ORDER_NUM      | NUMBER         | NOT NULL | Order of the classification in the list of classifications associated with the hierarchy                                                                                                                                                                                                                                                                       |
| ORIGIN_CON_ID  | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• n: This value is used for rows containing data that originate in the container with container ID n (n = 1 if the row originates in root).</li></ul> |
| EDITION_NAME   | VARCHAR2 (128) |          | Name of the application edition where the hierarchy is defined                                                                                                                                                                                                                                                                                                 |

### See Also:

- "DBA\_HIER\_CLASS\_AE"
- "USER\_HIER\_CLASS\_AE"

## 3.213 ALL\_HIER\_COLUMNS

ALL\_HIER\_COLUMNS describes the columns of the hierarchies accessible to the current user.

### Related Views

- DBA\_HIER\_COLUMNS describes the columns of all hierarchies in the database.
- USER\_HIER\_COLUMNS describes the columns of the hierarchies owned by the current user. This view does not display the OWNER column.

| Column               | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                | VARCHAR2 (128) | NOT NULL | Owner of the hierarchy                                                                                                                                                                                                                                                                                                                                                                 |
| HIER_NAME            | VARCHAR2 (128) | NOT NULL | Name of the hierarchy                                                                                                                                                                                                                                                                                                                                                                  |
| COLUMN_NAME          | VARCHAR2 (128) | NOT NULL | Name of the column                                                                                                                                                                                                                                                                                                                                                                     |
| ROLE                 | VARCHAR2 (4)   |          | The role the attribute plays in the hierarchy: <ul style="list-style-type: none"> <li>• KEY</li> <li>• AKEY</li> <li>• HIER</li> <li>• PROP</li> </ul>                                                                                                                                                                                                                                 |
| DATA_TYPE            | VARCHAR2 (106) |          | Datatype of the column                                                                                                                                                                                                                                                                                                                                                                 |
| DATA_LENGTH          | NUMBER         | NOT NULL | Length of the column (in bytes)                                                                                                                                                                                                                                                                                                                                                        |
| DATA_PRECISION       | NUMBER         |          | Decimal precision for the <code>NUMBER</code> datatype; binary precision for the <code>FLOAT</code> datatype, <code>NULL</code> for all other datatypes                                                                                                                                                                                                                                |
| DATA_SCALE           | NUMBER         |          | Number of digits to the right of the decimal point in a number                                                                                                                                                                                                                                                                                                                         |
| NULLABLE             | CHAR (1)       |          | Indicates whether a column allows <code>NULL</code> values; the value is <code>N</code> if there is a <code>NOT NULL</code> constraint on the column or if the column is part of a <code>PRIMARY KEY</code>                                                                                                                                                                            |
| CHARACTER_SET_NAME   | VARCHAR2 (44)  |          | Name of the character set: <ul style="list-style-type: none"> <li>• CHAR_CS</li> <li>• NCHAR_CS</li> </ul>                                                                                                                                                                                                                                                                             |
| CHAR_COL_DECL_LENGTH | NUMBER         |          | Declaration length of the character type column                                                                                                                                                                                                                                                                                                                                        |
| CHAR_USED            | VARCHAR2 (1)   |          | Indicates that the column uses <code>BYTE</code> length semantics ( <code>B</code> ) or <code>CHAR</code> length semantics ( <code>C</code> ), or whether the datatype is not any of the following ( <code>NULL</code> ): <ul style="list-style-type: none"> <li>• CHAR</li> <li>• VARCHAR2</li> <li>• NCHAR</li> <li>• NVARCHAR2</li> </ul>                                           |
| ORDER_NUM            | NUMBER         | NOT NULL | Order of the column, with attributes first in the order specified in the definition of the hierarchy followed by hierarchical attributes                                                                                                                                                                                                                                               |
| ORIGIN_CON_ID        | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |



#### See Also:

- "DBA\_HIER\_COLUMNS"
- "USER\_HIER\_COLUMNS"

## 3.214 ALL\_HIER\_COLUMNS\_AE

ALL\_HIER\_COLUMNS\_AE describes the columns of the hierarchies (across all editions) accessible to the current user.

### Related Views

- DBA\_HIER\_COLUMNS\_AE describes the columns of all hierarchies (across all editions) in the database.
- USER\_HIER\_COLUMNS\_AE describes the columns of the hierarchies (across all editions) owned by the current user. This view does not display the OWNER column.

| Column               | Datatype       | NULL     | Description                                                                                                                                                                                                                                                           |
|----------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                | VARCHAR2 (128) | NOT NULL | Owner of the hierarchy                                                                                                                                                                                                                                                |
| HIER_NAME            | VARCHAR2 (128) | NOT NULL | Name of the hierarchy                                                                                                                                                                                                                                                 |
| COLUMN_NAME          | VARCHAR2 (128) | NOT NULL | Name of the column                                                                                                                                                                                                                                                    |
| ROLE                 | VARCHAR2 (4)   |          | The role the attribute plays in the hierarchy: <ul style="list-style-type: none"> <li>• KEY</li> <li>• AKEY</li> <li>• HIER</li> <li>• PROP</li> </ul>                                                                                                                |
| DATA_TYPE            | VARCHAR2 (106) |          | Datatype of the column                                                                                                                                                                                                                                                |
| DATA_LENGTH          | NUMBER         | NOT NULL | Length of the column (in bytes)                                                                                                                                                                                                                                       |
| DATA_PRECISION       | NUMBER         |          | Decimal precision for the NUMBER datatype; binary precision for the FLOAT datatype, NULL for all other datatypes                                                                                                                                                      |
| DATA_SCALE           | NUMBER         |          | Number of digits to the right of the decimal point in a number                                                                                                                                                                                                        |
| NULLABLE             | CHAR (1)       |          | Indicates whether a column allows NULL values; the value is N if there is a NOT NULL constraint on the column or if the column is part of a PRIMARY KEY                                                                                                               |
| CHARACTER_SET_NAME   | VARCHAR2 (44)  |          | Name of the character set: <ul style="list-style-type: none"> <li>• CHAR_CS</li> <li>• NCHAR_CS</li> </ul>                                                                                                                                                            |
| CHAR_COL_DECL_LENGTH | NUMBER         |          | Declaration length of the character type column                                                                                                                                                                                                                       |
| CHAR_USED            | VARCHAR2 (1)   |          | Indicates that the column uses BYTE length semantics (B) or CHAR length semantics (C), or whether the datatype is not any of the following (NULL): <ul style="list-style-type: none"> <li>• CHAR</li> <li>• VARCHAR2</li> <li>• NCHAR</li> <li>• NVARCHAR2</li> </ul> |
| ORDER_NUM            | NUMBER         | NOT NULL | Order of the column, with attributes first in the order specified in the definition of the hierarchy followed by hierarchical attributes                                                                                                                              |



| Column        | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                        |
|---------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGIN_CON_ID | NUMBER         |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |
| EDITION_NAME  | VARCHAR2 (128) |      | Name of the application edition where the hierarchy is defined                                                                                                                                                                                                                                                                                                                     |



#### See Also:

- "DBA\_HIER\_COLUMNS\_AE"
- "USER\_HIER\_COLUMNS\_AE"

## 3.215 ALL\_HIER\_HIER\_ATTR\_CLASS

ALL\_HIER\_HIER\_ATTR\_CLASS describes the classifications of the hierarchical attributes of the hierarchies accessible to the current user.

#### Related Views

- DBA\_HIER\_HIER\_ATTR\_CLASS describes the classifications of the hierarchical attributes of all hierarchies in the database.
- USER\_HIER\_HIER\_ATTR\_CLASS describes the classifications of the hierarchical attributes of the hierarchies owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                        |
|----------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the hierarchy                                                                                                                                                                                                                                                                                                                                                             |
| HIER_NAME      | VARCHAR2 (128) | NOT NULL | Name of the hierarchy                                                                                                                                                                                                                                                                                                                                                              |
| HIER_ATTR_NAME | VARCHAR2 (128) |          | Name of the hierarchical attribute                                                                                                                                                                                                                                                                                                                                                 |
| CLASSIFICATION | VARCHAR2 (128) |          | Classification associated with the hierarchical attribute                                                                                                                                                                                                                                                                                                                          |
| VALUE          | CLOB           |          | Value associated with the classification or NULL if not specified                                                                                                                                                                                                                                                                                                                  |
| LANGUAGE       | VARCHAR2 (64)  |          | NLS_LANGUAGE value associated with the classification or NULL if not specified                                                                                                                                                                                                                                                                                                     |
| ORDER_NUM      | NUMBER         | NOT NULL | Order of the classification in the list of classifications associated with the hierarchical attribute                                                                                                                                                                                                                                                                              |
| ORIGIN_CON_ID  | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |

 **See Also:**

- "DBA\_HIER\_HIER\_ATTR\_CLASS"
- "USER\_HIER\_HIER\_ATTR\_CLASS"

## 3.216 ALL\_HIER\_HIER\_ATTR\_CLASS\_AE

ALL\_HIER\_HIER\_ATTR\_CLASS\_AE describes the classifications of the hierarchical attributes of the hierarchies (across all editions) accessible to the current user.

### Related Views

- DBA\_HIER\_HIER\_ATTR\_CLASS\_AE describes the classifications of the hierarchical attributes of all hierarchies (across all editions) in the database.
- USER\_HIER\_HIER\_ATTR\_CLASS\_AE describes the classifications of the hierarchical attributes of the hierarchies (across all editions) owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                       |
|----------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the hierarchy                                                                                                                                                                                                                                                                                                                                            |
| HIER_NAME      | VARCHAR2 (128) | NOT NULL | Name of the hierarchy                                                                                                                                                                                                                                                                                                                                             |
| HIER_ATTR_NAME | VARCHAR2 (128) |          | Name of the hierarchical attribute                                                                                                                                                                                                                                                                                                                                |
| CLASSIFICATION | VARCHAR2 (128) |          | Classification associated with the hierarchical attribute                                                                                                                                                                                                                                                                                                         |
| VALUE          | CLOB           |          | Value associated with the classification or NULL if not specified                                                                                                                                                                                                                                                                                                 |
| LANGUAGE       | VARCHAR2 (64)  |          | NLS_LANGUAGE value associated with the classification or NULL if not specified                                                                                                                                                                                                                                                                                    |
| ORDER_NUM      | NUMBER         | NOT NULL | Order of the classification in the list of classifications associated with the hierarchical attribute                                                                                                                                                                                                                                                             |
| ORIGIN_CON_ID  | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• n: This value is used for rows containing data that originate in the container with container ID n (n = 1 if the row originates in root).</li></ul> |
| EDITION_NAME   | VARCHAR2 (128) |          | Name of the application edition where the hierarchy is defined                                                                                                                                                                                                                                                                                                    |

 **See Also:**

- "DBA\_HIER\_HIER\_ATTR\_CLASS\_AE"
- "USER\_HIER\_HIER\_ATTR\_CLASS\_AE"

## 3.217 ALL\_HIER\_HIER\_ATTRIBUTES

ALL\_HIER\_HIER\_ATTRIBUTES describes the hierarchical attributes of the hierarchies accessible to the current user.

### Related Views

- DBA\_HIER\_HIER\_ATTRIBUTES describes the hierarchical attributes of all hierarchies in the database.
- USER\_HIER\_HIER\_ATTRIBUTES describes the hierarchical attributes of the hierarchies owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                            |
|----------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the hierarchy                                                                                                                                                                                                                                                                                                                                                                 |
| HIER_NAME      | VARCHAR2 (128) | NOT NULL | Name of the hierarchy                                                                                                                                                                                                                                                                                                                                                                  |
| HIER_ATTR_NAME | VARCHAR2 (128) |          | Name of the hierarchical attribute                                                                                                                                                                                                                                                                                                                                                     |
| EXPRESSION     | CLOB           |          | The expression defining the hierarchical attribute value                                                                                                                                                                                                                                                                                                                               |
| ORDER_NUM      | NUMBER         | NOT NULL | Order of the hierarchical attribute in the list of hierarchical attributes                                                                                                                                                                                                                                                                                                             |
| ORIGIN_CON_ID  | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |



### See Also:

- "DBA\_HIER\_HIER\_ATTRIBUTES"
- "USER\_HIER\_HIER\_ATTRIBUTES"

## 3.218 ALL\_HIER\_HIER\_ATTRIBUTES\_AE

ALL\_HIER\_HIER\_ATTRIBUTES\_AE describes the hierarchical attributes of the hierarchies (across all editions) accessible to the current user.

### Related Views

- DBA\_HIER\_HIER\_ATTRIBUTES\_AE describes the hierarchical attributes of all hierarchies (across all editions) in the database.
- USER\_HIER\_HIER\_ATTRIBUTES\_AE describes the hierarchical attributes of the hierarchies (across all editions) owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                        |
|----------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the hierarchy                                                                                                                                                                                                                                                                                                                                                             |
| HIER_NAME      | VARCHAR2 (128) | NOT NULL | Name of the hierarchy                                                                                                                                                                                                                                                                                                                                                              |
| HIER_ATTR_NAME | VARCHAR2 (128) |          | Name of the hierarchical attribute                                                                                                                                                                                                                                                                                                                                                 |
| EXPRESSION     | CLOB           |          | The expression defining the hierarchical attribute value                                                                                                                                                                                                                                                                                                                           |
| ORDER_NUM      | NUMBER         | NOT NULL | Order of the hierarchical attribute in the list of hierarchical attributes                                                                                                                                                                                                                                                                                                         |
| ORIGIN_CON_ID  | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |
| EDITION_NAME   | VARCHAR2 (128) |          | Name of the application edition where the hierarchy is defined                                                                                                                                                                                                                                                                                                                     |

**See Also:**

- ["DBA\\_HIER\\_HIER\\_ATTRIBUTES\\_AE"](#)
- ["USER\\_HIER\\_HIER\\_ATTRIBUTES\\_AE"](#)

## 3.219 ALL\_HIER\_JOIN\_PATHS

ALL\_HIER\_JOIN\_PATHS describes the join paths for the hierarchies accessible to the current user.

### Related Views

- DBA\_HIER\_JOIN\_PATHS describes the join paths for all hierarchies in the database.
- USER\_HIER\_JOIN\_PATHS describes the join paths for the hierarchies owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                        |
|----------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the hierarchy                                                                                                                                                                                                                                                                                                                                                             |
| HIER_NAME      | VARCHAR2 (128) | NOT NULL | Name of the hierarchy                                                                                                                                                                                                                                                                                                                                                              |
| JOIN_PATH_NAME | VARCHAR2 (128) | NOT NULL | Name of the join path                                                                                                                                                                                                                                                                                                                                                              |
| ORDER_NUM      | NUMBER         | NOT NULL | Order of the classification in the list of join paths associated with the hierarchy                                                                                                                                                                                                                                                                                                |
| ORIGIN_CON_ID  | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |

**See Also:**

- ["DBA\\_HIER\\_JOIN\\_PATHS"](#)
- ["USER\\_HIER\\_JOIN\\_PATHS"](#)

## 3.220 ALL\_HIER\_JOIN\_PATHS\_AE

ALL\_HIER\_JOIN\_PATHS\_AE describes the join paths for the hierarchies (across all editions) accessible to the current user.

### Related Views

- DBA\_HIER\_JOIN\_PATHS\_AE describes the join paths for all hierarchies (across all editions) in the database.
- USER\_HIER\_JOIN\_PATHS\_AE describes the join paths for the hierarchies (across all editions) owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                            |
|----------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the hierarchy                                                                                                                                                                                                                                                                                                                                                                 |
| HIER_NAME      | VARCHAR2 (128) | NOT NULL | Name of the hierarchy                                                                                                                                                                                                                                                                                                                                                                  |
| JOIN_PATH_NAME | VARCHAR2 (128) | NOT NULL | Name of the join path                                                                                                                                                                                                                                                                                                                                                                  |
| ORDER_NUM      | NUMBER         | NOT NULL | Order of the classification in the list of join paths associated with the hierarchy                                                                                                                                                                                                                                                                                                    |
| ORIGIN_CON_ID  | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |
| EDITION_NAME   | VARCHAR2 (128) |          | Name of the application edition where the hierarchy is defined                                                                                                                                                                                                                                                                                                                         |

**See Also:**

- ["DBA\\_HIER\\_JOIN\\_PATHS\\_AE"](#)
- ["USER\\_HIER\\_JOIN\\_PATHS\\_AE"](#)

## 3.221 ALL\_HIER\_LEVEL\_ID\_ATTRS

ALL\_HIER\_LEVEL\_ID\_ATTRS describes the attributes that uniquely identify members of the levels of the hierarchies accessible to the current user.

### Related Views

- DBA\_HIER\_LEVEL\_ID\_ATTRS describes the attributes that uniquely identify members of the levels of all hierarchies in the database.
- USER\_HIER\_LEVEL\_ID\_ATTRS describes the attributes that uniquely identify members of the levels of the hierarchies owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                            |
|----------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the hierarchy                                                                                                                                                                                                                                                                                                                                                                 |
| HIER_NAME      | VARCHAR2 (128) | NOT NULL | Name of the hierarchy                                                                                                                                                                                                                                                                                                                                                                  |
| LEVEL_NAME     | VARCHAR2 (128) | NOT NULL | Name of hierarchy level                                                                                                                                                                                                                                                                                                                                                                |
| ATTRIBUTE_NAME | VARCHAR2 (128) | NOT NULL | Name of the unique identifier attribute                                                                                                                                                                                                                                                                                                                                                |
| ORDER_NUM      | NUMBER         | NOT NULL | Order of the level in the list of unique identifier attributes for the level                                                                                                                                                                                                                                                                                                           |
| ORIGIN_CON_ID  | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |

### See Also:

- "DBA\_HIER\_LEVEL\_ID\_ATTRS"
- "USER\_HIER\_LEVEL\_ID\_ATTRS"

## 3.222 ALL\_HIER\_LEVEL\_ID\_ATTRS\_AE

ALL\_HIER\_LEVEL\_ID\_ATTRS\_AE describes the attributes that uniquely identify members of the levels of the hierarchies (across all editions) accessible to the current user.

### Related Views

- DBA\_HIER\_LEVEL\_ID\_ATTRS\_AE describes the attributes that uniquely identify members of the levels of all hierarchies (across all editions) in the database.
- USER\_HIER\_LEVEL\_ID\_ATTRS\_AE describes the attributes that uniquely identify members of the levels of the hierarchies (across all editions) owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                           |
|----------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the hierarchy                                                                                                                                                                                                                                                                                                                                                                |
| HIER_NAME      | VARCHAR2 (128) | NOT NULL | Name of the hierarchy                                                                                                                                                                                                                                                                                                                                                                 |
| LEVEL_NAME     | VARCHAR2 (128) | NOT NULL | Name of hierarchy level                                                                                                                                                                                                                                                                                                                                                               |
| ATTRIBUTE_NAME | VARCHAR2 (128) | NOT NULL | Name of the unique identifier attribute                                                                                                                                                                                                                                                                                                                                               |
| ORDER_NUM      | NUMBER         | NOT NULL | Order of the level in the list of unique identifier attributes for the level                                                                                                                                                                                                                                                                                                          |
| ORIGIN_CON_ID  | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |
| EDITION_NAME   | VARCHAR2 (128) |          | Name of the application edition where the hierarchy is defined                                                                                                                                                                                                                                                                                                                        |



#### See Also:

- "DBA\_HIER\_LEVEL\_ID\_ATTRS\_AE"
- "USER\_HIER\_LEVEL\_ID\_ATTRS\_AE"

## 3.223 ALL\_HIER\_LEVELS

ALL\_HIER\_LEVELS describes the levels of the hierarchies accessible to the current user.

#### Related Views

- DBA\_HIER\_LEVELS describes the levels of all hierarchies in the database.
- USER\_HIER\_LEVELS describes the levels of the hierarchies owned by the current user. This view does not display the OWNER column.

| Column        | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                           |
|---------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER         | VARCHAR2 (128) | NOT NULL | Owner of the hierarchy                                                                                                                                                                                                                                                                                                                                                                |
| HIER_NAME     | VARCHAR2 (128) | NOT NULL | Name of the hierarchy                                                                                                                                                                                                                                                                                                                                                                 |
| LEVEL_NAME    | VARCHAR2 (128) | NOT NULL | Name of hierarchy level                                                                                                                                                                                                                                                                                                                                                               |
| ORDER_NUM     | NUMBER         | NOT NULL | Order of the level in the list of hierarchy levels                                                                                                                                                                                                                                                                                                                                    |
| ORIGIN_CON_ID | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |

**See Also:**

- ["DBA\\_HIER\\_LEVELS"](#)
- ["USER\\_HIER\\_LEVELS"](#)

## 3.224 ALL\_HIER\_LEVELS\_AE

ALL\_HIER\_LEVELS\_AE describes the levels of the hierarchies (across all editions) accessible to the current user.

**Related Views**

- DBA\_HIER\_LEVELS\_AE describes the levels of all hierarchies (across all editions) in the database.
- USER\_HIER\_LEVELS\_AE describes the levels of the hierarchies (across all editions) owned by the current user. This view does not display the OWNER column.

| Column        | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                            |
|---------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER         | VARCHAR2 (128) | NOT NULL | Owner of the hierarchy                                                                                                                                                                                                                                                                                                                                                                 |
| HIER_NAME     | VARCHAR2 (128) | NOT NULL | Name of the hierarchy                                                                                                                                                                                                                                                                                                                                                                  |
| LEVEL_NAME    | VARCHAR2 (128) | NOT NULL | Name of hierarchy level                                                                                                                                                                                                                                                                                                                                                                |
| ORDER_NUM     | NUMBER         | NOT NULL | Order of the level in the list of hierarchy levels                                                                                                                                                                                                                                                                                                                                     |
| ORIGIN_CON_ID | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |
| EDITION_NAME  | VARCHAR2 (128) |          | Name of the application edition where the hierarchy is defined                                                                                                                                                                                                                                                                                                                         |

**See Also:**

- ["DBA\\_HIER\\_LEVELS\\_AE"](#)
- ["USER\\_HIER\\_LEVELS\\_AE"](#)

## 3.225 ALL\_HIERARCHIES

ALL\_HIERARCHIES describes the hierarchies accessible to the current user.

**Related Views**

- DBA\_HIERARCHIES describes all hierarchies in the database.



- **USER\_HIERARCHIES** describes the hierarchies owned by the current user. This view does not display the **OWNER** column.

| Column          | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the hierarchy                                                                                                                                                                                                                                                                                                                                                              |
| HIER_NAME       | VARCHAR2 (128) | NOT NULL | Name of the hierarchy                                                                                                                                                                                                                                                                                                                                                               |
| DIMENSION_OWNER | VARCHAR2 (128) | NOT NULL | Owner of the attribute dimension used by the hierarchy                                                                                                                                                                                                                                                                                                                              |
| DIMENSION_NAME  | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension used by the hierarchy                                                                                                                                                                                                                                                                                                                               |
| PARENT_ATTR     | VARCHAR2       |          | The value of this column is always NULL                                                                                                                                                                                                                                                                                                                                             |
| COMPILE_STATE   | VARCHAR2 (7)   |          | Compile status of the hierarchy: <ul style="list-style-type: none"><li>• VALID</li><li>• INVALID</li></ul>                                                                                                                                                                                                                                                                          |
| ORIGIN_CON_ID   | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li></ul> |



#### See Also:

- ["DBA\\_HIERARCHIES"](#)
- ["USER\\_HIERARCHIES"](#)

## 3.226 ALL\_HIERARCHIES\_AE

**ALL\_HIERARCHIES\_AE** describes the hierarchies (across all editions) accessible to the current user.

#### Related Views

- **DBA\_HIERARCHIES\_AE** describes all hierarchies (across all editions) in the database.
- **USER\_HIERARCHIES\_AE** describes the hierarchies (across all editions) owned by the current user. This view does not display the **OWNER** column.

| Column          | Datatype       | NULL     | Description                                                                                                |
|-----------------|----------------|----------|------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the hierarchy                                                                                     |
| HIER_NAME       | VARCHAR2 (128) | NOT NULL | Name of the hierarchy                                                                                      |
| DIMENSION_OWNER | VARCHAR2 (128) | NOT NULL | Owner of the attribute dimension used by the hierarchy                                                     |
| DIMENSION_NAME  | VARCHAR2 (128) | NOT NULL | Name of the attribute dimension used by the hierarchy                                                      |
| PARENT_ATTR     | VARCHAR2       |          | The value of this column is always NULL                                                                    |
| COMPILE_STATE   | VARCHAR2 (7)   |          | Compile status of the hierarchy: <ul style="list-style-type: none"><li>• VALID</li><li>• INVALID</li></ul> |

| Column        | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                        |
|---------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGIN_CON_ID | NUMBER         |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root).</li> </ul> |
| EDITION_NAME  | VARCHAR2 (128) |      | Name of the application edition where the hierarchy is defined                                                                                                                                                                                                                                                                                                                     |



#### See Also:

- "DBA\_HIERARCHIES\_AE"
- "USER\_HIERARCHIES\_AE"

## 3.227 ALL\_HIST\_SAGAS

ALL\_HIST\_SAGAS provides a history of the completed sagas accessible to the current user.

This view displays sagas that were either initiated in the current PDB or joined by participants in the current PDB.

Completed sagas are retained in this view for the length of time specified by the SAGA\_HIST\_RETENTION initialization parameter. The default is 30 days.

#### Related Views

- DBA\_HIST\_SAGAS provides a history of all completed sagas in the database.
- USER\_HIST\_SAGAS provides a history of the completed sagas owned by the current user. This view does not display the OWNER column.

| Column           | Datatype       | NULL     | Description                                                                                                |
|------------------|----------------|----------|------------------------------------------------------------------------------------------------------------|
| ID               | RAW (16)       | NOT NULL | Saga ID                                                                                                    |
| INITIATOR        | VARCHAR2 (128) |          | Name of the saga initiator                                                                                 |
| IS_INITIATOR     | VARCHAR2 (3)   |          | Indicates whether this participant is the saga initiator (YES) or not (NO)                                 |
| COORDINATOR      | VARCHAR2 (128) |          | Name of the saga coordinator                                                                               |
| COORDINATOR_TYPE | VARCHAR2 (50)  |          | Type of the saga coordinator: <ul style="list-style-type: none"> <li>Internal</li> <li>External</li> </ul> |
| OWNER            | VARCHAR2 (128) | NOT NULL | Owner of the saga participant                                                                              |
| PARTICIPANT      | VARCHAR2 (128) | NOT NULL | Name of the saga participant                                                                               |

| Column            | Datatype                     | NULL     | Description                                                                                                                                                                                       |
|-------------------|------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS            | VARCHAR2 (15)                |          | <b>Saga status:</b> <ul style="list-style-type: none"><li>• Auto Committed</li><li>• Auto Rolledback</li><li>• Committed</li><li>• Finalization</li><li>• Rejected</li><li>• Rolledback</li></ul> |
| VERSION           | NUMBER                       | NOT NULL | <b>Saga version</b>                                                                                                                                                                               |
| DURATION          | NUMBER                       |          | <b>Time limit for the saga (in seconds)</b>                                                                                                                                                       |
| START_TIME        | TIMESTAMP (6) WITH TIME ZONE |          | <b>Saga start time</b>                                                                                                                                                                            |
| FINALIZATION_TIME | TIMESTAMP (6) WITH TIME ZONE |          | <b>Time at which the saga finalization was initiated</b>                                                                                                                                          |
| COMPLETION_TIME   | TIMESTAMP (6) WITH TIME ZONE |          | <b>Time at which the saga was marked as completed, that is, all saga participants responded to the finalization request</b>                                                                       |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_HIST\\_SAGAS"](#)
- ["USER\\_HIST\\_SAGAS"](#)
- ["SAGA\\_HIST\\_RETENTION"](#)

## 3.228 ALL\_HISTOGRAMS

ALL\_HISTOGRAMS is a synonym for ALL\_TAB\_HISTOGRAMS.

**See Also:**

["ALL\\_TAB\\_HISTOGRAMS"](#)

## 3.229 ALL\_HIVE\_COLUMNS

ALL\_HIVE\_COLUMNS describes all Hive columns accessible to the current user in a Hive metastore.

### Related Views

- DBA\_HIVE\_COLUMNS describes all Hive columns in a Hive metastore.
- USER\_HIVE\_COLUMNS describes all Hive columns owned by the current user in a Hive metastore.

| Column             | Datatype        | NULL | Description                                                            |
|--------------------|-----------------|------|------------------------------------------------------------------------|
| CLUSTER_ID         | VARCHAR2 (4000) |      | Identifier for the Hadoop cluster                                      |
| DATABASE_NAME      | VARCHAR2 (4000) |      | Hive database where the owning Hive table resides                      |
| TABLE_NAME         | VARCHAR2 (4000) |      | Hive table name that the column belongs to                             |
| COLUMN_NAME        | VARCHAR2 (4000) |      | Hive column name                                                       |
| HIVE_COLUMN_TYPE   | VARCHAR2 (4000) |      | Data type of the Hive column                                           |
| ORACLE_COLUMN_TYPE | VARCHAR2 (4000) |      | Equivalent Oracle data type of the Hive column                         |
| LOCATION           | VARCHAR2 (4000) |      | Physical location of the Hive table                                    |
| OWNER              | VARCHAR2 (4000) |      | Owner of the Hive table                                                |
| CREATION_TIME      | DATE            |      | Time that the Hive column was created                                  |
| HIVE_URI           | VARCHAR2 (4000) |      | The connection string (URI and port number) for the metastore database |



### See Also:

- ["DBA\\_HIVE\\_COLUMNS"](#)
- ["USER\\_HIVE\\_COLUMNS"](#)

## 3.230 ALL\_HIVE\_DATABASES

ALL\_HIVE\_DATABASES describes all the Hive schemas accessible to the current user in a Hadoop cluster.

### Related Views

- DBA\_HIVE\_DATABASES describes all the Hive schemas in a Hadoop cluster.
- USER\_HIVE\_DATABASES describes all the Hive schemas owned by the current user in a Hadoop cluster.

| Column        | Datatype        | NULL | Description                      |
|---------------|-----------------|------|----------------------------------|
| CLUSTER_ID    | VARCHAR2 (4000) |      | Hadoop cluster name              |
| DATABASE_NAME | VARCHAR2 (4000) |      | Name of the Hive database        |
| DESCRIPTION   | VARCHAR2 (4000) |      | Description of the Hive database |

| Column      | Datatype        | NULL | Description                                                            |
|-------------|-----------------|------|------------------------------------------------------------------------|
| DB_LOCATION | VARCHAR2 (4000) |      | Physical location of the Hive database                                 |
| HIVE_URI    | VARCHAR2 (4000) |      | The connection string (URI and port number) for the metastore database |

**See Also:**

- ["DBA\\_HIVE\\_DATABASES"](#)
- ["USER\\_HIVE\\_DATABASES"](#)

## 3.231 ALL\_HIVE\_PART\_KEY\_COLUMNS

ALL\_HIVE\_PART\_KEY\_COLUMNS provides information about all Hive table partition columns accessible to the current user in the database.

**Related Views**

- DBA\_HIVE\_PART\_KEY\_COLUMNS provides information about all Hive table partition columns in the database.
- USER\_HIVE\_PART\_KEY\_COLUMNS provides information about all Hive table partition columns owned by the current user in the database.

| Column             | Datatype        | NULL | Description                                                   |
|--------------------|-----------------|------|---------------------------------------------------------------|
| CLUSTER_ID         | VARCHAR2 (4000) |      | Hadoop cluster name                                           |
| DATABASE_NAME      | VARCHAR2 (4000) |      | Hive database where the Hive table resides                    |
| TABLE_NAME         | VARCHAR2 (4000) |      | Hive table name                                               |
| OWNER              | VARCHAR2 (4000) |      | Owner of the Hive table                                       |
| COLUMN_NAME        | VARCHAR2 (4000) |      | Partition column name                                         |
| COLUMN_TYPE        | VARCHAR2 (4000) |      | Partition column type                                         |
| COLUMN_POSITION    | NUMBER          |      | Partition column position in the Hive partition specification |
| ORACLE_COLUMN_TYPE | VARCHAR2 (4000) |      | Equivalent Oracle data type of the Hive column                |

**See Also:**

- ["DBA\\_HIVE\\_PART\\_KEY\\_COLUMNS"](#)
- ["USER\\_HIVE\\_PART\\_KEY\\_COLUMNS"](#)

## 3.232 ALL\_HIVE\_TAB\_PARTITIONS

ALL\_HIVE\_TAB\_PARTITIONS provides information about all Hive table partitions accessible to the current user in the database.

### Related Views

- DBA\_HIVE\_TAB\_PARTITIONS provides information about all Hive table partitions in the database.
- USER\_HIVE\_TAB\_PARTITIONS provides information about all Hive table partitions owned by the current user in the database.

| Column          | Datatype        | NULL | Description                                |
|-----------------|-----------------|------|--------------------------------------------|
| CLUSTER_ID      | VARCHAR2 (4000) |      | Hadoop cluster name                        |
| DATABASE_NAME   | VARCHAR2 (4000) |      | Hive database where the Hive table resides |
| TABLE_NAME      | VARCHAR2 (4000) |      | Hive table name                            |
| LOCATION        | VARCHAR2 (4000) |      | Physical location of the Hive partition    |
| OWNER           | VARCHAR2 (4000) |      | Owner of the Hive table                    |
| PARTITION_SPECS | VARCHAR2 (4000) |      | The current Hive partition specification   |
| PART_SIZE       | NUMBER          |      | Partition size in bytes                    |
| CREATION_TIME   | DATE            |      | Time that the partition was created        |



### See Also:

- "DBA\_HIVE\_TAB\_PARTITIONS"
- "USER\_HIVE\_TAB\_PARTITIONS"

## 3.233 ALL\_HIVE\_TABLES

ALL\_HIVE\_TABLES provides information about all the Hive tables accessible to the current user in the Hive metastore.

### Related Views

- DBA\_HIVE\_TABLES provides information about all Hive tables in the Hive metastore.
- USER\_HIVE\_TABLES provides information about all Hive tables owned by the current user in the Hive metastore.

| Column        | Datatype        | NULL | Description                                |
|---------------|-----------------|------|--------------------------------------------|
| CLUSTER_ID    | VARCHAR2 (4000) |      | Hadoop cluster name                        |
| DATABASE_NAME | VARCHAR2 (4000) |      | Hive database where the Hive table resides |
| TABLE_NAME    | VARCHAR2 (4000) |      | Hive table name                            |
| LOCATION      | VARCHAR2 (4000) |      | Physical location of the Hive table        |
| NO_OF_COLS    | NUMBER          |      | Number of columns in the Hive table        |

| Column             | Datatype        | NULL | Description                                                            |
|--------------------|-----------------|------|------------------------------------------------------------------------|
| CREATION_TIME      | DATE            |      | Creation time of the Hive table                                        |
| LAST_ACCESSED_TIME | DATE            |      | Time that the Hive table was last accessed                             |
| OWNER              | VARCHAR2 (4000) |      | Owner of the Hive table                                                |
| TABLE_TYPE         | VARCHAR2 (4000) |      | Type of the Hive table                                                 |
| PARTITIONED        | VARCHAR2 (4000) |      | Is this Hive table partitioned?                                        |
| NO_OF_PART_KEYS    | NUMBER          |      | Number of partition keys in the Hive table                             |
| INPUT_FORMAT       | VARCHAR2 (4000) |      | Hive table input format                                                |
| OUTPUT_FORMAT      | VARCHAR2 (4000) |      | Hive table output format                                               |
| SERIALIZATION      | VARCHAR2 (4000) |      | Hive table serialization                                               |
| COMPRESSED         | NUMBER          |      | Is this Hive table compressed?                                         |
| HIVE_URI           | VARCHAR2 (4000) |      | The connection string (URI and port number) for the metastore database |

**See Also:**

- ["DBA\\_HIVE\\_TABLES"](#)
- ["USER\\_HIVE\\_TABLES"](#)

## 3.234 ALL\_IDENTIFIERS

ALL\_IDENTIFIERS displays information about the identifiers in the stored objects accessible to the current user.

**Related Views**

- DBA\_IDENTIFIERS displays information about the identifiers in all stored objects in the database.
- USER\_IDENTIFIERS displays information about the identifiers in the stored objects owned by the current user. This view does not display the OWNER column.

| Column    | Datatype       | NULL     | Description                 |
|-----------|----------------|----------|-----------------------------|
| OWNER     | VARCHAR2 (128) | NOT NULL | Owner of the identifier     |
| NAME      | VARCHAR2 (128) |          | Name of the identifier      |
| SIGNATURE | VARCHAR2 (32)  |          | Signature of the identifier |

| Column           | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE             | VARCHAR2 (18)  |          | Type of the identifier.<br>For SQL identifiers, the types include: <ul style="list-style-type: none"> <li>• TABLE</li> <li>• VIEW</li> <li>• SEQUENCE</li> <li>• ALIAS</li> <li>• COLUMN</li> <li>• MATERIALIZED VIEW</li> <li>• OPERATOR</li> </ul> For PL/SQL identifiers, the types include: <ul style="list-style-type: none"> <li>• FUNCTION</li> <li>• PROCEDURE</li> <li>• PACKAGE</li> </ul> |
| OBJECT_NAME      | VARCHAR2 (128) | NOT NULL | Name of the object where the identifier action occurred                                                                                                                                                                                                                                                                                                                                              |
| OBJECT_TYPE      | VARCHAR2 (13)  |          | Type of the object where the identifier action occurred                                                                                                                                                                                                                                                                                                                                              |
| USAGE            | VARCHAR2 (11)  |          | Type of the identifier usage: <ul style="list-style-type: none"> <li>• DECLARATION</li> <li>• DEFINITION</li> <li>• CALL</li> <li>• REFERENCE</li> <li>• ASSIGNMENT</li> </ul>                                                                                                                                                                                                                       |
| USAGE_ID         | NUMBER         |          | Unique key for the identifier usage within the object                                                                                                                                                                                                                                                                                                                                                |
| LINE             | NUMBER         |          | Line number of the identifier action                                                                                                                                                                                                                                                                                                                                                                 |
| COL              | NUMBER         |          | Column number of the identifier action                                                                                                                                                                                                                                                                                                                                                               |
| USAGE_CONTEXT_ID | NUMBER         |          | Context USAGE_ID of the identifier usage                                                                                                                                                                                                                                                                                                                                                             |
| CHARACTER_SET    | VARCHAR2 (10)  |          | Contains the value of the <code>character set</code> clause when it is used in a variable identifier declaration. These are the possible values when the character set is derived from another variable identifier: <ul style="list-style-type: none"> <li>• CHAR_CS</li> <li>• NCHAR_CS</li> <li>• IDENTIFIER</li> </ul>                                                                            |
| ATTRIBUTE        | VARCHAR2 (7)   |          | Column contains the attribute value when <code>%attribute</code> is used in a variable declaration. Possible values: <ul style="list-style-type: none"> <li>• ROWTYPE</li> <li>• TYPE</li> <li>• CHARSET</li> </ul>                                                                                                                                                                                  |
| CHAR_USED        | VARCHAR2 (4)   |          | Contains the type of the length constraint when it is used in a string length constraint declaration. Possible values: <ul style="list-style-type: none"> <li>• CHAR</li> <li>• BYTE</li> </ul>                                                                                                                                                                                                      |
| LENGTH           | NUMBER         |          | Contains the numeric length constraint value for a string length constraint declaration                                                                                                                                                                                                                                                                                                              |
| PRECISION        | NUMBER         |          | Contains the numeric precision when it is used in a variable declaration                                                                                                                                                                                                                                                                                                                             |
| PRECISION2       | NUMBER         |          | Contains the numeric second precision value (for instance, interval types) used in a variable declaration                                                                                                                                                                                                                                                                                            |



| Column               | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCALE                | NUMBER         |          | Contains the numeric scale value used in a variable declaration.                                                                                                                                                                                                                                                                                                                      |
| LOWER_RANGE          | NUMBER         |          | Contains the numeric lower range value used by a variable declaration with a range constraint                                                                                                                                                                                                                                                                                         |
| UPPER_RANGE          | NUMBER         |          | Contains the numeric upper range value used by a variable declaration with a range constraint                                                                                                                                                                                                                                                                                         |
| NULL_CONSTRAINT      | VARCHAR2 (8)   |          | This column is set when a <b>NULL</b> constraint is used by a variable declaration. Possible values: <ul style="list-style-type: none"> <li>• <b>NULL</b></li> <li>• <b>NOT NULL</b></li> </ul>                                                                                                                                                                                       |
| SQL_BUILTIN          | VARCHAR2 (3)   |          | Is set to <b>YES</b> when an identifier is a SQL builtin used in a SQL statement issued from PL/SQL. Otherwise, this column is set to <b>NO</b> .                                                                                                                                                                                                                                     |
| IMPLICIT             | VARCHAR2 (3)   |          | Indicates whether the identifier is an implicit identifier that does not appear in the source ( <b>YES</b> ) or not ( <b>NO</b> )                                                                                                                                                                                                                                                     |
| DECLARED_OWNER       | VARCHAR2 (128) | NOT NULL | Owner of the object in which this identifier was declared                                                                                                                                                                                                                                                                                                                             |
| DECLARED_OBJECT_NAME | VARCHAR2 (128) | NOT NULL | Name of the object in which this identifier was declared                                                                                                                                                                                                                                                                                                                              |
| DECLARED_OBJECT_TYPE | VARCHAR2 (12)  |          | Type of the object in which this identifier was declared                                                                                                                                                                                                                                                                                                                              |
| ORIGIN_CON_ID        | VARCHAR2 (256) |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root)</li> </ul> |



#### See Also:

- "DBA\_IDENTIFIERS"
- "USER\_IDENTIFIERS"

## 3.235 ALL\_IMMUTABLE\_ROW\_VERSION\_COLS

**ALL\_IMMUTABLE\_ROW\_VERSION\_COLS** displays information about row versioned columns in the immutable tables accessible to the current user.

#### Related Views

- **DBA\_IMMUTABLE\_ROW\_VERSION\_COLS** displays information about row versioned columns in all immutable tables in the database.
- **USER\_IMMUTABLE\_ROW\_VERSION\_COLS** displays information about row versioned columns in the immutable tables owned by the current user.

| Column           | Datatype       | NULL     | Description                                                                                                   |
|------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------|
| SCHEMA_NAME      | VARCHAR2 (128) | NOT NULL | Schema containing the immutable table                                                                         |
| TABLE_NAME       | VARCHAR2 (128) | NOT NULL | Name of the immutable table                                                                                   |
| ROW_VERSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the row version                                                                                       |
| KEYCOL1_NAME     | VARCHAR2 (128) | NOT NULL | Name of version key column 1                                                                                  |
| KEYCOL2_NAME     | VARCHAR2 (128) |          | Name of version key column 2<br>Null if only one version key column is specified for the row version          |
| KEYCOL3_NAME     | VARCHAR2 (128) |          | Name of version key column 3<br>Null if only one or two version key columns are specified for the row version |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_IMMUTABLE\\_ROW\\_VERSION\\_COLS"](#)
- ["USER\\_IMMUTABLE\\_ROW\\_VERSION\\_COLS"](#)

## 3.236 ALL\_IMMUTABLE\_ROW\_VERSION\_HISTORY

ALL\_IMMUTABLE\_ROW\_VERSION\_HISTORY provides a history of row versions in the immutable tables accessible to the current user.

This view is populated for an immutable table with a row version only when rows are purged from that immutable table. For each different value of the PDB\_GUID and KEYCOL<sub>n</sub>\_VALUE columns, information about only the youngest purged row is kept in the view.

### Related Views

- DBA\_IMMUTABLE\_ROW\_VERSION\_HISTORY provides a history of row versions in all immutable tables in the database.
- USER\_IMMUTABLE\_ROW\_VERSION\_HISTORY provides a history of row versions in the immutable tables owned by the current user. This view does not display the SCHEMA\_NAME column.

| Column           | Datatype       | NULL     | Description                           |
|------------------|----------------|----------|---------------------------------------|
| SCHEMA_NAME      | VARCHAR2 (128) | NOT NULL | Schema containing the immutable table |
| TABLE_NAME       | VARCHAR2 (128) | NOT NULL | Name of the immutable table           |
| ROW_VERSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the row version               |

| Column          | Datatype                    | NULL | Description                                                                                                                                                |
|-----------------|-----------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PDB_GUID        | RAW(16)                     |      | Global unique identifier of the pluggable database that inserted the row before any GoldenGate processes might have replicated the row to another database |
| KEYCOL1_VALUE   | VARCHAR2(400)               |      | Value of version key column 1                                                                                                                              |
| KEYCOL2_VALUE   | VARCHAR2(400)               |      | Value of version key column 2                                                                                                                              |
|                 |                             |      | Null if only one version key column is specified for the row version                                                                                       |
| KEYCOL3_VALUE   | VARCHAR2(400)               |      | Value of version key column 3                                                                                                                              |
|                 |                             |      | Null if only one or two version key columns are specified for the row version                                                                              |
| VERSION_NUMBER  | NUMBER                      |      | Row version number                                                                                                                                         |
| ROW_CREATE_TIME | TIMESTAMP(6) WITH TIME ZONE |      | Date and time at which the row version was created                                                                                                         |
| INST_ID         | NUMBER                      |      | Identifier of any instance using a distributed or XA transaction to append to the row version history                                                      |
| TRAN_ID         | VARCHAR2(22)                |      | Identifier of any distributed transaction branch that is appending to the row version history                                                              |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- "DBA\_IMMUTABLE\_ROW\_VERSION\_HISTORY"
- "USER\_IMMUTABLE\_ROW\_VERSION\_HISTORY"

## 3.237 ALL\_IMMUTABLE\_TABLE\_COLUMNS

ALL\_IMMUTABLE\_TABLE\_COLUMNS displays information about columns valid in each epoch in the immutable tables accessible to the current user.

### Related Views

- DBA\_IMMUTABLE\_TABLE\_COLUMNS displays information about columns valid in each epoch in all immutable tables in the database.
- USER\_IMMUTABLE\_TABLE\_COLUMNS displays information about columns valid in each epoch in the immutable tables owned by the current user. This view does not display the SCHEMA\_NAME column.

| Column      | Datatype      | NULL     | Description                                       |
|-------------|---------------|----------|---------------------------------------------------|
| SCHEMA_NAME | VARCHAR2(128) | NOT NULL | Name of the schema containing the immutable table |
| TABLE_NAME  | VARCHAR2(128) | NOT NULL | Immutable table name                              |

| Column             | Datatype       | NULL     | Description                       |
|--------------------|----------------|----------|-----------------------------------|
| EPOCH_NUMBER       | NUMBER         |          | Epoch number                      |
| COLUMN_NAME        | VARCHAR2 (128) | NOT NULL | Name of the column                |
| INTERNAL_COLUMN_ID | NUMBER         | NOT NULL | Internal identifier of the column |
| COLUMN_DATA_TYPE   | VARCHAR2 (106) |          | Data type of the column           |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_IMMUTABLE\\_TABLE\\_COLUMNS"](#)
- ["USER\\_IMMUTABLE\\_TABLE\\_COLUMNS"](#)

## 3.238 ALL\_IMMUTABLE\_TABLE\_EPOCHS

ALL\_IMMUTABLE\_TABLE\_EPOCHS displays epoch information for the immutable tables accessible to the current user.

### Related Views

- DBA\_IMMUTABLE\_TABLE\_EPOCHS displays epoch information for all immutable tables in the database.
- USER\_IMMUTABLE\_TABLE\_EPOCHS displays epoch information for the immutable tables owned by the current user. This view does not display the SCHEMA\_NAME column.

| Column       | Datatype                     | NULL     | Description                                                                                                                                                                                            |
|--------------|------------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCHEMA_NAME  | VARCHAR2 (128)               | NOT NULL | Name of the schema containing the immutable table                                                                                                                                                      |
| TABLE_NAME   | VARCHAR2 (128)               | NOT NULL | Immutable table name                                                                                                                                                                                   |
| EPOCH_NUMBER | NUMBER                       |          | Epoch number                                                                                                                                                                                           |
| EPOCH_NAME   | VARCHAR2 (11)                |          | Epoch name describes the reason for the epoch and is one of the following values: <ul style="list-style-type: none"><li>• CREATE</li><li>• IMPORT</li><li>• ADD COLUMN</li><li>• DROP COLUMN</li></ul> |
| PDB_GUID     | RAW (16)                     |          | Global unique identifier of the pluggable database where the immutable table epoch was created                                                                                                         |
| START_TIME   | TIMESTAMP (6) WITH TIME ZONE |          | Time at which the epoch was created                                                                                                                                                                    |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- "DBA\_IMMUTABLE\_TABLE\_EPOCHS"
- "USER\_IMMUTABLE\_TABLE\_EPOCHS"

## 3.239 ALL\_IMMUTABLE\_TABLES

ALL\_IMMUTABLE\_TABLES describes the immutable tables accessible to the current user.

### Related Views

- DBA\_IMMUTABLE\_TABLES describes all immutable tables in the database.
- USER\_IMMUTABLE\_TABLES describes the immutable tables owned by the current user. This view does not display the SCHEMA\_NAME column.

| Column                     | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCHEMA_NAME                | VARCHAR2 (128) | NOT NULL | The schema containing the immutable table                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TABLE_NAME                 | VARCHAR2 (128) | NOT NULL | Name of the immutable table                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ROW_RETENTION              | NUMBER         |          | Row retention period for the immutable table, that is, the minimum number of days a row must be retained and cannot be deleted after it is inserted into the table<br>If the value of this column is NULL, then rows can never be deleted from the table.                                                                                                                                                                                                           |
| ROW_RETENTION_LOCKED       | VARCHAR2 (3)   |          | Indicates whether the row retention period for the immutable table is locked. Possible values: <ul style="list-style-type: none"><li>• YES: The row retention period is locked. You cannot change the row retention period</li><li>• NO: The row retention period is not locked. You can change the row retention period to a value higher than the current value with the SQL statement <code>ALTER TABLE ... NO DELETE UNTIL n DAYS AFTER INSERT</code></li></ul> |
| TABLE_INACTIVITY_RETENTION | NUMBER         |          | Number of days for which the immutable table must be inactive before it can be dropped, that is, the number of days that must pass after the most recent row insertion before the table can be dropped<br>A table with no rows can be dropped at any time, regardless of this column value.                                                                                                                                                                         |
| TABLE_VERSION              | VARCHAR2 (7)   |          | Immutable table version. Possible values: <ul style="list-style-type: none"><li>• V1</li><li>• V2</li></ul>                                                                                                                                                                                                                                                                                                                                                         |
| CURRENT_EPOCH              | NUMBER         |          | Current epoch number for the immutable table                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Column      | Datatype                        | NULL | Description                                                   |
|-------------|---------------------------------|------|---------------------------------------------------------------|
| DELETE_TIME | TIMESTAMP (6) WITH<br>TIME ZONE |      | Youngest threshold used to delete rows in the immutable table |



#### See Also:

- "DBA\_IMMUTABLE\_TABLES"
- "USER\_IMMUTABLE\_TABLES"

## 3.240 ALL\_INCOMPLETE\_SAGAS

ALL\_INCOMPLETE\_SAGAS describes the incomplete sagas accessible to the current user.

This view displays sagas that were either initiated in the current PDB or joined by participants in the current PDB.

#### Related Views

- DBA\_INCOMPLETE\_SAGAS describes all incomplete sagas in the database.
- USER\_INCOMPLETE\_SAGAS describes the incomplete sagas owned by the current user. This view does not display the OWNER column.

| Column           | Datatype                        | NULL     | Description                                                                                                                  |
|------------------|---------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------|
| ID               | RAW (16)                        | NOT NULL | Saga ID                                                                                                                      |
| INITIATOR        | VARCHAR2 (128)                  |          | Name of the saga initiator                                                                                                   |
| IS_INITIATOR     | VARCHAR2 (3)                    |          | Indicates whether this participant is the saga initiator (YES) or not (NO)                                                   |
| COORDINATOR      | VARCHAR2 (128)                  |          | Name of the saga coordinator                                                                                                 |
| COORDINATOR_TYPE | VARCHAR2 (50)                   |          | Type of the saga coordinator: <ul style="list-style-type: none"> <li>• Internal</li> <li>• External</li> </ul>               |
| OWNER            | VARCHAR2 (128)                  | NOT NULL | Owner of the saga participant                                                                                                |
| PARTICIPANT      | VARCHAR2 (128)                  | NOT NULL | Name of the saga participant                                                                                                 |
| STATUS           | VARCHAR2 (15)                   |          | Saga status: <ul style="list-style-type: none"> <li>• Commit Failed</li> <li>• Rollback Failed</li> <li>• Timeout</li> </ul> |
| VERSION          | NUMBER                          | NOT NULL | Saga version                                                                                                                 |
| DURATION         | NUMBER                          |          | Time limit for the saga (in seconds)                                                                                         |
| START_TIME       | TIMESTAMP (6) WITH<br>TIME ZONE |          | Saga start time                                                                                                              |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_INCOMPLETE\\_SAGAS"](#)
- ["USER\\_INCOMPLETE\\_SAGAS"](#)

## 3.241 ALL\_IND\_COLUMNS

ALL\_IND\_COLUMNS describes the columns of indexes on all tables accessible to the current user.

### Related Views

- [DBA\\_IND\\_COLUMNS](#) describes the columns of indexes on all tables in the database.
- [USER\\_IND\\_COLUMNS](#) describes the columns of indexes owned by the current user and columns of indexes on tables owned by the current user. This view does not display the INDEX\_OWNER or TABLE\_OWNER columns.

**Note:**

For join indexes, the TABLE\_NAME and TABLE\_OWNER columns in this view may not match the TABLE\_NAME and TABLE\_OWNER columns you find in the \*\_INDEXES (and other similar) data dictionary views.

| Column          | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                |
|-----------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INDEX_OWNER     | VARCHAR2 (128)  | NOT NULL | Owner of the index                                                                                                                                                                                                                                                                                                                                                         |
| INDEX_NAME      | VARCHAR2 (128)  | NOT NULL | Name of the index                                                                                                                                                                                                                                                                                                                                                          |
| TABLE_OWNER     | VARCHAR2 (128)  | NOT NULL | Owner of the table or cluster                                                                                                                                                                                                                                                                                                                                              |
| TABLE_NAME      | VARCHAR2 (128)  | NOT NULL | Name of the table or cluster                                                                                                                                                                                                                                                                                                                                               |
| COLUMN_NAME     | VARCHAR2 (4000) |          | Column name or attribute of the object type column<br><b>Note:</b> If you create an index on a user-defined REF column, the system creates the index on the attributes that make up the REF column. Therefore, the column names displayed in this view are the attribute names, with the REF column name as a prefix, in the following form:<br><br>"REF_name"."attribute" |
| COLUMN_POSITION | NUMBER          | NOT NULL | Position of the column or attribute within the index                                                                                                                                                                                                                                                                                                                       |
| COLUMN_LENGTH   | NUMBER          | NOT NULL | Indexed length of the column                                                                                                                                                                                                                                                                                                                                               |
| CHAR_LENGTH     | NUMBER          |          | Maximum codepoint length of the column                                                                                                                                                                                                                                                                                                                                     |

| Column             | Datatype     | NULL | Description                                                                                                              |
|--------------------|--------------|------|--------------------------------------------------------------------------------------------------------------------------|
| DESCEND            | VARCHAR2 (4) |      | Indicates whether the column is sorted in descending order ( <code>DESC</code> ) or ascending order ( <code>ASC</code> ) |
| COLLATED_COLUMN_ID | NUMBER       |      | Internal sequence number of the column for which this column provides linguistic ordering                                |

**See Also:**

- ["DBA\\_IND\\_COLUMNS"](#)
- ["USER\\_IND\\_COLUMNS"](#)

## 3.242 ALL\_IND\_EXPRESSIONS

`ALL_IND_EXPRESSIONS` describes the expressions of function-based indexes on tables accessible to the current user.

**Related Views**

- `DBA_IND_EXPRESSIONS` describes the expressions of all function-based indexes in the database.
- `USER_IND_EXPRESSIONS` describes the expressions of function-based indexes on tables owned by the current user. This view does not display the `INDEX_OWNER` or `TABLE_OWNER` columns.

| Column            | Datatype       | NULL     | Description                                          |
|-------------------|----------------|----------|------------------------------------------------------|
| INDEX_OWNER       | VARCHAR2 (128) | NOT NULL | Owner of the index                                   |
| INDEX_NAME        | VARCHAR2 (128) | NOT NULL | Name of the index                                    |
| TABLE_OWNER       | VARCHAR2 (128) | NOT NULL | Owner of the table or cluster                        |
| TABLE_NAME        | VARCHAR2 (128) | NOT NULL | Name of the table or cluster                         |
| COLUMN_EXPRESSION | LONG           |          | Function-based index expression defining the column  |
| COLUMN_POSITION   | NUMBER         | NOT NULL | Position of the column or attribute within the index |

**See Also:**

- ["DBA\\_IND\\_EXPRESSIONS"](#)
- ["USER\\_IND\\_EXPRESSIONS"](#)



## 3.243 ALL\_IND\_PARTITIONS

ALL\_IND\_PARTITIONS displays, for each index partition accessible to the current user, the partition-level partitioning information, the storage parameters for the partition, and various partition statistics generated by the DBMS\_STATS package.

### Related Views

- DBA\_IND\_PARTITIONS describes all index partitions in the database.
- USER\_IND\_PARTITIONS describes the index partitions owned by the current user. This view does not display the INDEX\_OWNER column.

| Column             | Datatype       | NULL | Description                                                                                                                                                                                                                                                   |
|--------------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INDEX_OWNER        | VARCHAR2 (128) |      | Owner of the index                                                                                                                                                                                                                                            |
| INDEX_NAME         | VARCHAR2 (128) |      | Name of the index                                                                                                                                                                                                                                             |
| COMPOSITE          | VARCHAR2 (3)   |      | Indicates whether the partition belongs to a local index on a composite-partitioned table (YES) or not (NO)                                                                                                                                                   |
| PARTITION_NAME     | VARCHAR2 (128) |      | Name of the partition                                                                                                                                                                                                                                         |
| SUBPARTITION_COUNT | NUMBER         |      | If a local index on a composite-partitioned table, the number of subpartitions in the partition                                                                                                                                                               |
| HIGH_VALUE         | LONG           |      | Partition bound value expression                                                                                                                                                                                                                              |
| HIGH_VALUE_LENGTH  | NUMBER         |      | Length of the partition bound value expression                                                                                                                                                                                                                |
| PARTITION_POSITION | NUMBER         |      | Position of the partition within the index                                                                                                                                                                                                                    |
| STATUS             | VARCHAR2 (8)   |      | Indicates whether the index partition is usable (USABLE) or not (UNUSABLE)                                                                                                                                                                                    |
| TABLESPACE_NAME    | VARCHAR2 (30)  |      | Name of the tablespace containing the partition                                                                                                                                                                                                               |
| PCT_FREE           | NUMBER         |      | Minimum percentage of free space in a block                                                                                                                                                                                                                   |
| INI_TRANS          | NUMBER         |      | Initial number of transactions                                                                                                                                                                                                                                |
| MAX_TRANS          | NUMBER         |      | Maximum number of transactions                                                                                                                                                                                                                                |
| INITIAL_EXTENT     | NUMBER         |      | Size of the initial extent in bytes                                                                                                                                                                                                                           |
| NEXT_EXTENT        | NUMBER         |      | Size of secondary extents in bytes                                                                                                                                                                                                                            |
| MIN_EXTENT         | NUMBER         |      | Minimum number of extents allowed in the segment                                                                                                                                                                                                              |
| MAX_EXTENT         | NUMBER         |      | Maximum number of extents allowed in the segment                                                                                                                                                                                                              |
| MAX_SIZE           | NUMBER         |      | Maximum number of blocks allowed in the segment                                                                                                                                                                                                               |
| PCT_INCREASE       | NUMBER         |      | Percentage increase in extent size                                                                                                                                                                                                                            |
| FREELISTS          | NUMBER         |      | Number of process freelists allocated in this segment                                                                                                                                                                                                         |
| FREELIST_GROUPS    | NUMBER         |      | Number of process freelist groups allocated in this segment                                                                                                                                                                                                   |
| LOGGING            | VARCHAR2 (7)   |      | Indicates whether or not changes to the index are logged: <ul style="list-style-type: none"> <li>• NONE - Not specified</li> </ul> <p><b>See Also:</b> the *_IND_SUBPARTITIONS view</p> <ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> </ul> |

| Column                  | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------|---------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPRESSION             | VARCHAR2 (13) |      | Type of compression being used for the partition: <ul style="list-style-type: none"> <li>• <code>ENABLED</code> - Prefix compression</li> <li>• <code>ADVANCED HIGH</code> - Advanced high compression</li> <li>• <code>ADVANCED LOW</code> - Advanced low compression</li> <li>• <code>DISABLED</code> - No compression is present</li> </ul>                                                                                                                                                                                                |
| BLEVEL                  | NUMBER        |      | B*-Tree level (depth of the index from its root block to its leaf blocks). A depth of 0 indicates that the root block and leaf block are the same.                                                                                                                                                                                                                                                                                                                                                                                            |
| LEAF_BLOCKS             | NUMBER        |      | Number of leaf blocks in the index partition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DISTINCT_KEYS           | NUMBER        |      | Number of distinct keys in the index partition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| AVG_LEAF_BLOCKS_PER_KEY | NUMBER        |      | Average number of leaf blocks in which each distinct value in the index appears, rounded to the nearest integer. For indexes that enforce <code>UNIQUE</code> and <code>PRIMARY KEY</code> constraints, this value is always 1.                                                                                                                                                                                                                                                                                                               |
| AVG_DATA_BLOCKS_PER_KEY | NUMBER        |      | Average number of data blocks in the table that are pointed to by a distinct value in the index rounded to the nearest integer. This statistic is the average number of data blocks that contain rows that contain a given value for the indexed columns.                                                                                                                                                                                                                                                                                     |
| CLUSTERING_FACTOR       | NUMBER        |      | Indicates the amount of order of the rows in the table based on the values of the index. <ul style="list-style-type: none"> <li>• If the value is near the number of blocks, then the table is very well ordered. In this case, the index entries in a single leaf block tend to point to rows in the same data blocks.</li> <li>• If the value is near the number of rows, then the table is very randomly ordered. In this case, it is unlikely that index entries in the same leaf block point to rows in the same data blocks.</li> </ul> |
| NUM_ROWS                | NUMBER        |      | Number of rows returned                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SAMPLE_SIZE             | NUMBER        |      | Sample size used in analyzing this partition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| LAST_ANALYZED           | DATE          |      | Date on which this partition was most recently analyzed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| BUFFER_POOL             | VARCHAR2 (7)  |      | Actual buffer pool for the partition: <ul style="list-style-type: none"> <li>• <code>DEFAULT</code></li> <li>• <code>KEEP</code></li> <li>• <code>RECYCLE</code></li> <li>• <code>NULL</code></li> </ul>                                                                                                                                                                                                                                                                                                                                      |
| FLASH_CACHE             | VARCHAR2 (7)  |      | Database Smart Flash Cache hint to be used for partition blocks: <ul style="list-style-type: none"> <li>• <code>DEFAULT</code></li> <li>• <code>KEEP</code></li> <li>• <code>NONE</code></li> </ul> <p>Solaris and Oracle Linux functionality only.</p>                                                                                                                                                                                                                                                                                       |
| CELL_FLASH_CACHE        | VARCHAR2 (7)  |      | Cell flash cache hint to be used for partition blocks: <ul style="list-style-type: none"> <li>• <code>DEFAULT</code></li> <li>• <code>KEEP</code></li> <li>• <code>NONE</code></li> </ul> <p><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information</p>                                                                                                                                                                                                                                                   |

| Column            | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------|-----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USER_STATS        | VARCHAR2 (3)    |      | Indicates whether statistics were entered directly by the user (YES) or not (NO)                                                                                                                                                                                                                                                                                                       |
| PCT_DIRECT_ACCESS | NUMBER          |      | If a secondary index on index-organized table, the percentage of rows with VALID guess                                                                                                                                                                                                                                                                                                 |
| GLOBAL_STATS      | VARCHAR2 (3)    |      | GLOBAL_STATS will be YES if statistics have been gathered or NO if statistics have been aggregated from subpartitions or have not been gathered                                                                                                                                                                                                                                        |
| DOMIDX_OPSTATUS   | VARCHAR2 (6)    |      | Status of the operation on a domain index: <ul style="list-style-type: none"> <li>• NULL - Index is not a domain index</li> <li>• VALID - Operation performed without errors</li> <li>• FAILED - Operation failed with an error</li> </ul>                                                                                                                                             |
| PARAMETERS        | VARCHAR2 (1000) |      | For a domain index, the parameter string                                                                                                                                                                                                                                                                                                                                               |
| INTERVAL          | VARCHAR2 (3)    |      | Indicates whether the partition is in the interval section of an interval partitioned table (YES) or whether the partition is in the range section (NO)                                                                                                                                                                                                                                |
| SEGMENT_CREATED   | VARCHAR2 (3)    |      | Indicates whether the index partition segment has been created (YES) or not (NO); N/A indicates that this index is subpartitioned and no segment exists at the partition level                                                                                                                                                                                                         |
| ORPHANED_ENTRIES  | VARCHAR2 (3)    |      | Indicates whether a global index partition contains stale entries because of deferred index maintenance during DROP/TRUNCATE PARTITION, or MODIFY PARTITION INDEXING OFF operations.<br>Possible values: <ul style="list-style-type: none"> <li>• YES - the index partition contains orphaned entries</li> <li>• NO - the index partition does not contain orphaned entries</li> </ul> |
| HIGH_VALUE_CLOB   | CLOB            |      | High value (boundary) information for the index partition, in CLOB format                                                                                                                                                                                                                                                                                                              |
| HIGH_VALUE_JSON   | JSON            |      | High value (boundary) information for the index partition, in JSON format                                                                                                                                                                                                                                                                                                              |

 **See Also:**

- ["DBA\\_IND\\_PARTITIONS"](#)
- ["USER\\_IND\\_PARTITIONS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_STATS package

## 3.244 ALL\_IND\_PENDING\_STATS

ALL\_IND\_PENDING\_STATS describes the pending statistics for tables, partitions, and subpartitions accessible to the current user collected using the DBMS\_STATS package.

### Related Views

- DBA\_IND\_PENDING\_STATS describes pending statistics for all tables, partitions, and subpartitions in the database.
- USER\_IND\_PENDING\_STATS describes pending statistics for tables, partitions, and subpartitions owned by the current user. This view does not display the OWNER column.

| Column                  | Datatype       | NULL | Description                           |
|-------------------------|----------------|------|---------------------------------------|
| OWNER                   | VARCHAR2 (128) |      | Name of the index owner               |
| INDEX_NAME              | VARCHAR2 (128) |      | Index name                            |
| TABLE_OWNER             | VARCHAR2 (128) |      | Table owner name                      |
| TABLE_NAME              | VARCHAR2 (128) |      | Name of the table                     |
| PARTITION_NAME          | VARCHAR2 (128) |      | Name of the partition                 |
| SUBPARTITION_NAME       | VARCHAR2 (128) |      | Name of the subpartition              |
| BLEVEL                  | NUMBER         |      | Number of levels in the index         |
| LEAF_BLOCKS             | NUMBER         |      | Number of leaf blocks in the index    |
| DISTINCT_KEYS           | NUMBER         |      | Number of distinct keys in the index  |
| AVG_LEAF_BLOCKS_PER_KEY | NUMBER         |      | Average number of leaf blocks per key |
| AVG_DATA_BLOCKS_PER_KEY | NUMBER         |      | Average number of data blocks per key |
| CLUSTERING_FACTOR       | NUMBER         |      | Clustering factor                     |
| NUM_ROWS                | NUMBER         |      | Number of rows in the index           |
| SAMPLE_SIZE             | NUMBER         |      | Sample size                           |
| LAST_ANALYZED           | DATE           |      | Time of the last analysis             |



### See Also:

- "DBA\_IND\_PENDING\_STATS"
- "USER\_IND\_PENDING\_STATS"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_STATS package

## 3.245 ALL\_IND\_STATISTICS

ALL\_IND\_STATISTICS displays optimizer statistics for the indexes on the tables accessible to the current user collected using the DBMS\_STATS package.

### Related Views

- DBA\_IND\_STATISTICS displays optimizer statistics for all indexes in the database.

- **USER\_IND\_STATISTICS** displays optimizer statistics for the indexes on the tables owned by the current user. This view does not display the **OWNER** column.

| Column                  | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                   | VARCHAR2 (128) |      | Owner of the index                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| INDEX_NAME              | VARCHAR2 (128) |      | Name of the index                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TABLE_OWNER             | VARCHAR2 (128) |      | Owner of the indexed object                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TABLE_NAME              | VARCHAR2 (128) |      | Name of the indexed object                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| PARTITION_NAME          | VARCHAR2 (128) |      | Name of the partition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PARTITION_POSITION      | NUMBER         |      | Position of the partition within the index                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SUBPARTITION_NAME       | VARCHAR2 (128) |      | Name of the subpartition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SUBPARTITION_POSITION   | NUMBER         |      | Position of the subpartition within the partition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| OBJECT_TYPE             | VARCHAR2 (12)  |      | Type of the object: <ul style="list-style-type: none"> <li>• INDEX</li> <li>• PARTITION</li> <li>• SUBPARTITION</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                    |
| BLEVEL                  | NUMBER         |      | B-Tree level                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| LEAF_BLOCKS             | NUMBER         |      | Number of leaf blocks in the index                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| DISTINCT_KEYS           | NUMBER         |      | Number of distinct keys in the index                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| AVG_LEAF_BLOCKS_PER_KEY | NUMBER         |      | Average number of leaf blocks per key                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| AVG_DATA_BLOCKS_PER_KEY | NUMBER         |      | Average number of data blocks per key                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CLUSTERING_FACTOR       | NUMBER         |      | Indicates the amount of order of the rows in the table based on the values of the index. <ul style="list-style-type: none"> <li>• If the value is near the number of blocks, then the table is very well ordered. In this case, the index entries in a single leaf block tend to point to rows in the same data blocks.</li> <li>• If the value is near the number of rows, then the table is very randomly ordered. In this case, it is unlikely that index entries in the same leaf block point to rows in the same data blocks.</li> </ul> |
| NUM_ROWS                | NUMBER         |      | Number of rows in the index                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| AVG_CACHED_BLOCKS       | NUMBER         |      | Average number of blocks in the buffer cache                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| AVG_CACHE_HIT_RATIO     | NUMBER         |      | Average cache hit ratio for the object                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SAMPLE_SIZE             | NUMBER         |      | Sample size used in analyzing the index                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LAST_ANALYZED           | DATE           |      | Date of the most recent time the index was analyzed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| GLOBAL_STATS            | VARCHAR2 (3)   |      | GLOBAL_STATS will be YES if statistics are gathered or incrementally maintained, otherwise it will be NO                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| USER_STATS              | VARCHAR2 (3)   |      | Indicates whether statistics were entered directly by the user (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| STATTYPE_LOCKED         | VARCHAR2 (5)   |      | Type of statistics lock                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| STALE_STATS             | VARCHAR2 (3)   |      | Whether statistics for the object are stale or not                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Column | Datatype     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------|--------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCOPE  | VARCHAR2 (7) |      | <p>The value is <code>SHARED</code> for statistics gathered on any table other than global temporary tables.</p> <p>For a global temporary table, the possible values are:</p> <ul style="list-style-type: none"><li>• <code>SESSION</code> - Indicates that the statistics are session-specific</li><li>• <code>SHARED</code> - Indicates that the statistics are shared across all sessions</li></ul> <p>See <i>Oracle Database PL/SQL Packages and Types Reference</i> for information about using the <code>GLOBAL_TEMP_TABLE_STATS</code> preference of the <code>DBMS_STATS</code> package to control whether to gather session or shared statistics for global temporary tables.</p> |

 **See Also:**

- ["DBA\\_IND\\_STATISTICS"](#)
- ["USER\\_IND\\_STATISTICS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_STATS` package

## 3.246 ALL\_IND\_SUBPARTITIONS

`ALL_IND_SUBPARTITIONS` displays, for each index subpartition accessible to the current user, the subpartition-level partitioning information, the storage parameters for the subpartition, and various subpartition statistics generated by the `DBMS_STATS` package.

### Related Views

- `DBA_IND_SUBPARTITIONS` describes all index subpartitions in the database.
- `USER_IND_SUBPARTITIONS` describes the index subpartitions owned by the current user. This view does not display the `INDEX_OWNER` column.

| Column                | Datatype       | NULL     | Description                                                                                              |
|-----------------------|----------------|----------|----------------------------------------------------------------------------------------------------------|
| INDEX_OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the index                                                                                       |
| INDEX_NAME            | VARCHAR2 (128) | NOT NULL | Name of the index                                                                                        |
| PARTITION_NAME        | VARCHAR2 (128) |          | Name of the partition                                                                                    |
| SUBPARTITION_NAME     | VARCHAR2 (128) |          | Name of the subpartition                                                                                 |
| HIGH_VALUE            | LONG           |          | Subpartition bound value expression                                                                      |
| HIGH_VALUE_LENGTH     | NUMBER         | NOT NULL | Length of the subpartition bound value expression                                                        |
| PARTITION_POSITION    | NUMBER         |          | Position of the partition within the index                                                               |
| SUBPARTITION_POSITION | NUMBER         |          | Position of a subpartition within a partition                                                            |
| STATUS                | VARCHAR2 (8)   |          | Indicates whether the index partition is usable ( <code>USABLE</code> ) or not ( <code>UNUSABLE</code> ) |

| Column                  | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------|---------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABLESPACE_NAME         | VARCHAR2 (30) | NOT NULL | Name of the tablespace containing the partition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PCT_FREE                | NUMBER        | NOT NULL | Minimum percentage of free space in a block                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| INI_TRANS               | NUMBER        | NOT NULL | Initial number of transactions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| MAX_TRANS               | NUMBER        | NOT NULL | Maximum number of transactions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| INITIAL_EXTENT          | NUMBER        |          | Size of the initial extent in bytes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NEXT_EXTENT             | NUMBER        |          | Size of secondary extents in bytes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| MIN_EXTENT              | NUMBER        |          | Minimum number of extents allowed in the segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| MAX_EXTENT              | NUMBER        |          | Maximum number of extents allowed in the segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| MAX_SIZE                | NUMBER        |          | Maximum number of blocks allowed in the segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PCT_INCREASE            | NUMBER        | NOT NULL | Percentage increase in extent size                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| FREELISTS               | NUMBER        |          | Number of process freelists allocated in this segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| FREELIST_GROUPS         | NUMBER        |          | Number of process freelist groups allocated in this segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LOGGING                 | VARCHAR2 (3)  |          | Indicates whether or not changes to the index are logged: <ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                               |
| COMPRESSION             | VARCHAR2 (13) |          | Type of compression being used for the subpartition: <ul style="list-style-type: none"> <li>• ENABLED - Prefix compression</li> <li>• ADVANCED HIGH - Advanced high compression</li> <li>• ADVANCED LOW - Advanced low compression</li> <li>• DISABLED - No compression is present</li> </ul>                                                                                                                                                                                                                                                 |
| BLEVEL                  | NUMBER        |          | B-Tree level (depth of the index from its root block to its leaf blocks). A depth of 0 indicates that the root block and leaf block are the same.                                                                                                                                                                                                                                                                                                                                                                                             |
| LEAF_BLOCKS             | NUMBER        |          | Number of leaf blocks in the index                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| DISTINCT_KEYS           | NUMBER        |          | Number of distinct keys in the index partition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| AVG_LEAF_BLOCKS_PER_KEY | NUMBER        |          | Average number of leaf blocks in which each distinct value in the index appears, rounded to the nearest integer. For indexes that enforce <b>UNIQUE</b> and <b>PRIMARY KEY</b> constraints, this value is always 1.                                                                                                                                                                                                                                                                                                                           |
| AVG_DATA_BLOCKS_PER_KEY | NUMBER        |          | Average number of data blocks in the table that are pointed to by a distinct value in the index rounded to the nearest integer. This statistic is the average number of data blocks that contain rows that contain a given value for the indexed columns.                                                                                                                                                                                                                                                                                     |
| CLUSTERING_FACTOR       | NUMBER        |          | Indicates the amount of order of the rows in the table based on the values of the index. <ul style="list-style-type: none"> <li>• If the value is near the number of blocks, then the table is very well ordered. In this case, the index entries in a single leaf block tend to point to rows in the same data blocks.</li> <li>• If the value is near the number of rows, then the table is very randomly ordered. In this case, it is unlikely that index entries in the same leaf block point to rows in the same data blocks.</li> </ul> |
| NUM_ROWS                | NUMBER        |          | Number of rows in this index subpartition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Column           | Datatype        | NULL | Description                                                                                                                                                                                                                                      |
|------------------|-----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SAMPLE_SIZE      | NUMBER          |      | Sample size used in analyzing this subpartition                                                                                                                                                                                                  |
| LAST_ANALYZED    | DATE            |      | Date on which this partition was most recently analyzed                                                                                                                                                                                          |
| BUFFER_POOL      | VARCHAR2 (7)    |      | Buffer pool for the subpartition: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• RECYCLE</li> <li>• NULL</li> </ul>                                                                                                 |
| FLASH_CACHE      | VARCHAR2 (7)    |      | Database Smart Flash Cache hint to be used for subpartition blocks: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> Solaris and Oracle Linux functionality only.                                     |
| CELL_FLASH_CACHE | VARCHAR2 (7)    |      | Cell flash cache hint to be used for subpartition blocks: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> <b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information |
| USER_STATS       | VARCHAR2 (3)    |      | Indicates whether statistics were entered directly by the user (YES) or not (NO)                                                                                                                                                                 |
| GLOBAL_STATS     | VARCHAR2 (3)    |      | GLOBAL_STATS will be YES if statistics have been gathered or NO if statistics have not been gathered                                                                                                                                             |
| INTERVAL         | VARCHAR2 (3)    |      | Indicates whether the partition is in the interval section of an interval partitioned table (YES) or whether the partition is in the range section (NO)                                                                                          |
| SEGMENT_CREATED  | VARCHAR2 (3)    |      | Indicates whether the index subpartition segment has been created (YES) or not (NO); N/A indicates that this index is not subpartitioned                                                                                                         |
| DOMIDX_OPSTATUS  | VARCHAR2 (6)    |      | Status of the operation on the domain index: <ul style="list-style-type: none"> <li>• NULL - Index is not a domain index</li> <li>• VALID - Operation performed without errors</li> <li>• FAILED - Operation failed with an error</li> </ul>     |
| PARAMETERS       | VARCHAR2 (1000) |      | For a domain index, the parameter string                                                                                                                                                                                                         |
| HIGH_VALUE_CLOB  | CLOB            |      | High value (boundary) information for the index subpartition, in CLOB format                                                                                                                                                                     |
| HIGH_VALUE_JSON  | JSON            |      | High value (boundary) information for the index subpartition, in JSON format                                                                                                                                                                     |





**See Also:**

- "DBA\_IND\_SUBPARTITIONS"
- "USER\_IND\_SUBPARTITIONS"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_STATS package

# 3.247 ALL\_INDEXES

ALL\_INDEXES describes the indexes on the tables accessible to the current user.

To gather statistics for this view and the related views DBA\_INDEXES and USER\_INDEXES, use the DBMS\_STATS package.

**Related Views**

- DBA\_INDEXES describes all indexes in the database.
- USER\_INDEXES describes the indexes owned by the current user. This view does not display the OWNER column.



**Note:**

Column names followed by an asterisk are populated only if you collect statistics on the index using the DBMS\_STATS package.

| Column      | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                |
|-------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER       | VARCHAR2 (128) | NOT NULL | Owner of the index                                                                                                                                                                                                                                                                                                         |
| INDEX_NAME  | VARCHAR2 (128) | NOT NULL | Name of the index                                                                                                                                                                                                                                                                                                          |
| INDEX_TYPE  | VARCHAR2 (27)  |          | Type of the index: <ul style="list-style-type: none"><li>• LOB</li><li>• NORMAL</li><li>• NORMAL/REV</li><li>• BITMAP</li><li>• FUNCTION-BASED NORMAL</li><li>• FUNCTION-BASED NORMAL/REV</li><li>• FUNCTION-BASED BITMAP</li><li>• FUNCTION-BASED DOMAIN</li><li>• CLUSTER</li><li>• IOT - TOP</li><li>• DOMAIN</li></ul> |
| TABLE_OWNER | VARCHAR2 (128) | NOT NULL | Owner of the indexed object                                                                                                                                                                                                                                                                                                |
| TABLE_NAME  | VARCHAR2 (128) | NOT NULL | Name of the indexed object                                                                                                                                                                                                                                                                                                 |

| Column          | Datatype      | NULL | Description                                                                                                                                                                                                                                                                            |
|-----------------|---------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABLE_TYPE      | CHAR (11)     |      | Type of the indexed object: <ul style="list-style-type: none"> <li>• NEXT OBJECT</li> <li>• INDEX</li> <li>• TABLE</li> <li>• CLUSTER</li> <li>• VIEW</li> <li>• SYNONYM</li> <li>• SEQUENCE</li> </ul>                                                                                |
| UNIQUENESS      | VARCHAR2 (9)  |      | Indicates whether the index is unique (UNIQUE) or nonunique (NONUNIQUE)                                                                                                                                                                                                                |
| COMPRESSION     | VARCHAR2 (13) |      | Type of compression being used for the index: <ul style="list-style-type: none"> <li>• ENABLED - Prefix compression</li> <li>• ADVANCED HIGH - Advanced high compression</li> <li>• ADVANCED LOW - Advanced low compression</li> <li>• DISABLED - No compression is present</li> </ul> |
| PREFIX_LENGTH   | NUMBER        |      | Number of columns in the prefix of the compression key                                                                                                                                                                                                                                 |
| TABLESPACE_NAME | VARCHAR2 (30) |      | Name of the tablespace containing the index                                                                                                                                                                                                                                            |
| INI_TRANS       | NUMBER        |      | Initial number of transactions                                                                                                                                                                                                                                                         |
| MAX_TRANS       | NUMBER        |      | Maximum number of transactions                                                                                                                                                                                                                                                         |
| INITIAL_EXTENT  | NUMBER        |      | Size of the initial extent                                                                                                                                                                                                                                                             |
| NEXT_EXTENT     | NUMBER        |      | Size of secondary extents                                                                                                                                                                                                                                                              |
| MIN_EXTENTS     | NUMBER        |      | Minimum number of extents allowed in the segment                                                                                                                                                                                                                                       |
| MAX_EXTENTS     | NUMBER        |      | Maximum number of extents allowed in the segment                                                                                                                                                                                                                                       |
| PCT_INCREASE    | NUMBER        |      | Percentage increase in extent size                                                                                                                                                                                                                                                     |
| PCT_THRESHOLD   | NUMBER        |      | Threshold percentage of block space allowed per index entry                                                                                                                                                                                                                            |
| INCLUDE_COLUMN  | NUMBER        |      | Column ID of the last column to be included in index-organized table primary key (non-overflow) index. This column maps to the COLUMN_ID column of the *_TAB_COLUMNS view.                                                                                                             |
| FREELISTS       | NUMBER        |      | Number of process freelists allocated to this segment                                                                                                                                                                                                                                  |
| FREELIST_GROUPS | NUMBER        |      | Number of freelist groups allocated to this segment                                                                                                                                                                                                                                    |
| PCT_FREE        | NUMBER        |      | Minimum percentage of free space in a block                                                                                                                                                                                                                                            |
| LOGGING         | VARCHAR2 (3)  |      | Indicates whether or not changes to the index are logged: <ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> </ul>                                                                                                                                                        |
| BLEVEL*         | NUMBER        |      | B*-Tree level (depth of the index from its root block to its leaf blocks). A depth of 0 indicates that the root block and leaf block are the same.                                                                                                                                     |
| LEAF_BLOCKS*    | NUMBER        |      | Number of leaf blocks in the index                                                                                                                                                                                                                                                     |
| DISTINCT_KEYS*  | NUMBER        |      | Number of distinct indexed values. For indexes that enforce UNIQUE and PRIMARY KEY constraints, this value is the same as the number of rows in the table (*_TABLES.NUM_ROWS)                                                                                                          |

| Column                   | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------|---------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AVG_LEAF_BLOCKS_PER_KEY* | NUMBER        |      | Average number of leaf blocks in which each distinct value in the index appears, rounded to the nearest integer. For indexes that enforce <code>UNIQUE</code> and <code>PRIMARY KEY</code> constraints, this value is always 1.                                                                                                                                                                                                                                                                                                                                                              |
| AVG_DATA_BLOCKS_PER_KEY* | NUMBER        |      | Average number of data blocks in the table that are pointed to by a distinct value in the index rounded to the nearest integer. This statistic is the average number of data blocks that contain rows that contain a given value for the indexed columns.                                                                                                                                                                                                                                                                                                                                    |
| CLUSTERING_FACTOR*       | NUMBER        |      | Indicates the amount of order of the rows in the table based on the values of the index. <ul style="list-style-type: none"> <li>If the value is near the number of blocks, then the table is very well ordered. In this case, the index entries in a single leaf block tend to point to rows in the same data blocks.</li> <li>If the value is near the number of rows, then the table is very randomly ordered. In this case, it is unlikely that index entries in the same leaf block point to rows in the same data blocks.</li> </ul> For bitmap indexes, this column is not applicable. |
| STATUS                   | VARCHAR2 (8)  |      | Indicates whether a nonpartitioned index is <code>VALID</code> or <code>UNUSABLE</code>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| NUM_ROWS                 | NUMBER        |      | Number of rows in the index.<br>For bitmap indexes, this column is the number of distinct keys, so its value is the same as the <code>DISTINCT_KEYS</code> column.                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SAMPLE_SIZE              | NUMBER        |      | Size of the sample used to analyze the index                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| LAST_ANALYZED            | DATE          |      | Date on which this index was most recently analyzed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DEGREE                   | VARCHAR2 (40) |      | Number of threads per instance for scanning the index, or <code>DEFAULT</code>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| INSTANCES                | VARCHAR2 (40) |      | Number of instances across which the indexes to be scanned, or <code>DEFAULT</code>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PARTITIONED              | VARCHAR2 (3)  |      | Indicates whether the index is partitioned ( <code>YES</code> ) or not ( <code>NO</code> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TEMPORARY                | VARCHAR2 (1)  |      | Indicates whether the index is on a temporary table ( <code>Y</code> ) or not ( <code>N</code> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| GENERATED                | VARCHAR2 (1)  |      | Indicates whether the name of the index is system-generated ( <code>Y</code> ) or not ( <code>N</code> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SECONDARY                | VARCHAR2 (1)  |      | Indicates whether the index is a secondary object created by the <code>ODCIIndexCreate</code> method of the Oracle Data Cartridge ( <code>Y</code> ) or not ( <code>N</code> )                                                                                                                                                                                                                                                                                                                                                                                                               |
| BUFFER_POOL              | VARCHAR2 (7)  |      | Buffer pool to be used for index blocks: <ul style="list-style-type: none"> <li><code>DEFAULT</code></li> <li><code>KEEP</code></li> <li><code>RECYCLE</code></li> <li><code>NULL</code></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                          |

| Column                  | Datatype        | NULL | Description                                                                                                                                                                                                                                           |
|-------------------------|-----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FLASH_CACHE             | VARCHAR2 (7)    |      | Database Smart Flash Cache hint to be used for index blocks: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> Solaris and Oracle Linux functionality only.                                                 |
| CELL_FLASH_CACHE        | VARCHAR2 (7)    |      | Cell flash cache hint to be used for index blocks: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> <b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information             |
| USER_STATS              | VARCHAR2 (3)    |      | Indicates whether statistics were entered directly by the user (YES) or not (NO)                                                                                                                                                                      |
| DURATION                | VARCHAR2 (15)   |      | Indicates the duration of a temporary table: <ul style="list-style-type: none"> <li>• SYS\$SESSION - Rows are preserved for the duration of the session</li> <li>• SYS\$TRANSACTION - Rows are deleted after COMMIT</li> </ul> NULL - Permanent table |
| PCT_DIRECT_ACCESS       | NUMBER          |      | For a secondary index on an index-organized table, the percentage of rows with VALID guess                                                                                                                                                            |
| ITYP_OWNER              | VARCHAR2 (128)  |      | For a domain index, the owner of the indextype                                                                                                                                                                                                        |
| ITYP_NAME               | VARCHAR2 (128)  |      | For a domain index, the name of the indextype                                                                                                                                                                                                         |
| PARAMETERS              | VARCHAR2 (1000) |      | For a domain index, the parameter string                                                                                                                                                                                                              |
| GLOBAL_STATS            | VARCHAR2 (3)    |      | GLOBAL_STATS will be YES if statistics are gathered or incrementally maintained, otherwise it will be NO                                                                                                                                              |
| DOMIDX_STATUS           | VARCHAR2 (12)   |      | Status of a domain index: <ul style="list-style-type: none"> <li>• NULL - Index is not a domain index</li> <li>• VALID - Index is a valid domain index</li> <li>• IDXTYP_INVLD - Indextype of the domain index is invalid</li> </ul>                  |
| DOMIDX_OPSTATUS         | VARCHAR2 (6)    |      | Status of the operation on a domain index: <ul style="list-style-type: none"> <li>• NULL - Index is not a domain index</li> <li>• VALID - Operation performed without errors</li> <li>• FAILED - Operation failed with an error</li> </ul>            |
| FUNCIDX_STATUS          | VARCHAR2 (8)    |      | Status of a function-based index: <ul style="list-style-type: none"> <li>• NULL - Index is not a function-based index</li> <li>• ENABLED - Function-based index is enabled</li> <li>• DISABLED - Function-based index is disabled</li> </ul>          |
| JOIN_INDEX              | VARCHAR2 (3)    |      | Indicates whether the index is a join index (YES) or not (NO)                                                                                                                                                                                         |
| IOT_REDUNDANT_PKEY_ELIM | VARCHAR2 (3)    |      | Indicates whether redundant primary key columns are eliminated from secondary indexes on index-organized tables (YES) or not (NO)                                                                                                                     |

| Column            | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                              |
|-------------------|---------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DROPPED           | VARCHAR2 (3)  |      | Indicates whether the index has been dropped and is in the recycle bin (YES) or not (NO); NULL for partitioned tables<br>This view does not return the names of indexes that have been dropped.                                                                                                                                                          |
| VISIBILITY        | VARCHAR2 (9)  |      | Indicates whether the index is VISIBLE or INVISIBLE to the optimizer                                                                                                                                                                                                                                                                                     |
| DOMIDX_MANAGEMENT | VARCHAR2 (14) |      | If this is a domain index, indicates whether the domain index is system-managed (SYSTEM_MANAGED) or user-managed (USER_MANAGED)                                                                                                                                                                                                                          |
| SEGMENT_CREATED   | VARCHAR2 (3)  |      | Indicates whether the index segment has been created (YES) or not (NO)                                                                                                                                                                                                                                                                                   |
| ORPHANED_ENTRIES  | VARCHAR2 (3)  |      | Indicates whether a global index contains stale entries because of deferred index maintenance during DROP/TRUNCATE PARTITION, or MODIFY PARTITION INDEXING OFF operations.<br>Possible values: <ul style="list-style-type: none"> <li>• YES - The index contains orphaned entries</li> <li>• NO - The index does not contain orphaned entries</li> </ul> |
| INDEXING          | VARCHAR2 (7)  |      | Indicates whether a global index is decoupled from the underlying table.<br>Possible values: <ul style="list-style-type: none"> <li>• PARTIAL - The index is partial, that is, it will follow the table's indexing property.</li> <li>• FULL - The index will include all partitions of the table.</li> </ul>                                            |
| AUTO              | VARCHAR2 (3)  |      | Indicates whether the index is an auto index (YES) or not (NO)                                                                                                                                                                                                                                                                                           |
| CONSTRAINT_INDEX  | VARCHAR2 (3)  |      | Indicates whether the index was created as part of a constraint (YES) or not (NO)                                                                                                                                                                                                                                                                        |

 **See Also:**

- ["DBA\\_INDEXES"](#)
- ["USER\\_INDEXES"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_STATS package

## 3.248 ALL\_INDEXTYPE\_ARRAYTYPES

ALL\_INDEXTYPE\_ARRAYTYPES displays information about the array types specified by the indextypes accessible to the current user.

### Related Views

- DBA\_INDEXTYPE\_ARRAYTYPES displays information about the array types specified by all indextypes in the database.
- USER\_INDEXTYPE\_ARRAYTYPES displays information about the array types specified by the indextypes owned by the current user.

| Column            | Datatype       | NULL     | Description                   |
|-------------------|----------------|----------|-------------------------------|
| OWNER             | VARCHAR2 (128) | NOT NULL | Owner of the indextype        |
| INDEXTYPE_NAME    | VARCHAR2 (128) | NOT NULL | Name of the indextype         |
| BASE_TYPE_SCHEMA  | VARCHAR2 (128) |          | Name of the base type schema  |
| BASE_TYPE_NAME    | VARCHAR2 (128) |          | Name of the base type name    |
| BASE_TYPE         | VARCHAR2 (30)  |          | Datatype of the base type     |
| ARRAY_TYPE_SCHEMA | VARCHAR2 (128) | NOT NULL | Name of the array type schema |
| ARRAY_TYPE_NAME   | VARCHAR2 (128) | NOT NULL | Name of the array type name   |



### See Also:

- "DBA\_INDEXTYPE\_ARRAYTYPES"
- "USER\_INDEXTYPE\_ARRAYTYPES"

## 3.249 ALL\_INDEXTYPE\_COMMENTS

ALL\_INDEXTYPE\_COMMENTS displays comments for the user-defined indextypes accessible to the current user.

### Related Views

- DBA\_INDEXTYPE\_COMMENTS displays comments for all user-defined indextypes in the database.
- USER\_INDEXTYPE\_COMMENTS displays comments for the user-defined indextypes owned by the current user.

| Column         | Datatype        | NULL     | Description                            |
|----------------|-----------------|----------|----------------------------------------|
| OWNER          | VARCHAR2 (128)  | NOT NULL | Owner of the user-defined indextype    |
| INDEXTYPE_NAME | VARCHAR2 (128)  | NOT NULL | Name of the user-defined indextype     |
| COMMENTS       | VARCHAR2 (4000) |          | Comment for the user-defined indextype |

**See Also:**

- "DBA\_INDEXTYPE\_COMMENTS"
- "USER\_INDEXTYPE\_COMMENTS"

## 3.250 ALL\_INDEXTYPE\_OPERATORS

ALL\_INDEXTYPE\_OPERATORS lists all operators supported by indextypes accessible to the current user.

**Related Views**

- DBA\_INDEXTYPE\_OPERATORS lists all operators supported by indextypes in the database.
- USER\_INDEXTYPE\_OPERATORS lists all operators supported by indextypes owned by the current user.

| Column          | Datatype       | NULL     | Description                                             |
|-----------------|----------------|----------|---------------------------------------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the indextype                                  |
| INDEXTYPE_NAME  | VARCHAR2 (128) | NOT NULL | Name of the indextype                                   |
| OPERATOR_SCHEMA | VARCHAR2 (128) | NOT NULL | Name of the operator schema                             |
| OPERATOR_NAME   | VARCHAR2 (128) | NOT NULL | Name of the operator for which the indextype is defined |
| BINDING#        | NUMBER         | NOT NULL | Binding number associated with the operator             |

**See Also:**

- "DBA\_INDEXTYPE\_OPERATORS"
- "USER\_INDEXTYPE\_OPERATORS"

## 3.251 ALL\_INDEXTYPES

ALL\_INDEXTYPES displays information about the indextypes accessible to the current user.

**Related Views**

- DBA\_INDEXTYPES displays information about all indextypes in the database.
- USER\_INDEXTYPES displays information about the indextypes owned by the current user.

| Column                | Datatype       | NULL     | Description                                                                                       |
|-----------------------|----------------|----------|---------------------------------------------------------------------------------------------------|
| OWNER                 | VARCHAR2 (128) | NOT NULL | Owner of the indextype                                                                            |
| INDEXTYPE_NAME        | VARCHAR2 (128) | NOT NULL | Name of the indextype                                                                             |
| IMPLEMENTATION_SCHEMA | VARCHAR2 (128) | NOT NULL | Name of the schema for the indextype implementation (that is, containing the indextype operators) |

| Column                 | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                             |
|------------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IMPLEMENTATION_NAME    | VARCHAR2 (128) | NOT NULL | Name of the indextype implementation type                                                                                                                                                                                                                                                                                                                               |
| INTERFACE_VERSION      | NUMBER         |          | Version of the indextype interface                                                                                                                                                                                                                                                                                                                                      |
| IMPLEMENTATION_VERSION | NUMBER         | NOT NULL | Version of the indextype implementation                                                                                                                                                                                                                                                                                                                                 |
| NUMBER_OF_OPERATORS    | NUMBER         |          | Number of operators associated with the indextype                                                                                                                                                                                                                                                                                                                       |
| PARTITIONING           | VARCHAR2 (10)  |          | Kinds of local partitioning supported by the indextype: <ul style="list-style-type: none"> <li>NONE - Indextype does not support local domain indexes</li> <li>RANGE - Indextype can support range partitioned local user managed domain indexes</li> <li>LOCAL - Indextype can support local system managed domain indexes (range, list, hash, or interval)</li> </ul> |
| ARRAY_DML              | VARCHAR2 (3)   |          | Indicates whether the indextype supports array DML (YES) or not (NO)                                                                                                                                                                                                                                                                                                    |
| MAINTENANCE_TYPE       | VARCHAR2 (14)  |          | Indicates whether the indextype is system-managed (SYSTEM_MANAGED) or user-managed (USER_MANAGED)                                                                                                                                                                                                                                                                       |



#### See Also:

- "DBA\_INDEXTYPES"
- "USER\_INDEXTYPES"

## 3.252 ALL\_INTERNAL\_TRIGGERS

ALL\_INTERNAL\_TRIGGERS describes internal triggers on tables accessible to the current user. Internal triggers are internal pieces of code executed when a particular flag is set for a table. This view does not display the OWNER\_NAME column.

#### Related Views

- DBA\_INTERNAL\_TRIGGERS describes internal triggers on all tables in the database.
- USER\_INTERNAL\_TRIGGERS describes all internal triggers on tables owned by the current user. This view does not display the OWNER\_NAME column.

| Column                | Datatype       | NULL | Description                                         |
|-----------------------|----------------|------|-----------------------------------------------------|
| TABLE_NAME            | VARCHAR2 (128) |      | Name of the table on which the trigger is defined   |
| INTERNAL_TRIGGER_TYPE | VARCHAR2 (19)  |      | Indicates the type of internal trigger on the table |



#### See Also:

- "DBA\_INTERNAL\_TRIGGERS"
- "USER\_INTERNAL\_TRIGGERS"



## 3.253 ALL\_JAVA\_ARGUMENTS

ALL\_JAVA\_ARGUMENTS displays argument information about the stored Java classes accessible to the current user.

### Related Views

- DBA\_JAVA\_ARGUMENTS displays argument information about all stored Java classes in the database.
- USER\_JAVA\_ARGUMENTS displays argument information about the stored Java classes owned by the current user. This view does not display the OWNER column.

| Column            | Datatype        | NULL     | Description                                                                                                                                                                                                                  |
|-------------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER             | VARCHAR2 (128)  | NOT NULL | Owner of the Java class                                                                                                                                                                                                      |
| NAME              | VARCHAR2 (4000) |          | Name of the Java class                                                                                                                                                                                                       |
| METHOD_INDEX      | NUMBER          |          | Index of the hosting method of the argument                                                                                                                                                                                  |
| METHOD_NAME       | VARCHAR2 (4000) |          | Name of the hosting method of the argument                                                                                                                                                                                   |
| ARGUMENT_POSITION | NUMBER          |          | Position of the argument, starting from 0                                                                                                                                                                                    |
| ARRAY_DEPTH       | NUMBER          |          | Array depth of the type of the argument                                                                                                                                                                                      |
| BASE_TYPE         | VARCHAR2 (7)    |          | Base type of the type of the argument: <ul style="list-style-type: none"><li>• int</li><li>• long</li><li>• float</li><li>• double</li><li>• boolean</li><li>• byte</li><li>• char</li><li>• short</li><li>• class</li></ul> |
| ARGUMENT_CLASS    | VARCHAR2 (4000) |          | Actual class name of the argument if the base type is class                                                                                                                                                                  |



### See Also:

- "DBA\_JAVA\_ARGUMENTS"
- "USER\_JAVA\_ARGUMENTS"

## 3.254 ALL\_JAVA\_CLASSES

ALL\_JAVA\_CLASSES displays class level information about the stored Java classes accessible to the current user.

### Related Views

- DBA\_JAVA\_CLASSES displays class level information about all stored Java classes in the database.

- **USER\_JAVA\_CLASSES** displays class level information about the stored Java classes owned by the current user. This view does not display the **OWNER** column.

| Column        | Datatype        | NULL     | Description                                                                                     |
|---------------|-----------------|----------|-------------------------------------------------------------------------------------------------|
| OWNER         | VARCHAR2 (128)  | NOT NULL | Owner of the Java class                                                                         |
| NAME          | VARCHAR2 (4000) |          | Name of the Java class                                                                          |
| MAJOR         | NUMBER          |          | Major version number of the Java class, as defined in the JVM specification                     |
| MINOR         | NUMBER          |          | Minor version number of the Java class, as defined in the JVM specification                     |
| KIND          | VARCHAR2 (50)   |          | Indicates whether the stored object is a Java class (CLASS) or a Java interface (INTERFACE)     |
| ACCESSIBILITY | VARCHAR2 (9)    |          | Accessibility of the Java class                                                                 |
| IS_INNER      | VARCHAR2 (3)    |          | Indicates whether this Java class is an inner class (YES) or not (NO)                           |
| IS_ABSTRACT   | VARCHAR2 (3)    |          | Indicates whether this Java class is an abstract class (YES) or not (NO)                        |
| IS_FINAL      | VARCHAR2 (3)    |          | Indicates whether this Java class is a final class (YES) or not (NO)                            |
| IS_STATIC     | VARCHAR2 (3)    |          | Indicates whether this is a static inner class (YES) or not (NO)                                |
| IS_STRICTFP   | VARCHAR2 (3)    |          | Indicates whether the class is declared strict floating point for portability (YES) or not (NO) |
| IS_SYNTHETIC  | VARCHAR2 (3)    |          | Indicates whether this is an inner class generated by the compiler (YES) or not (NO)            |
| IS_DEBUG      | VARCHAR2 (3)    |          | Indicates whether this Java class contains debug information (YES) or not (NO)                  |
| SOURCE        | VARCHAR2 (4000) |          | Source designation of the Java class                                                            |
| SUPER         | VARCHAR2 (4000) |          | Super class of this Java class                                                                  |
| OUTER         | VARCHAR2 (4000) |          | Outer class of this Java class if this Java class is an inner class                             |

#### See Also:

- ["DBA\\_JAVA\\_CLASSES"](#)
- ["USER\\_JAVA\\_CLASSES"](#)

## 3.255 ALL\_JAVA\_COMPILER\_OPTIONS

**ALL\_JAVA\_COMPILER\_OPTIONS** displays information about the native compiler options accessible to the current user.

#### Related Views

- **DBA\_JAVA\_COMPILER\_OPTIONS** displays information about all native compiler options in the database.

- `USER_JAVA_COMPILER_OPTIONS` displays information about the native compiler options owned by the current user. This view does not display the `OWNER` column.

| Column      | Datatype        | NULL     | Description                         |
|-------------|-----------------|----------|-------------------------------------|
| OWNER       | VARCHAR2 (128)  | NOT NULL | Owner of the native compiler option |
| OPTION_NAME | VARCHAR2 (64)   |          | Name of the native compiler option  |
| VALUE       | VARCHAR2 (4000) |          | Value of the native compiler option |

 **See Also:**

- ["DBA\\_JAVA\\_COMPILER\\_OPTIONS"](#)
- ["USER\\_JAVA\\_COMPILER\\_OPTIONS"](#)

## 3.256 ALL\_JAVA\_DERIVATIONS

`ALL_JAVA_DERIVATIONS` displays mapping information about Java source objects and their derived Java class objects and Java resource objects for the Java classes accessible to the current user.

### Related Views

- `DBA_JAVA_DERIVATIONS` displays mapping information about Java source objects and their derived Java class objects and Java resource objects for all Java classes in the database.
- `USER_JAVA_DERIVATIONS` displays mapping information about Java source objects and their derived Java class objects and Java resource objects for the Java classes owned by the current user. This view does not display the `OWNER` column.

| Column      | Datatype        | NULL     | Description                            |
|-------------|-----------------|----------|----------------------------------------|
| OWNER       | VARCHAR2 (128)  | NOT NULL | Owner of the Java source object        |
| SOURCE_NAME | VARCHAR2 (4000) |          | Name of the Java source object         |
| CLASS_INDEX | NUMBER          |          | Index of the derived Java class object |
| CLASS_NAME  | VARCHAR2 (4000) |          | Name of the derived Java class object  |

 **See Also:**

- ["DBA\\_JAVA\\_DERIVATIONS"](#)
- ["USER\\_JAVA\\_DERIVATIONS"](#)

## 3.257 ALL\_JAVA\_FIELDS

ALL\_JAVA\_FIELDS displays field information about the stored Java classes accessible to the current user.

### Related Views

- DBA\_JAVA\_FIELDS displays field information about all stored Java classes in the database.
- USER\_JAVA\_FIELDS displays field information about the stored Java classes owned by the current user. This view does not display the OWNER column.

| Column        | Datatype        | NULL     | Description                                                                                                                                                                                                                         |
|---------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER         | VARCHAR2 (128)  | NOT NULL | Owner of the Java class                                                                                                                                                                                                             |
| NAME          | VARCHAR2 (4000) |          | Name of the Java class                                                                                                                                                                                                              |
| FIELD_INDEX   | NUMBER          |          | Index of the field                                                                                                                                                                                                                  |
| FIELD_NAME    | VARCHAR2 (4000) |          | Name of the field identified by the FIELD_INDEX column                                                                                                                                                                              |
| ACCESSIBILITY | VARCHAR2 (9)    |          | Accessibility of the field: <ul style="list-style-type: none"> <li>• PUBLIC</li> <li>• PRIVATE</li> <li>• PROTECTED</li> </ul>                                                                                                      |
| IS_STATIC     | VARCHAR2 (3)    |          | Indicates whether the field is a static field (YES) or not (NO)                                                                                                                                                                     |
| IS_FINAL      | VARCHAR2 (3)    |          | Indicates whether the field is a final field (YES) or not (NO)                                                                                                                                                                      |
| IS_VOLATILE   | VARCHAR2 (3)    |          | Indicates whether the field is volatile (YES) or not (NO)                                                                                                                                                                           |
| IS_TRANSIENT  | VARCHAR2 (3)    |          | Indicates whether the field is transient (YES) or not (NO)                                                                                                                                                                          |
| IS_SYNTHETIC  | VARCHAR2 (3)    |          | Indicates whether the field is generated by the compiler (YES) or not (NO)                                                                                                                                                          |
| IS_ENUM       | VARCHAR2 (3)    |          | Indicates whether the field is a member of an enum (YES) or not (NO)                                                                                                                                                                |
| ARRAY_DEPTH   | NUMBER          |          | Array depth of the type of the field                                                                                                                                                                                                |
| BASE_TYPE     | VARCHAR2 (7)    |          | Base type of the type of the field: <ul style="list-style-type: none"> <li>• int</li> <li>• long</li> <li>• float</li> <li>• double</li> <li>• boolean</li> <li>• byte</li> <li>• char</li> <li>• short</li> <li>• class</li> </ul> |
| FIELD_CLASS   | VARCHAR2 (4000) |          | Actual class name of the base object if the base type is class                                                                                                                                                                      |

**See Also:**

- ["DBA\\_JAVA\\_FIELDS"](#)
- ["USER\\_JAVA\\_FIELDS"](#)

## 3.258 ALL\_JAVA\_IMPLEMENTS

`ALL_JAVA_IMPLEMENTS` describes interfaces implemented by the stored Java classes accessible to the current user.

**Related Views**

- `DBA_JAVA_IMPLEMENTS` describes interfaces implemented by all stored Java classes in the database.
- `USER_JAVA_IMPLEMENTS` describes interfaces implemented by the stored Java classes owned by the current user. This view does not display the `OWNER` column.

| Column          | Datatype        | NULL     | Description                                                                 |
|-----------------|-----------------|----------|-----------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128)  | NOT NULL | Owner of the Java class                                                     |
| NAME            | VARCHAR2 (4000) |          | Name of the Java class                                                      |
| INTERFACE_INDEX | NUMBER          |          | Index of the interfaces implemented by the Java class                       |
| INTERFACE_NAME  | VARCHAR2 (4000) |          | Name of the interface identified by the <code>INTERFACE_INDEX</code> column |

**See Also:**

- ["DBA\\_JAVA\\_IMPLEMENTS"](#)
- ["USER\\_JAVA\\_IMPLEMENTS"](#)

## 3.259 ALL\_JAVA\_INNERS

`ALL_JAVA_INNERS` displays information about inner classes referred to by the stored Java classes accessible to the current user.

**Related Views**

- `DBA_JAVA_INNERS` displays information about inner classes referred to by all stored Java classes in the database.
- `USER_JAVA_INNERS` displays information about inner classes referred to by the stored Java classes owned by the current user. This view does not display the `OWNER` column.

| Column | Datatype       | NULL     | Description             |
|--------|----------------|----------|-------------------------|
| OWNER  | VARCHAR2 (128) | NOT NULL | Owner of the Java class |

| Column         | Datatype        | NULL | Description                                                                                                                                   |
|----------------|-----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| NAME           | VARCHAR2 (4000) |      | Name of the Java class                                                                                                                        |
| INNER_INDEX    | NUMBER          |      | Index of the referred inner class                                                                                                             |
| SIMPLE_NAME    | VARCHAR2 (4000) |      | Simple name of the referred inner class                                                                                                       |
| FULL_NAME      | VARCHAR2 (4000) |      | Full name of the referred inner class                                                                                                         |
| ACCESSIBILITY  | VARCHAR2 (9)    |      | Accessibility of the referred inner class: <ul style="list-style-type: none"> <li>• PUBLIC</li> <li>• PRIVATE</li> <li>• PROTECTED</li> </ul> |
| IS_STATIC      | VARCHAR2 (3)    |      | Indicates whether the referred inner class is declared static in the source file (YES) or not (NO)                                            |
| IS_FINAL       | VARCHAR2 (3)    |      | Indicates whether the referred inner class is declared final in the source file (YES) or not (NO)                                             |
| IS_ABSTRACT    | VARCHAR2 (3)    |      | Indicates whether the referred inner class is declared abstract in the source file (YES) or not (NO)                                          |
| IS_INTERFACE   | VARCHAR2 (3)    |      | Indicates whether the referred inner class is declared interface in the source file (YES) or not (NO)                                         |
| IS_STRICTFP    | VARCHAR2 (3)    |      | Indicates whether the inner class is declared strictfp (YES) or not (NO)                                                                      |
| IS_SYNTHETIC   | VARCHAR2 (3)    |      | Indicates whether the inner class is generated by the compiler (YES) or not (NO)                                                              |
| IS_ENUM        | VARCHAR2 (3)    |      | Indicates whether the inner class is an enum (YES) or not (NO)                                                                                |
| IS_ANNOTATION  | VARCHAR2 (3)    |      | Indicates whether the inner class is an annotation (YES) or not (NO)                                                                          |
| KIND           | VARCHAR2 (50)   |      | Type (class, interface, enum or annotation) of the inner class                                                                                |
| ALL_QUALIFIERS | VARCHAR2 (101)  |      | Concatenation of accessibility, type and other attributes of the inner class                                                                  |



#### See Also:

- "DBA\_JAVA\_INNERS"
- "USER\_JAVA\_INNERS"

## 3.260 ALL\_JAVA\_LAYOUTS

ALL\_JAVA\_LAYOUTS displays class layout information about the stored Java classes accessible to the current user.

#### Related Views

- DBA\_JAVA\_LAYOUTS displays class layout information about all stored Java classes in the database.

- **USER\_JAVA\_LAYOUTS** displays class layout information about the stored Java classes owned by the current user. This view does not display the **OWNER** column.

| Column         | Datatype        | NULL     | Description                                                             |
|----------------|-----------------|----------|-------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128)  | NOT NULL | Owner of the Java class                                                 |
| NAME           | VARCHAR2 (4000) |          | Name of the Java class                                                  |
| INTERFACES     | NUMBER          |          | Number of interfaces that this Java class implements                    |
| INNER_CLASSES  | NUMBER          |          | Number of inner classes that this Java class contains                   |
| FIELDS         | NUMBER          |          | Number of locally declared fields that this Java class contains         |
| STATIC_FIELDS  | NUMBER          |          | Number of locally declared static fields that this Java class contains  |
| METHODS        | NUMBER          |          | Number of locally declared methods that this Java class contains        |
| STATIC_METHODS | NUMBER          |          | Number of locally declared static methods that this Java class contains |
| NATIVE_METHODS | NUMBER          |          | Number of locally declared native methods that this Java class contains |

**See Also:**

- ["DBA\\_JAVA\\_LAYOUTS"](#)
- ["USER\\_JAVA\\_LAYOUTS"](#)

## 3.261 ALL\_JAVA\_METHODS

**ALL\_JAVA\_METHODS** displays method information about the stored Java classes accessible to the current user.

**Related Views**

- **DBA\_JAVA\_METHODS** displays method information about all stored Java classes in the database.
- **USER\_JAVA\_METHODS** displays method information about the stored Java classes owned by the current user. This view does not display the **OWNER** column.

| Column        | Datatype        | NULL     | Description                                                                                                                 |
|---------------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------------------|
| OWNER         | VARCHAR2 (128)  | NOT NULL | Owner of the Java class                                                                                                     |
| NAME          | VARCHAR2 (4000) |          | Name of the Java class                                                                                                      |
| METHOD_INDEX  | NUMBER          |          | Index of the method                                                                                                         |
| METHOD_NAME   | VARCHAR2 (4000) |          | Name of the method identified by the <b>METHOD_INDEX</b> column                                                             |
| ACCESSIBILITY | VARCHAR2 (9)    |          | Accessibility of the method: <ul style="list-style-type: none"><li>• PUBLIC</li><li>• PRIVATE</li><li>• PROTECTED</li></ul> |

| Column          | Datatype        | NULL | Description                                                                                                                                                                                                                                                 |
|-----------------|-----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IS_STATIC       | VARCHAR2 (3)    |      | Indicates whether the method is a static method (YES) or not (NO)                                                                                                                                                                                           |
| IS_FINAL        | VARCHAR2 (3)    |      | Indicates whether the method is a final method (YES) or not (NO)                                                                                                                                                                                            |
| IS_SYNCHRONIZED | VARCHAR2 (3)    |      | Indicates whether the method is a synchronized method (YES) or not (NO)                                                                                                                                                                                     |
| HAS_VARARGS     | VARCHAR2 (3)    |      | Indicates whether the method has a variable number of arguments (YES) or not (NO)                                                                                                                                                                           |
| IS_NATIVE       | VARCHAR2 (3)    |      | Indicates whether the method is a native method (YES) or not (NO)                                                                                                                                                                                           |
| IS_ABSTRACT     | VARCHAR2 (3)    |      | Indicates whether the method is an abstract method (YES) or not (NO)                                                                                                                                                                                        |
| IS_STRICTFP     | VARCHAR2 (3)    |      | Indicates whether the method is a strict method (YES) or not (NO)                                                                                                                                                                                           |
| IS_SYNTHETIC    | VARCHAR2 (3)    |      | Indicates whether the method is generated by the compiler (YES) or not (NO)                                                                                                                                                                                 |
| ARGUMENTS       | NUMBER          |      | Number of arguments of the method                                                                                                                                                                                                                           |
| THROWS          | NUMBER          |      | Number of exceptions thrown by the method                                                                                                                                                                                                                   |
| ARRAY_DEPTH     | NUMBER          |      | Array depth of the return type of the method                                                                                                                                                                                                                |
| BASE_TYPE       | VARCHAR2 (7)    |      | Base type of the return type of the method: <ul style="list-style-type: none"> <li>• int</li> <li>• long</li> <li>• float</li> <li>• double</li> <li>• boolean</li> <li>• byte</li> <li>• char</li> <li>• short</li> <li>• class</li> <li>• void</li> </ul> |
| RETURN_CLASS    | VARCHAR2 (4000) |      | Actual class name of the return value if the base type is class                                                                                                                                                                                             |
| IS_COMPILED     | VARCHAR2 (3)    |      | Indicates whether the Java method has been natively compiled by the JIT compiler (YES) or not (NO)                                                                                                                                                          |



#### See Also:

- "DBA\_JAVA\_METHODS"
- "USER\_JAVA\_METHODS"



## 3.262 ALL\_JAVA\_NCOMPS

ALL\_JAVA\_NCOMPS displays `ncomp`-related information about the Java classes accessible to the current user.

### Related Views

- `DBA_JAVA_NCOMPS` displays `ncomp`-related information about all Java classes in the database.
- `USER_JAVA_NCOMPS` displays `ncomp`-related information about the Java classes owned by the current user. This view does not display the `OWNER` column.

| Column      | Datatype        | NULL     | Description                                       |
|-------------|-----------------|----------|---------------------------------------------------|
| OWNER       | VARCHAR2 (128)  | NOT NULL | Owner of the Java class object                    |
| NAME        | VARCHAR2 (4000) |          | Name of the Java class object                     |
| SOURCE      | VARCHAR2 (4000) |          | <code>ncomp</code> source shown in this row       |
| INITIALIZER | VARCHAR2 (4000) |          | <code>ncomp</code> initializer shown in this row  |
| LIBRARYFILE | VARCHAR2 (4000) |          | <code>ncomp</code> library file shown in this row |
| LIBRARY     | VARCHAR2 (4000) |          | <code>ncomp</code> library shown in this row      |



### See Also:

- ["DBA\\_JAVA\\_NCOMPS"](#)
- ["USER\\_JAVA\\_NCOMPS"](#)

## 3.263 ALL\_JAVA\_RESOLVERS

ALL\_JAVA\_RESOLVERS displays information about resolvers of the Java classes accessible to the current user.

### Related Views

- `DBA_JAVA_RESOLVERS` displays information about resolvers of all Java classes in the database.
- `USER_JAVA_RESOLVERS` displays information about resolvers of the Java classes owned by the current user. This view does not display the `OWNER` column.

| Column     | Datatype        | NULL     | Description                                                                            |
|------------|-----------------|----------|----------------------------------------------------------------------------------------|
| OWNER      | VARCHAR2 (128)  | NOT NULL | Owner of the Java class object                                                         |
| NAME       | VARCHAR2 (4000) |          | Name of the Java class object                                                          |
| TERM_INDEX | NUMBER          |          | Index of the resolver term in this row                                                 |
| PATTERN    | VARCHAR2 (4000) |          | Resolver pattern of the resolver term identified by the <code>TERM_INDEX</code> column |

| Column | Datatype      | NULL | Description                                                                           |
|--------|---------------|------|---------------------------------------------------------------------------------------|
| SCHEMA | VARCHAR2 (64) |      | Resolver schema of the resolver term identified by the <code>TERM_INDEX</code> column |

**See Also:**

- `"DBA_JAVA_RESOLVERS"`
- `"USER_JAVA_RESOLVERS"`

## 3.264 ALL\_JAVA\_THROWS

`ALL_JAVA_THROWS` displays information about exceptions thrown from methods of the Java classes accessible to the current user.

### Related Views

- `DBA_JAVA_THROWS` displays information about exceptions thrown from methods of all Java classes in the database.
- `USER_JAVA_THROWS` displays information about exceptions thrown from methods of the Java classes owned by the current user. This view does not display the `OWNER` column.

| Column          | Datatype        | NULL     | Description                                   |
|-----------------|-----------------|----------|-----------------------------------------------|
| OWNER           | VARCHAR2 (128)  | NOT NULL | Owner of the Java class                       |
| NAME            | VARCHAR2 (4000) |          | Name of the Java class                        |
| METHOD_INDEX    | NUMBER          |          | Index of the throwing method of the exception |
| METHOD_NAME     | VARCHAR2 (4000) |          | Name of the throwing method of the exception  |
| EXCEPTION_INDEX | NUMBER          |          | Index of the exception                        |
| EXCEPTION_CLASS | VARCHAR2 (4000) |          | Class of the exception                        |

**See Also:**

- `"DBA_JAVA_THROWS"`
- `"USER_JAVA_THROWS"`

## 3.265 ALL\_JOBS

ALL\_JOBS is a synonym for USER\_JOBS.



### See Also:

"USER\_JOBS"

## 3.266 ALL\_JOIN\_IND\_COLUMNS

ALL\_JOIN\_IND\_COLUMNS describes the join conditions of bitmap join indexes accessible to the current user. Bitmap join indexes are indexes built on a child table with an index key containing columns from associated parent tables, where all of the tables are connected through join conditions. There is one row for each join condition.

### Related Views

- DBA\_JOIN\_IND\_COLUMNS describes all join conditions in the database.
- USER\_JOIN\_IND\_COLUMNS describes the join conditions owned by the current user. This view does not display the INDEX\_OWNER column.

| Column             | Datatype       | NULL     | Description                             |
|--------------------|----------------|----------|-----------------------------------------|
| INDEX_OWNER        | VARCHAR2 (128) | NOT NULL | Owner of the bitmap join index          |
| INDEX_NAME         | VARCHAR2 (128) | NOT NULL | Name of the bitmap join index           |
| INNER_TABLE_OWNER  | VARCHAR2 (128) | NOT NULL | Owner of the fact table                 |
| INNER_TABLE_NAME   | VARCHAR2 (128) | NOT NULL | Name of the fact table                  |
| INNER_TABLE_COLUMN | VARCHAR2 (128) | NOT NULL | Name of the fact table join column      |
| OUTER_TABLE_OWNER  | VARCHAR2 (128) | NOT NULL | Owner of the dimension table            |
| OUTER_TABLE_NAME   | VARCHAR2 (128) | NOT NULL | Name of the dimension table             |
| OUTER_TABLE_COLUMN | VARCHAR2 (128) | NOT NULL | Name of the dimension table join column |



### See Also:

- "DBA\_JOIN\_IND\_COLUMNS"
- "USER\_JOIN\_IND\_COLUMNS"

## 3.267 ALL\_JSON\_COLLECTION\_TABLES

ALL\_JSON\_COLLECTION\_TABLES describes JSON collection tables accessible to the current user.

### Related Views

- `DBA_JSON_COLLECTION_TABLES` describes all JSON collection tables in the database.
- `USER_JSON_COLLECTION_TABLES` describes JSON collection tables owned by the current user.

| Column          | Datatype       | NULL     | Description                                                                                    |
|-----------------|----------------|----------|------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | Name of the JSON collection table owner                                                        |
| COLLECTION_NAME | VARCHAR2 (128) | NOT NULL | Name of the JSON collection table                                                              |
| WITH_ETAG       | VARCHAR2 (3)   |          | Indicates whether the JSON collection table was created with the ETAG option (YES) or not (NO) |



#### Note:

This view is available starting with Oracle Database 23ai.



#### See Also:

- ["DBA\\_JSON\\_COLLECTION\\_TABLES"](#)
- ["USER\\_JSON\\_COLLECTION\\_TABLES"](#)

## 3.268 ALL\_JSON\_COLLECTION\_VIEWS

`ALL_JSON_COLLECTION_VIEWS` describes JSON collection views accessible to the current user.

### Related Views

- `DBA_JSON_COLLECTION_VIEWS` describes all JSON collection views in the database.
- `USER_JSON_COLLECTION_VIEWS` describes JSON collection views owned by the current user.

| Column          | Datatype       | NULL     | Description                            |
|-----------------|----------------|----------|----------------------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | Name of the JSON collection view owner |
| COLLECTION_NAME | VARCHAR2 (128) | NOT NULL | Name of the JSON collection view       |



#### Note:

This view is available starting with Oracle Database 23ai, Release Update 23.6.

**See Also:**

- ["DBA\\_JSON\\_COLLECTION\\_VIEWS"](#)
- ["USER\\_JSON\\_COLLECTION\\_VIEWS"](#)

## 3.269 ALL\_JSON\_COLLECTIONS

ALL\_JSON\_COLLECTIONS describes JSON collections accessible to the current user.

**Related Views**

- DBA\_JSON\_COLLECTIONS describes all JSON collections in the database.
- USER\_JSON\_COLLECTIONS describes JSON collections owned by the current user.

| Column          | Datatype       | NULL | Description                                                                                                                |
|-----------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128) |      | Name of the JSON collection owner                                                                                          |
| COLLECTION_NAME | VARCHAR2 (128) |      | Name of the JSON collection                                                                                                |
| COLLECTION_TYPE | VARCHAR2 (12)  |      | Type of the JSON collection: <ul style="list-style-type: none"><li>• TABLE</li><li>• VIEW</li><li>• DUALITY VIEW</li></ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_JSON\\_COLLECTIONS"](#)
- ["USER\\_JSON\\_COLLECTIONS"](#)

## 3.270 ALL\_JSON\_COLUMNS

ALL\_JSON\_COLUMNS provides information on the JavaScript Object Notation (JSON) columns accessible to the current user.

This view displays information on table and view columns that are guaranteed to return JSON data. These include:

- Columns of data type `JSON`

- Columns on which a check constraint containing the `IS JSON` condition is defined, where the `IS JSON` condition is always enforced. Such check constraints can contain only the `IS JSON` condition, or they can contain the `IS JSON` condition as part of a logical `AND` condition.

For example, the following check constraints ensure that the `IS JSON` condition is always enforced and will therefore cause `mycol` to appear in the `ALL_JSON_COLUMNS` view:

```
mycol IS JSON
mycol IS JSON AND LENGTH(mycol) > 100
```

However, the following check constraint does not ensure that the `IS JSON` condition is enforced, because it is part of a logical `OR` condition, and will therefore cause `mycol` to be omitted from the `ALL_JSON_COLUMNS` view:

```
mycol IS JSON OR LENGTH(mycol) > 100
```

- View columns that are defined as the return value of a SQL function that returns JSON data. Such functions include:
  - `TREAT ( expr AS JSON )`
  - `JSON_ARRAY`, `JSON_ARRAYAGG`, `JSON_MERGEPATCH`, `JSON_OBJECT`, `JSON_OBJECTAGG`, `JSON_QUERY`, `JSON_SERIALIZE`, and `JSON_TRANSFORM`

For example, in the following definition for view `v1`, column `mycol` is defined as the return value of the `JSON_OBJECT` function, which will therefore cause `mycol` to appear in the `ALL_JSON_COLUMNS` view:

```
CREATE TABLE t1 (text varchar2(100));
CREATE VIEW v1 AS SELECT JSON_OBJECT(text) AS mycol FROM t1;
```

### Related Views

- `DBA_JSON_COLUMNS` provides information on all JSON columns.
- `USER_JSON_COLUMNS` provides information on the JSON columns for which the user is the owner. This view does not display the `OWNER` column.

| Column      | Datatype       | NULL | Description                                                                     |
|-------------|----------------|------|---------------------------------------------------------------------------------|
| OWNER       | VARCHAR2 (128) |      | Owner of the table with the JSON column                                         |
| TABLE_NAME  | VARCHAR2 (128) |      | Name of the table with the JSON column                                          |
| OBJECT_TYPE | VARCHAR2 (5)   |      | Object type: <ul style="list-style-type: none"><li>TABLE</li><li>VIEW</li></ul> |
| COLUMN_NAME | VARCHAR2 (128) |      | Name of the JSON column                                                         |
| FORMAT      | VARCHAR2 (9)   |      | Format of the JSON data                                                         |
| DATA_TYPE   | VARCHAR2 (13)  |      | Data type of the JSON column                                                    |

**See Also:**

- ["DBA\\_JSON\\_COLUMNS"](#)
- ["USER\\_JSON\\_COLUMNS"](#)
- *Oracle Database JSON Developer's Guide* for more information about using JSON with Oracle Database

## 3.271 ALL\_JSON\_DATAGUIDE\_FIELDS

ALL\_JSON\_DATAGUIDE\_FIELDS extracts the path and type information from the data guides accessible to the current user, which are the data guides returned to the user by the ALL\_JSON\_DATAGUIDE view.

### Related Views

- DBA\_JSON\_DATAGUIDE\_FIELDS extracts the path and type information from all the data guides in the database, which are the data guides returned by the DBA\_JSON\_DATAGUIDE view.
- USER\_JSON\_DATAGUIDE\_FIELDS extracts the path and type information from all the data guides in the current user's schema, which are the data guides returned to the user by the USER\_JSON\_DATAGUIDE view. This view does not display the OWNER column.

| Column      | Datatype        | NULL | Description                                         |
|-------------|-----------------|------|-----------------------------------------------------|
| OWNER       | VARCHAR2 (128)  |      | Owner of the table containing the JSON column       |
| TABLE_NAME  | VARCHAR2 (128)  |      | Name of the table containing the JSON column        |
| COLUMN_NAME | VARCHAR2 (128)  |      | Name of the JSON column that has data guide enabled |
| PATH        | VARCHAR2 (4000) |      | Path to the JSON field in the data guide            |
| TYPE        | VARCHAR2 (40)   |      | Type of the JSON field in the data guide            |
| LENGTH      | NUMBER          |      | Maximum length of the JSON field value, in bytes    |

**See Also:**

- ["DBA\\_JSON\\_DATAGUIDE\\_FIELDS"](#)
- ["USER\\_JSON\\_DATAGUIDE\\_FIELDS"](#)

## 3.272 ALL\_JSON\_DATAGUIDES

ALL\_JSON\_DATAGUIDES provides information on the JavaScript Object Notation (JSON) columns accessible to the current user that have data guide enabled.

### Related Views

- DBA\_JSON\_DATAGUIDES provides information on all JavaScript Object Notation (JSON) columns in the database that have data guide enabled.
- USER\_JSON\_DATAGUIDES provides information on the JavaScript Object Notation (JSON) columns owned by the current user that have data guide enabled. This view does not display the OWNER column.

| Column      | Datatype       | NULL     | Description                                         |
|-------------|----------------|----------|-----------------------------------------------------|
| OWNER       | VARCHAR2 (128) | NOT NULL | Owner of the table containing the JSON column       |
| TABLE_NAME  | VARCHAR2 (128) | NOT NULL | Name of the table containing the JSON column        |
| COLUMN_NAME | VARCHAR2 (128) | NOT NULL | Name of the JSON column that has data guide enabled |
| DATAGUIDE   | CLOB           |          | The data guide of the JSON column in flat format    |

### See Also:

- "DBA\_JSON\_DATAGUIDES"
- "USER\_JSON\_DATAGUIDES"

## 3.273 ALL\_JSON\_DOMAIN\_SCHEMA\_COLUMNS

ALL\_JSON\_DOMAIN\_SCHEMA\_COLUMNS describes JSON schema constraints on columns of data use case domains accessible to the current user.

### Related Views

- DBA\_JSON\_DOMAIN\_SCHEMA\_COLUMNS describes JSON schema constraints on columns of all data use case domains in the database.
- USER\_JSON\_DOMAIN\_SCHEMA\_COLUMNS describes JSON schema constraints on columns of data use case domains owned by the current user. This view does not display the OWNER column.

| Column      | Datatype       | NULL     | Description                                                                                            |
|-------------|----------------|----------|--------------------------------------------------------------------------------------------------------|
| OWNER       | VARCHAR2 (128) | NOT NULL | Owner of the data use case domain containing the column on which the JSON schema constraint is defined |
| DOMAIN_NAME | VARCHAR2 (128) | NOT NULL | Name of the data use case domain containing the column on which the JSON schema constraint is defined  |



| Column          | Datatype       | NULL     | Description                                                                                                   |
|-----------------|----------------|----------|---------------------------------------------------------------------------------------------------------------|
| COLUMN_NAME     | VARCHAR2 (128) | NOT NULL | Name of the data use case domain column on which the JSON schema constraint is defined                        |
| CONSTRAINT_NAME | VARCHAR2 (128) | NOT NULL | Name of the JSON schema constraint                                                                            |
| JSON_SCHEMA     | JSON           |          | JSON schema constraint definition                                                                             |
| CAST_MODE       | BOOLEAN        |          | Indicates whether the JSON schema validator is operating in cast mode ( <b>TRUE</b> ) or not ( <b>FALSE</b> ) |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_JSON\\_DOMAIN\\_SCHEMA\\_COLUMNS"](#)
- ["USER\\_JSON\\_DOMAIN\\_SCHEMA\\_COLUMNS"](#)

## 3.274 ALL\_JSON\_DUALITY\_VIEW\_LINKS

`ALL_JSON_DUALITY_VIEW_LINKS` describes the links associated with the JSON-relational duality views accessible to the current user.

### Related Views

- `DBA_JSON_DUALITY_VIEW_LINKS` describes the links associated with all JSON-relational duality views in the database.
- `USER_JSON_DUALITY_VIEW_LINKS` describes the links associated with the JSON-relational duality views owned by the current user. This view does not display the `VIEW_OWNER` column.

| Column             | Datatype       | NULL | Description                                                  |
|--------------------|----------------|------|--------------------------------------------------------------|
| VIEW_OWNER         | VARCHAR2 (128) |      | Owner of the duality view                                    |
| VIEW_NAME          | VARCHAR2 (128) |      | Name of the duality view                                     |
| PARENT_TABLE_OWNER | VARCHAR2 (128) |      | Owner of the parent table in the link                        |
| PARENT_TABLE_NAME  | VARCHAR2 (128) |      | Name of the parent table in the link                         |
| CHILD_TABLE_OWNER  | VARCHAR2 (128) |      | Owner of the child table in the link                         |
| CHILD_TABLE_NAME   | VARCHAR2 (128) |      | Name of the child table in the link                          |
| FROM_COLUMN        | VARCHAR2 (128) |      | Name of the column on the <code>FROM</code> side of the link |
| TO_COLUMN          | VARCHAR2 (128) |      | Name of the column on the <code>TO</code> side of the link   |

| Column    | Datatype       | NULL | Description                                                                                                                                                                                                   |
|-----------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JOIN_TYPE | VARCHAR2 (16)  |      | Join type for the link: <ul style="list-style-type: none"><li>• NESTED - Primary key to foreign key</li><li>• OUTER - Foreign key to primary key</li><li>• INNER - This value is currently not used</li></ul> |
| KEY_NAME  | VARCHAR2 (128) |      | Name of the JSON key associated with the link                                                                                                                                                                 |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_JSON\\_DUALITY\\_VIEW\\_LINKS"](#)
- ["USER\\_JSON\\_DUALITY\\_VIEW\\_LINKS"](#)

## 3.275 ALL\_JSON\_DUALITY\_VIEW\_TAB\_COLS

ALL\_JSON\_DUALITY\_VIEW\_TAB\_COLS describes the table columns associated with the JSON-relational duality views accessible to the current user.

### Related Views

- [DBA\\_JSON\\_DUALITY\\_VIEW\\_TAB\\_COLS](#) describes the table columns associated with all JSON-relational duality views in the database.
- [USER\\_JSON\\_DUALITY\\_VIEW\\_TAB\\_COLS](#) describes the table columns associated with the JSON-relational duality views owned by the current user. This view does not display the `VIEW_OWNER` column.

| Column       | Datatype       | NULL | Description                                                                                                 |
|--------------|----------------|------|-------------------------------------------------------------------------------------------------------------|
| VIEW_OWNER   | VARCHAR2 (128) |      | Owner of the duality view                                                                                   |
| VIEW_NAME    | VARCHAR2 (128) |      | Name of the duality view                                                                                    |
| TABLE_OWNER  | VARCHAR2 (128) |      | Owner of the table                                                                                          |
| TABLE_NAME   | VARCHAR2 (128) |      | Name of the table                                                                                           |
| ROOT_TABLE   | BOOLEAN        |      | Indicates whether the table is the root (topmost) table ( <code>TRUE</code> ) or not ( <code>FALSE</code> ) |
| TABLE_NUMBER | NUMBER         |      | Number value that identifies this table in the duality view                                                 |
| COLUMN_NAME  | VARCHAR2 (128) |      | Name of the column                                                                                          |
| DATA_TYPE    | VARCHAR2 (128) |      | Data type of the column                                                                                     |
| LENGTH       | NUMBER         |      | For character data types, the maximum length of the column (in characters)                                  |

| Column          | Datatype        | NULL | Description                                                                                                                           |
|-----------------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------------|
| JSON_KEY_NAME   | NVARCHAR2 (128) |      | JSON key name corresponding to the column                                                                                             |
| ALLOW_INSERT    | BOOLEAN         |      | Indicates whether rows can be inserted into the table using the duality view (TRUE) or not (FALSE)                                    |
| ALLOW_UPDATE    | BOOLEAN         |      | Indicates whether the column can be updated using the duality view (TRUE) or not (FALSE)                                              |
| ALLOW_DELETE    | BOOLEAN         |      | Indicates whether rows can be deleted from the table using the duality view (TRUE) or not (FALSE)                                     |
| READ_ONLY       | BOOLEAN         |      | Indicates whether changes to the column are prohibited (TRUE) or not (FALSE)                                                          |
| IS_FLEX_COL     | BOOLEAN         |      | Indicates whether the column is a flex column (TRUE) or not (FALSE)                                                                   |
| IS_GENERATED    | BOOLEAN         |      | Indicates whether the value associated with JSON_KEY_NAME is a generated (TRUE) or not (FALSE)                                        |
| IS_HIDDEN       | BOOLEAN         |      | Indicates whether JSON_KEY_NAME is hidden in the document (TRUE) or not (FALSE)                                                       |
| PRIMARY_KEY_POS | NUMBER          |      | If the column is part of a primary key, its position in the primary key specification; otherwise, null                                |
| ETAG_POS        | NUMBER          |      | If the column is part of an ETAG, its position in the ETAG specification; otherwise, null                                             |
| ORDER_BY_POS    | NUMBER          |      | If the column is part of the ORDER BY clause of the JSON_ARRAYAGG function, then its position in the ORDER BY clause; otherwise, null |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_JSON\\_DUALITY\\_VIEW\\_TAB\\_COLS"](#)
- ["USER\\_JSON\\_DUALITY\\_VIEW\\_TAB\\_COLS"](#)

## 3.276 ALL\_JSON\_DUALITY\_VIEW\_TABS

ALL\_JSON\_DUALITY\_VIEW\_TABS describes the tables associated with the JSON-relational duality views accessible to the current user.

### Related Views

- [DBA\\_JSON\\_DUALITY\\_VIEW\\_TABS](#) describes the tables associated with all JSON-relational duality views in the database.

- `USER_JSON_DUALITY_VIEW_TABS` describes the tables associated with the JSON-relational duality views owned by the current user. This view does not display the `VIEW_OWNER` column.

| Column                           | Datatype                     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------|------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>VIEW_OWNER</code>          | <code>VARCHAR2 (128)</code>  |      | Owner of the duality view                                                                                                                                                                                                                                                                                                                                                                     |
| <code>VIEW_NAME</code>           | <code>VARCHAR2 (128)</code>  |      | Name of the duality view                                                                                                                                                                                                                                                                                                                                                                      |
| <code>TABLE_OWNER</code>         | <code>VARCHAR2 (128)</code>  |      | Owner of the table                                                                                                                                                                                                                                                                                                                                                                            |
| <code>TABLE_NAME</code>          | <code>VARCHAR2 (128)</code>  |      | Name of the table                                                                                                                                                                                                                                                                                                                                                                             |
| <code>WHERE_CLAUSE</code>        | <code>NVARCHAR2 (128)</code> |      | SQL expression in the <code>WHERE</code> clause of the duality view query that accesses the table<br>If the query does not contain a <code>WHERE</code> clause, then null.                                                                                                                                                                                                                    |
| <code>ALLOW_INSERT</code>        | <code>BOOLEAN</code>         |      | Indicates whether rows can be inserted into the table using the duality view ( <code>TRUE</code> ) or not ( <code>FALSE</code> )                                                                                                                                                                                                                                                              |
| <code>ALLOW_UPDATE</code>        | <code>BOOLEAN</code>         |      | Indicates whether the column can be updated using the duality view ( <code>TRUE</code> ) or not ( <code>FALSE</code> )                                                                                                                                                                                                                                                                        |
| <code>ALLOW_DELETE</code>        | <code>BOOLEAN</code>         |      | Indicates whether rows can be deleted from the table using the duality view ( <code>TRUE</code> ) or not ( <code>FALSE</code> )                                                                                                                                                                                                                                                               |
| <code>READ_ONLY</code>           | <code>BOOLEAN</code>         |      | Indicates whether the table is read-only in the duality view, that is, no rows can be modified, inserted, or deleted ( <code>TRUE</code> ) or not ( <code>FALSE</code> )                                                                                                                                                                                                                      |
| <code>HAS_FLEX_COL</code>        | <code>BOOLEAN</code>         |      | Indicates whether the table contains a flex column ( <code>TRUE</code> ) or not ( <code>FALSE</code> )                                                                                                                                                                                                                                                                                        |
| <code>ROOT_TABLE</code>          | <code>BOOLEAN</code>         |      | Indicates whether the table is the root (topmost) table ( <code>TRUE</code> ) or not ( <code>FALSE</code> )                                                                                                                                                                                                                                                                                   |
| <code>TABLE_NUMBER</code>        | <code>NUMBER</code>          |      | Number value that identifies this table in the duality view                                                                                                                                                                                                                                                                                                                                   |
| <code>PARENT_TABLE_NUMBER</code> | <code>NUMBER</code>          |      | Number value that points to the parent table in the hierarchy                                                                                                                                                                                                                                                                                                                                 |
| <code>RELATIONSHIP</code>        | <code>VARCHAR2 (10)</code>   |      | Relationship between the table (that is, the child table) and the parent table: <ul style="list-style-type: none"><li>• <code>NESTED</code> - The child table is nested as a JSON array under the parent table</li><li>• <code>REFERENCED</code> - The child table is the target of an outer join</li><li>• <code>SINGLETON</code> - The child table is the target of an inner join</li></ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_JSON\\_DUALITY\\_VIEW\\_TABS"](#)
- ["USER\\_JSON\\_DUALITY\\_VIEW\\_TABS"](#)

## 3.277 ALL\_JSON\_DUALITY\_VIEWS

ALL\_JSON\_DUALITY\_VIEWS describes the JSON-relational duality views accessible to the current user.

### Related Views

- DBA\_JSON\_DUALITY\_VIEWS describes all JSON-relational duality views in the database.
- USER\_JSON\_DUALITY\_VIEWS describes the JSON-relational duality views owned by the current user. This view does not display the VIEW\_OWNER column.

| Column                           | Datatype       | NULL | Description                                                                                                                                                                              |
|----------------------------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VIEW_OWNER                       | VARCHAR2 (128) |      | Owner of the duality view                                                                                                                                                                |
| VIEW_NAME                        | VARCHAR2 (128) |      | Name of the duality view                                                                                                                                                                 |
| JSON_COLUMN_NAME                 | CHAR (4)       |      | Name of the column containing the JSON data                                                                                                                                              |
| ROOT_TABLE_NAME                  | VARCHAR2 (128) |      | Name of the root table                                                                                                                                                                   |
| ROOT_TABLE_OWNER                 | VARCHAR2 (128) |      | Owner of the root table                                                                                                                                                                  |
| ALLOW_INSERT                     | BOOLEAN        |      | Indicates whether inserts of top level objects or sub-objects into the duality view are allowed (TRUE) or not (FALSE)                                                                    |
| ALLOW_UPDATE                     | BOOLEAN        |      | Indicates whether updates to top level objects or sub-objects in the duality view are allowed (TRUE) or not (FALSE)                                                                      |
| ALLOW_DELETE                     | BOOLEAN        |      | Indicates whether deletes of top level objects or sub-objects from the duality view are allowed (TRUE) or not (FALSE)                                                                    |
| READ_ONLY                        | BOOLEAN        |      | Indicates whether the duality view is read-only, that is, no objects or sub-objects can be modified, inserted, or deleted (TRUE) or not (FALSE)                                          |
| JSON_SCHEMA                      | JSON           |      | JSON schema description of the JSON data                                                                                                                                                 |
| STATUS                           | VARCHAR2 (7)   |      | Status of the duality view (VALID or INVALID)                                                                                                                                            |
| LOGICAL_REPLICATION <sup>1</sup> | VARCHAR2 (8)   |      | Indicates whether the duality view is enabled for logical replication (ENABLED) or not (DISABLED). This setting is ignored if database-wide column data supplemental logging is enabled. |

<sup>1</sup> This column is available starting with Oracle Database 23ai, Release Update 23.6.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- "DBA\_JSON\_DUALITY\_VIEWS"
- "USER\_JSON\_DUALITY\_VIEWS"

## 3.278 ALL\_JSON\_INDEXES

ALL\_JSON\_INDEXES describes indexes on JSON data that are accessible to the current user.

**Related Views**

- DBA\_JSON\_INDEXES describes all indexes on JSON data in the database.
- USER\_JSON\_INDEXES describes indexes on JSON data that are owned by the current user. This view does not display the INDEX\_OWNER column.

| Column           | Datatype        | NULL     | Description                                                                 |
|------------------|-----------------|----------|-----------------------------------------------------------------------------|
| INDEX_OWNER      | VARCHAR2 (128)  | NOT NULL | Owner of the index                                                          |
| INDEX_NAME       | VARCHAR2 (128)  | NOT NULL | Name of the index                                                           |
| TABLE_OWNER      | VARCHAR2 (128)  | NOT NULL | Owner of the table on which the index is defined                            |
| TABLE_NAME       | VARCHAR2 (128)  | NOT NULL | Name of the table on which the index is defined                             |
| COLUMN_NAME      | VARCHAR2 (128)  | NOT NULL | Name of the JSON column on which the index is defined                       |
| COLUMN_DATATYPE  | VARCHAR2 (13)   |          | Data type of the JSON column on which the index is defined                  |
| SEARCH_INDEX     | BOOLEAN         |          | Indicates whether the index is a search index (TRUE) or not (FALSE)         |
| FUNCTIONAL_INDEX | BOOLEAN         |          | Indicates whether the index is a function-based index (TRUE) or not (FALSE) |
| COMPOSITE_INDEX  | BOOLEAN         |          | Indicates whether the index is a composite index (TRUE) or not (FALSE)      |
| BITMAP_INDEX     | BOOLEAN         |          | Indicates whether the index is a bitmap index (TRUE) or not (FALSE)         |
| MULTIVALUE_INDEX | BOOLEAN         |          | Indicates whether the index is a multivalue index (TRUE) or not (FALSE)     |
| INDEX_EXPRESSION | VARCHAR2 (4000) |          | SQL text of the index expression                                            |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_JSON\\_INDEXES"](#)
- ["USER\\_JSON\\_INDEXES"](#)

## 3.279 ALL\_JSON\_SCHEMA\_COLUMNS

ALL\_JSON\_SCHEMA\_COLUMNS describes JSON schema constraints on columns in tables accessible to the current user.

**Related Views**

- DBA\_JSON\_SCHEMA\_COLUMNS describes JSON schema constraints on columns in all tables in the database.
- USER\_JSON\_SCHEMA\_COLUMNS describes JSON schema constraints on columns in tables owned by the current user. This view does not display the OWNER column.

| Column          | Datatype       | NULL     | Description                                                                                 |
|-----------------|----------------|----------|---------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the table containing the column on which the JSON schema constraint is defined     |
| TABLE_NAME      | VARCHAR2 (128) | NOT NULL | Name of the table containing the column on which the JSON schema constraint is defined      |
| COLUMN_NAME     | VARCHAR2 (128) | NOT NULL | Name of the column on which the JSON schema constraint is defined                           |
| CONSTRAINT_NAME | VARCHAR2 (128) | NOT NULL | Name of the JSON schema constraint                                                          |
| JSON_SCHEMA     | JSON           |          | JSON schema constraint definition                                                           |
| CAST_MODE       | BOOLEAN        |          | Indicates whether the JSON schema validator is operating in cast mode (TRUE) or not (FALSE) |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_JSON\\_SCHEMA\\_COLUMNS"](#)
- ["USER\\_JSON\\_SCHEMA\\_COLUMNS"](#)

## 3.280 ALL\_LIBRARIES

ALL\_LIBRARIES describes the libraries accessible to the current user.

### Related Views

- DBA\_LIBRARIES describes all libraries in the database.
- USER\_LIBRARIES describes the libraries owned by the current user. This view does not display the OWNER column.

| Column        | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                   |
|---------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER         | VARCHAR2 (128)  | NOT NULL | Owner of the library                                                                                                                                                                                                                                                                                                                                          |
| LIBRARY_NAME  | VARCHAR2 (128)  | NOT NULL | Library name                                                                                                                                                                                                                                                                                                                                                  |
| FILE_SPEC     | VARCHAR2 (2000) |          | Operating system file specification associated with the library                                                                                                                                                                                                                                                                                               |
| DYNAMIC       | VARCHAR2 (1)    |          | Indicates whether the library is dynamically loadable (Y) or not (N)                                                                                                                                                                                                                                                                                          |
| STATUS        | VARCHAR2 (7)    |          | Status of the library: <ul style="list-style-type: none"><li>• N/A</li><li>• VALID</li><li>• INVALID</li></ul>                                                                                                                                                                                                                                                |
| AGENT         | VARCHAR2 (128)  |          | Agent of the library                                                                                                                                                                                                                                                                                                                                          |
| LEAF_FILENAME | VARCHAR2 (2000) |          | Leaf filename of the library                                                                                                                                                                                                                                                                                                                                  |
| ORIGIN_CON_ID | VARCHAR2 (256)  |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li>• n: This value is used for rows containing data that originate in the container with container ID n (n = 1 if the row originates in root)</li></ul> |

### See Also:

- "DBA\_LIBRARIES"
- "USER\_LIBRARIES"

## 3.281 ALL\_LOB\_PARTITIONS

ALL\_LOB\_PARTITIONS displays the LOB partitions in the tables accessible to the current user.

### Related Views

- DBA\_LOB\_PARTITIONS displays all LOB partitions in the database.
- USER\_LOB\_PARTITIONS displays the LOB partitions owned by the current user. This view does not display the TABLE\_OWNER column.



| Column             | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------|-----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABLE_OWNER        | VARCHAR2 (128)  |      | Owner of the table                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TABLE_NAME         | VARCHAR2 (128)  |      | Name of the table                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| COLUMN_NAME        | VARCHAR2 (4000) |      | Name of the LOB column                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| LOB_NAME           | VARCHAR2 (128)  |      | Name of the partitioned LOB item                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| PARTITION_NAME     | VARCHAR2 (128)  |      | Name of the table partition                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LOB_PARTITION_NAME | VARCHAR2 (128)  |      | Name of the LOB data partition                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| LOB_INDPART_NAME   | VARCHAR2 (128)  |      | Name of the corresponding LOB index partition                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PARTITION_POSITION | NUMBER          |      | Position of the LOB data partition within the LOB item                                                                                                                                                                                                                                                                                                                                                                                                                        |
| COMPOSITE          | VARCHAR2 (3)    |      | Indicates whether the partition is composite (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                |
| CHUNK              | NUMBER          |      | Value of the <code>CHUNK</code> attribute of the LOB data partition                                                                                                                                                                                                                                                                                                                                                                                                           |
| PCTVERSION         | NUMBER          |      | Value of the <code>PCTVERSION</code> attribute of the LOB data partition                                                                                                                                                                                                                                                                                                                                                                                                      |
| CACHE              | VARCHAR2 (10)   |      | Indicates whether and how the LOB data is to be cached in the buffer cache: <ul style="list-style-type: none"> <li>• YES - LOB data is placed in the buffer cache</li> <li>• NO - LOB data either is not brought into the buffer cache or is brought into the buffer cache and placed at the least recently used end of the LRU list</li> <li>• CACHEREADS - LOB data is brought into the buffer cache only during read operations but not during write operations</li> </ul> |
| IN_ROW             | VARCHAR2 (3)    |      | Indicates whether the <code>STORAGE IN ROW</code> attribute is enabled for the LOB data partition (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                           |
| TABLESPACE_NAME    | VARCHAR2 (30)   |      | Name of the tablespace containing the LOB data partition                                                                                                                                                                                                                                                                                                                                                                                                                      |
| INITIAL_EXTENT     | VARCHAR2 (40)   |      | Size (in bytes) of the initial extent of the LOB data partition, or <code>DEFAULT</code>                                                                                                                                                                                                                                                                                                                                                                                      |
| NEXT_EXTENT        | VARCHAR2 (40)   |      | Size (in bytes) of secondary extents of the LOB data partition, or <code>DEFAULT</code>                                                                                                                                                                                                                                                                                                                                                                                       |
| MIN_EXTENTS        | VARCHAR2 (40)   |      | Minimum number of extents allowed in the segment of the LOB data partition, or <code>DEFAULT</code>                                                                                                                                                                                                                                                                                                                                                                           |
| MAX_EXTENTS        | VARCHAR2 (40)   |      | Maximum number of extents allowed in the segment of the LOB data partition, or <code>DEFAULT</code>                                                                                                                                                                                                                                                                                                                                                                           |
| MAX_SIZE           | VARCHAR2 (40)   |      | Maximum number of blocks allowed in the segment of the LOB data partition, or <code>DEFAULT</code>                                                                                                                                                                                                                                                                                                                                                                            |

| Column           | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                  |
|------------------|---------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RETENTION        | VARCHAR2 (7)  |      | Retention option.<br>Possible values for a SecureFiles segment: <ul style="list-style-type: none"> <li>NONE</li> <li>AUTO</li> <li>MIN</li> <li>MAX</li> <li>DEFAULT</li> <li>INVALID</li> </ul> Possible values for a BasicFiles segment: <ul style="list-style-type: none"> <li>YES</li> <li>NO</li> </ul> |
| MINRETENTION     | VARCHAR2 (40) |      | Minimum retention duration for a SecureFiles segment, or <code>DEFAULT</code>                                                                                                                                                                                                                                |
| PCT_INCREASE     | VARCHAR2 (40) |      | Percentage increase in extent size for the LOB data partition, or <code>DEFAULT</code>                                                                                                                                                                                                                       |
| FREELISTS        | VARCHAR2 (40) |      | Number of process freelists allocated in the segment of the LOB data partition, or <code>DEFAULT</code>                                                                                                                                                                                                      |
| FREELIST_GROUPS  | VARCHAR2 (40) |      | Number of freelist groups allocated in the segment of the LOB data partition, or <code>DEFAULT</code>                                                                                                                                                                                                        |
| LOGGING          | VARCHAR2 (7)  |      | Indicates whether or not changes to the LOB are logged: <ul style="list-style-type: none"> <li>NONE - Not specified<br/><b>See Also:</b> the <code>*_LOB_SUBPARTITIONS</code> view</li> <li>YES</li> <li>NO</li> </ul>                                                                                       |
| BUFFER_POOL      | VARCHAR2 (7)  |      | Buffer pool for the LOB partition blocks: <ul style="list-style-type: none"> <li>DEFAULT</li> <li>KEEP</li> <li>RECYCLE</li> <li>NULL</li> </ul>                                                                                                                                                             |
| FLASH_CACHE      | VARCHAR2 (7)  |      | Database Smart Flash Cache hint to be used for partition blocks: <ul style="list-style-type: none"> <li>DEFAULT</li> <li>KEEP</li> <li>NONE</li> </ul> Solaris and Oracle Linux functionality only.                                                                                                          |
| CELL_FLASH_CACHE | VARCHAR2 (7)  |      | Cell flash cache hint to be used for partition blocks: <ul style="list-style-type: none"> <li>DEFAULT</li> <li>KEEP</li> <li>NONE</li> </ul> <b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                      |
| ENCRYPT          | VARCHAR2 (4)  |      | Indicates whether or not the LOB is encrypted.<br>Possible values for SecureFiles: <ul style="list-style-type: none"> <li>YES</li> <li>NO</li> </ul> Possible value for BasicFiles: <ul style="list-style-type: none"> <li>NONE - Not applicable</li> </ul>                                                  |

| Column          | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------|---------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPRESSION     | VARCHAR2 (6)  |      | <p>Level of compression used for this LOB.</p> <p>Possible values for SecureFiles:</p> <ul style="list-style-type: none"> <li>• LOW</li> <li>• MEDIUM</li> <li>• HIGH</li> <li>• NO - Compression is off</li> </ul> <p>Possible value for BasicFiles:</p> <ul style="list-style-type: none"> <li>• NONE - Not applicable</li> </ul>                                                                                                        |
| DEDUPLICATION   | VARCHAR2 (15) |      | <p>Kind of deduplication used for this LOB.</p> <p>Possible values for SecureFiles:</p> <ul style="list-style-type: none"> <li>• LOB - Deduplicate</li> <li>• NO - Keep duplicates</li> </ul> <p>Possible value for BasicFiles:</p> <ul style="list-style-type: none"> <li>• NONE - Not applicable</li> </ul>                                                                                                                              |
| SECUREFILE      | VARCHAR2 (3)  |      | Indicates whether the LOB is SecureFiles (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                 |
| SEGMENT_CREATED | VARCHAR2 (3)  |      | Indicates whether the LOB partition segment has been created (YES) or not (NO); N/A indicates that this LOB is subpartitioned and no segment exists at the partition level                                                                                                                                                                                                                                                                 |
| MAX_INLINE      | NUMBER        |      | <p>Size of inline LOB storage (in bytes)</p> <ul style="list-style-type: none"> <li>• For inline LOBs (IN_ROW = YES), this column displays the size of inline LOB storage (in bytes).</li> <li>• For out-of-inline LOBs (IN_ROW = NO), the value of this column is 0.</li> <li>• For LOBs in subpartitioned tables, the value of this column is null. Instead, refer to the MAX_INLINE column in the *_LOB_SUBPARTITIONS views.</li> </ul> |



#### See Also:

- ["DBA\\_LOB\\_PARTITIONS"](#)
- ["USER\\_LOB\\_PARTITIONS"](#)

## 3.282 ALL\_LOB\_SUBPARTITIONS

ALL\_LOB\_SUBPARTITIONS displays partition-level attributes of the LOB data subpartitions accessible to the current user.

#### Related Views

- DBA\_LOB\_SUBPARTITIONS displays partition-level attributes of all LOB data subpartitions in the database.
- USER\_LOB\_SUBPARTITIONS displays the LOB subpartitions owned by the current user. This view does not display the TABLE\_OWNER column.

| Column                | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABLE_OWNER           | VARCHAR2 (128)  | NOT NULL | Owner of the table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TABLE_NAME            | VARCHAR2 (128)  | NOT NULL | Name of the table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| COLUMN_NAME           | VARCHAR2 (4000) |          | Name of the LOB column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LOB_NAME              | VARCHAR2 (128)  | NOT NULL | Name of the partitioned LOB item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| LOB_PARTITION_NAME    | VARCHAR2 (128)  |          | Name of the LOB data partition to which this LOB data subpartition belongs                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SUBPARTITION_NAME     | VARCHAR2 (128)  |          | Name of the table subpartition to which this LOB subpartition corresponds                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| LOB_SUBPARTITION_NAME | VARCHAR2 (128)  |          | Name of the LOB subpartition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LOB_INDSUBPART_NAME   | VARCHAR2 (128)  |          | Name of the corresponding LOB index subpartition                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SUBPARTITION_POSITION | NUMBER          |          | Position of the LOB data partition within the LOB item                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CHUNK                 | NUMBER          |          | Value of the <code>CHUNK</code> attribute of the LOB data partition                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PCTVERSION            | NUMBER          | NOT NULL | Value of the <code>PCTVERSION</code> attribute of the LOB data partition                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CACHE                 | VARCHAR2 (10)   |          | Indicates whether and how the LOB data is to be cached in the buffer cache: <ul style="list-style-type: none"> <li>• <code>YES</code> - LOB data is placed in the buffer cache</li> <li>• <code>NO</code> - LOB data either is not brought into the buffer cache or is brought into the buffer cache and placed at the least recently used end of the LRU list</li> <li>• <code>CACHEREADS</code> - LOB data is brought into the buffer cache only during read operations but not during write operations</li> </ul> |
| IN_ROW                | VARCHAR2 (3)    |          | Indicates whether the <code>STORAGE IN ROW</code> attribute of the LOB data partition is enabled ( <code>YES</code> ) or not ( <code>NO</code> )                                                                                                                                                                                                                                                                                                                                                                     |
| TABLESPACE_NAME       | VARCHAR2 (30)   | NOT NULL | Name of the tablespace containing the LOB data partition                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| INITIAL_EXTENT        | VARCHAR2 (40)   |          | Size in bytes of the initial extent for the LOB data partition                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| NEXT_EXTENT           | VARCHAR2 (40)   |          | Size in bytes of secondary extents for the LOB data partition                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| MIN_EXTENTS           | VARCHAR2 (40)   | NOT NULL | Minimum number of extents allowed in the segment of the LOB data partition                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| MAX_EXTENTS           | VARCHAR2 (40)   | NOT NULL | Maximum number of extents allowed in the segment of the LOB data partition                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| MAX_SIZE              | VARCHAR2 (40)   |          | Maximum number of blocks allowed in the segment of the LOB data partition                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Column           | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                  |
|------------------|---------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RETENTION        | VARCHAR2 (7)  |      | Retention option.<br>Possible values for a SecureFiles segment: <ul style="list-style-type: none"> <li>NONE</li> <li>AUTO</li> <li>MIN</li> <li>MAX</li> <li>DEFAULT</li> <li>INVALID</li> </ul> Possible values for a BasicFiles segment: <ul style="list-style-type: none"> <li>YES</li> <li>NO</li> </ul> |
| MINRETENTION     | VARCHAR2 (40) |      | Minimum retention duration for a SecureFiles segment                                                                                                                                                                                                                                                         |
| PCT_INCREASE     | VARCHAR2 (40) |      | Percentage increase in extent size for the LOB data partition                                                                                                                                                                                                                                                |
| FREELISTS        | VARCHAR2 (40) |      | Number of process freelists allocated in the segment of the LOB data partition                                                                                                                                                                                                                               |
| FREELIST_GROUPS  | VARCHAR2 (40) |      | Number of freelist groups allocated in the segment of the LOB data partition                                                                                                                                                                                                                                 |
| LOGGING          | VARCHAR2 (3)  |      | Indicates whether or not changes to the LOB are logged: <ul style="list-style-type: none"> <li>YES</li> <li>NO</li> </ul>                                                                                                                                                                                    |
| BUFFER_POOL      | VARCHAR2 (7)  |      | Buffer pool to be used for the LOB data partition blocks: <ul style="list-style-type: none"> <li>DEFAULT</li> <li>KEEP</li> <li>RECYCLE</li> <li>NULL</li> </ul>                                                                                                                                             |
| FLASH_CACHE      | VARCHAR2 (7)  |      | Database Smart Flash Cache hint to be used for subpartition blocks: <ul style="list-style-type: none"> <li>DEFAULT</li> <li>KEEP</li> <li>NONE</li> </ul> Solaris and Oracle Linux functionality only.                                                                                                       |
| CELL_FLASH_CACHE | VARCHAR2 (7)  |      | Cell flash cache hint to be used for subpartition blocks: <ul style="list-style-type: none"> <li>DEFAULT</li> <li>KEEP</li> <li>NONE</li> </ul> <b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                   |
| ENCRYPT          | VARCHAR2 (4)  |      | Indicates whether or not the LOB is encrypted.<br>Possible values for SecureFiles: <ul style="list-style-type: none"> <li>YES</li> <li>NO</li> </ul> Possible value for BasicFiles: <ul style="list-style-type: none"> <li>NONE - Not applicable</li> </ul>                                                  |

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                       |
|-----------------|---------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPRESSION     | VARCHAR2 (6)  |          | Level of compression used for this LOB.<br>Possible values for SecureFiles: <ul style="list-style-type: none"> <li>• LOW</li> <li>• MEDIUM</li> <li>• HIGH</li> <li>• NO - Compression is off</li> </ul> Possible value for BasicFiles: <ul style="list-style-type: none"> <li>• NONE - Not applicable</li> </ul> |
| DEDUPLICATION   | VARCHAR2 (15) |          | Kind of deduplication used for this LOB.<br>Possible values for SecureFiles: <ul style="list-style-type: none"> <li>• LOB - Deduplicate</li> <li>• NO - Keep duplicates</li> </ul> Possible value for BasicFiles: <ul style="list-style-type: none"> <li>• NONE - Not applicable</li> </ul>                       |
| SECUREFILE      | VARCHAR2 (3)  |          | Indicates whether the LOB is SecureFiles (YES) or not (NO)                                                                                                                                                                                                                                                        |
| SEGMENT_CREATED | VARCHAR2 (3)  |          | Indicates whether the LOB subpartition segment has been created (YES) or not (NO); N/A indicates that this LOB is not subpartitioned                                                                                                                                                                              |
| MAX_INLINE      | NUMBER        | NOT NULL | Size of inline LOB storage (in bytes) <ul style="list-style-type: none"> <li>• For inline LOBs (IN_ROW = YES), this column displays the size of inline LOB storage (in bytes).</li> <li>• For out-of-inline LOBs (IN_ROW = NO), the value of this column is 0.</li> </ul>                                         |



#### See Also:

- "DBA\_LOB\_SUBPARTITIONS"
- "USER\_LOB\_SUBPARTITIONS"

## 3.283 ALL\_LOB\_TEMPLATES

ALL\_LOB\_TEMPLATES describes the LOB subpartition templates accessible to the current user.

#### Related Views

- DBA\_LOB\_TEMPLATES describes all LOB subpartition templates in the database.
- USER\_LOB\_TEMPLATES describes the LOB subpartition templates owned by the current user. This view does not display the USER\_NAME column.

| Column       | Datatype        | NULL     | Description            |
|--------------|-----------------|----------|------------------------|
| USER_NAME    | VARCHAR2 (128)  | NOT NULL | Owner of the table     |
| TABLE_NAME   | VARCHAR2 (128)  | NOT NULL | Name of the table      |
| LOB_COL_NAME | VARCHAR2 (4000) |          | Name of the LOB column |

| Column            | Datatype       | NULL     | Description                         |
|-------------------|----------------|----------|-------------------------------------|
| SUBPARTITION_NAME | VARCHAR2 (132) | NOT NULL | Name of the subpartition            |
| LOB_SEGMENT_NAME  | VARCHAR2 (132) | NOT NULL | Name of the LOB segment             |
| TABLESPACE_NAME   | VARCHAR2 (30)  |          | Tablespace name of the subpartition |

**See Also:**

- ["DBA\\_LOB\\_TEMPLATES"](#)
- ["USER\\_LOB\\_TEMPLATES"](#)

## 3.284 ALL\_LOBS

**ALL\_LOBS** displays the large objects (LOBs) contained in tables accessible to the current user. LOBs include binary large objects (BLOBs) and character large objects (CLOBs). Binary files (BFILES) are stored outside the database, so they are not displayed by this view or the related views.

### Related Views

- **DBA\_LOBS** describes all LOBs in the database.
- **USER\_LOBS** describes the LOBs owned by the current user. This view does not display the **OWNER** column.

| Column          | Datatype        | NULL | Description                                                              |
|-----------------|-----------------|------|--------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128)  |      | Owner of the object containing the LOB                                   |
| TABLE_NAME      | VARCHAR2 (128)  |      | Name of the object containing the LOB                                    |
| COLUMN_NAME     | VARCHAR2 (4000) |      | Name of the LOB column or attribute                                      |
| SEGMENT_NAME    | VARCHAR2 (128)  |      | Name of the LOB segment                                                  |
| TABLESPACE_NAME | VARCHAR2 (30)   |      | Name of the tablespace containing the LOB segment                        |
| INDEX_NAME      | VARCHAR2 (128)  |      | Name of the LOB index                                                    |
| CHUNK           | NUMBER          |      | Size (in bytes) of the LOB chunk as a unit of allocation or manipulation |
| PCTVERSION      | NUMBER          |      | Maximum percentage of the LOB space used for versioning                  |
| RETENTION       | NUMBER          |      | Maximum time duration for versioning of the LOB space                    |
| FREEPOOLS       | NUMBER          |      | Number of freepools for this LOB segment                                 |

| Column        | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------|---------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CACHE         | VARCHAR2 (10) |      | <p>Indicates whether and how the LOB data is to be cached in the buffer cache:</p> <ul style="list-style-type: none"> <li>• YES - LOB data is placed in the buffer cache</li> <li>• NO - LOB data either is not brought into the buffer cache or is brought into the buffer cache and placed at the least recently used end of the LRU list</li> <li>• CACHEREADS - LOB data is brought into the buffer cache only during read operations but not during write operations</li> </ul> |
| LOGGING       | VARCHAR2 (7)  |      | <p>Indicates whether or not changes to the LOB are logged:</p> <ul style="list-style-type: none"> <li>• NONE - Not specified</li> </ul> <p><b>See Also:</b> the *_LOB_SUBPARTITIONS view</p> <ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> </ul>                                                                                                                                                                                                                   |
| ENCRYPT       | VARCHAR2 (4)  |      | <p>Indicates whether or not the LOB is encrypted.</p> <p>Possible values for SecureFiles:</p> <ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> </ul> <p>Possible value for BasicFiles:</p> <ul style="list-style-type: none"> <li>• NONE - Not applicable</li> </ul>                                                                                                                                                                                                  |
| COMPRESSION   | VARCHAR2 (6)  |      | <p>Level of compression used for this LOB.</p> <p>Possible values for SecureFiles:</p> <ul style="list-style-type: none"> <li>• LOW</li> <li>• MEDIUM</li> <li>• HIGH</li> <li>• NO - Compression is off</li> </ul> <p>Possible value for BasicFiles:</p> <ul style="list-style-type: none"> <li>• NONE - Not applicable</li> </ul>                                                                                                                                                  |
| DEDUPLICATION | VARCHAR2 (15) |      | <p>Kind of deduplication used for this LOB.</p> <p>Possible values for SecureFiles:</p> <ul style="list-style-type: none"> <li>• LOB - Deduplicate</li> <li>• NO - Keep duplicates</li> </ul> <p>Possible value for BasicFiles:</p> <ul style="list-style-type: none"> <li>• NONE - Not applicable</li> </ul>                                                                                                                                                                        |
| IN_ROW        | VARCHAR2 (3)  |      | <p>Indicates whether some LOBs are stored inline with the base row (YES) or not (NO). For partitioned objects, refer to the *_LOB_PARTITIONS and *_PART_LOBS views.</p>                                                                                                                                                                                                                                                                                                              |
| FORMAT        | VARCHAR2 (15) |      | <p>Indicates whether the LOB storage format depends on the endianness of the platform:</p> <ul style="list-style-type: none"> <li>• NOT APPLICABLE</li> <li>• ENDIAN SPECIFIC</li> <li>• ENDIAN NEUTRAL</li> </ul>                                                                                                                                                                                                                                                                   |
| PARTITIONED   | VARCHAR2 (3)  |      | <p>Indicates whether the LOB column is in a partitioned table (YES) or not (NO)</p>                                                                                                                                                                                                                                                                                                                                                                                                  |
| SECUREFILE    | VARCHAR2 (3)  |      | <p>Indicates whether the LOB is SecureFiles (YES) or not (NO)</p>                                                                                                                                                                                                                                                                                                                                                                                                                    |



| Column          | Datatype     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------|--------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SEGMENT_CREATED | VARCHAR2 (3) |      | Indicates whether the LOB segment has been created (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| RETENTION_TYPE  | VARCHAR2 (7) |      | Type of retention used for this LOB.<br>Possible values for SecureFiles: <ul style="list-style-type: none"> <li>NONE</li> <li>AUTO</li> <li>MIN</li> <li>MAX</li> <li>DEFAULT</li> <li>INVALID</li> </ul> Possible values for BasicFiles: <ul style="list-style-type: none"> <li>YES</li> <li>NO</li> </ul>                                                                                                                                                                                                                                                                   |
| RETENTION_VALUE | NUMBER       |      | Minimum retention time (in seconds). This column is only meaningful for SecureFiles with RETENTION_TYPE set to MIN.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| VALUE_BASED     | VARCHAR2 (3) |      | Indicates whether the LOB is value based (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| MAX_INLINE      | NUMBER       |      | Size of inline LOB storage (in bytes) <ul style="list-style-type: none"> <li>For inline LOBs in nonpartitioned tables (IN_ROW = YES and PARTITIONED = NO), this column displays the size of inline LOB storage (in bytes).</li> <li>For out-of-inline LOBs in nonpartitioned tables (IN_ROW = NO and PARTITIONED = NO), the value of this column is 0.</li> <li>For LOBs in partitioned tables (PARTITIONED = YES), the value of this column is null. Instead, refer to the MAX_INLINE column in the *_PART_LOBS, *_LOB_PARTITIONS, and *_LOB_SUBPARTITIONS views.</li> </ul> |



#### See Also:

- "DBA\_LOBS"
- "USER\_LOBS"

## 3.285 ALL\_LOG\_GROUP\_COLUMNS

ALL\_LOG\_GROUP\_COLUMNS describes columns that are accessible to the current user and that are specified in log groups.

#### Related Views

- DBA\_LOG\_GROUP\_COLUMNS describes all columns in the database that are specified in log groups.
- USER\_LOG\_GROUP\_COLUMNS describes columns that are owned by the current user and that are specified in log groups.

| Column           | Datatype        | NULL     | Description                                                                                     |
|------------------|-----------------|----------|-------------------------------------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128)  | NOT NULL | Owner of the log group definition                                                               |
| LOG_GROUP_NAME   | VARCHAR2 (128)  | NOT NULL | Name of the log group definition                                                                |
| TABLE_NAME       | VARCHAR2 (128)  | NOT NULL | Name of the table in which the log group is defined                                             |
| COLUMN_NAME      | VARCHAR2 (4000) |          | Name of the column or attribute of the object type column specified in the log group definition |
| POSITION         | NUMBER          |          | Original position of the column or attribute in the definition of the object                    |
| LOGGING_PROPERTY | VARCHAR2 (6)    |          | Indicates whether the column or attribute would be supplementally logged (LOG) or not (NO LOG)  |

**See Also:**

- ["DBA\\_LOG\\_GROUP\\_COLUMNS"](#)
- ["USER\\_LOG\\_GROUP\\_COLUMNS"](#)

## 3.286 ALL\_LOG\_GROUPS

ALL\_LOG\_GROUPS describes the log group definitions on the tables accessible to the current user.

### Related Views

- DBA\_LOG\_GROUPS describes the log group definitions on all tables in the database.
- USER\_LOG\_GROUPS describes the log group definitions on the tables owned by the current user.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                   |
|----------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the log group definition                                                                                                                                                                             |
| LOG_GROUP_NAME | VARCHAR2 (128) | NOT NULL | Name of the log group definition                                                                                                                                                                              |
| TABLE_NAME     | VARCHAR2 (128) | NOT NULL | Name of the table on which the log group is defined                                                                                                                                                           |
| LOG_GROUP_TYPE | VARCHAR2 (28)  |          | Type of the log group: <ul style="list-style-type: none"><li>• PRIMARY KEY LOGGING</li><li>• UNIQUE KEY LOGGING</li><li>• FOREIGN KEY LOGGING</li><li>• ALL COLUMN LOGGING</li><li>• USER LOG GROUP</li></ul> |
| ALWAYS         | VARCHAR2 (11)  |          | Y indicates the log group is logged any time a row is updated; N indicates the log group is logged any time a member column is updated                                                                        |
| GENERATED      | VARCHAR2 (14)  |          | Indicates whether the name of the supplemental log group was system generated (GENERATED NAME) or not (USER NAME)                                                                                             |

 **See Also:**

- ["DBA\\_LOG\\_GROUPS"](#)
- ["USER\\_LOG\\_GROUPS"](#)

## 3.287 ALL\_MEASURE\_FOLDER\_CONTENTS

ALL\_MEASURE\_FOLDER\_CONTENTS describes the contents of the OLAP measure folders accessible to the current user.

### Related Views

- DBA\_MEASURE\_FOLDER\_CONTENTS describes the contents of all OLAP measure folders in the database.
- USER\_MEASURE\_FOLDER\_CONTENTS describes the contents of the OLAP measure folders owned by the current user. This view does not display the OWNER column.

| Column              | Datatype       | NULL     | Description                                   |
|---------------------|----------------|----------|-----------------------------------------------|
| OWNER               | VARCHAR2 (128) | NOT NULL | Owner of the measure folder                   |
| MEASURE_FOLDER_NAME | VARCHAR2 (128) | NOT NULL | Name of a measure folder                      |
| CUBE_OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the cube                             |
| CUBE_NAME           | VARCHAR2 (128) | NOT NULL | Name of a cube included in the measure folder |
| MEASURE_NAME        | VARCHAR2 (128) | NOT NULL | Name of a measure in the cube                 |
| ORDER_NUM           | NUMBER         | NOT NULL | Order number of the measure in the folder     |

 **See Also:**

- ["DBA\\_MEASURE\\_FOLDER\\_CONTENTS"](#)
- ["USER\\_MEASURE\\_FOLDER\\_CONTENTS"](#)

## 3.288 ALL\_MEASURE\_FOLDER\_SUBFOLDERS

ALL\_MEASURE\_FOLDER\_SUBFOLDERS describes the OLAP measure folders contained within the OLAP measure folders accessible to the user.

### Related Views

- DBA\_MEASURE\_FOLDER\_SUBFOLDERS describes the OLAP measure folders contained within the database OLAP measure folders.
- USER\_MEASURE\_FOLDER\_SUBFOLDERS describes the OLAP measure folders contained within the OLAP measure folders owned by the current user. This view does not display the OWNER column.

| Column                  | Datatype       | NULL     | Description                                                |
|-------------------------|----------------|----------|------------------------------------------------------------|
| OWNER                   | VARCHAR2 (128) | NOT NULL | Owner of the OLAP measure folder that contains a subfolder |
| MEASURE_FOLDER_NAME     | VARCHAR2 (128) | NOT NULL | Name of the OLAP measure folder that contains a subfolder  |
| MEASURE_SUBFOLDER_OWNER | VARCHAR2 (128) | NOT NULL | Owner of the OLAP measure folder subfolder                 |
| MEASURE_SUBFOLDER_NAME  | VARCHAR2 (128) | NOT NULL | Name of the owning OLAP measure folder subfolder           |

**See Also:**

- ["DBA\\_MEASURE\\_FOLDER\\_SUBFOLDERS"](#)
- ["USER\\_MEASURE\\_FOLDER\\_SUBFOLDERS"](#)

## 3.289 ALL\_MEASURE\_FOLDERS

ALL\_MEASURE\_FOLDERS describes the OLAP measure folders accessible to the current user.

**Related Views**

- DBA\_MEASURE\_FOLDERS describes all OLAP measure folders in the database.
- USER\_MEASURE\_FOLDERS describes the OLAP measure folders owned by the current user. This view does not display the OWNER column.

| Column              | Datatype        | NULL     | Description                                               |
|---------------------|-----------------|----------|-----------------------------------------------------------|
| OWNER               | VARCHAR2 (128)  | NOT NULL | Owner of the measure folder                               |
| MEASURE_FOLDER_NAME | VARCHAR2 (128)  | NOT NULL | Name of a measure folder                                  |
| MEASURE_FOLDER_ID   | NUMBER          | NOT NULL | ID of a measure folder                                    |
| DESCRIPTION         | NVARCHAR2 (300) |          | Description of the measure folder in the session language |

**See Also:**

- ["DBA\\_MEASURE\\_FOLDERS"](#)
- ["USER\\_MEASURE\\_FOLDERS"](#)

## 3.290 ALL\_METADATA\_PROPERTIES

ALL\_METADATA\_PROPERTIES describes OLAP metadata properties in the database that are accessible to the current user.

### Related Views

- DBA\_METADATA\_PROPERTIES describes OLAP metadata properties in the database.
- USER\_METADATA\_PROPERTIES describes OLAP metadata properties in the current user's schema. This view does not display the OWNER column.

| Column           | Datatype       | NULL | Description                                       |
|------------------|----------------|------|---------------------------------------------------|
| OWNER            | VARCHAR2 (128) |      | Owner of the OLAP metadata property               |
| OWNING_OBJECT_ID | NUMBER         |      | Dictionary ID of the OLAP metadata property owner |
| OWNING_TYPE      | VARCHAR2 (23)  |      | Owning type of the OLAP metadata property         |
| PROPERTY_ID      | NUMBER         |      | Dictionary Id of the OLAP metadata property       |
| PROPERTY_KEY     | VARCHAR2 (128) |      | Key of the OLAP metadata property                 |
| PROPERTY_VALUE   | CLOB           |      | Value of the OLAP metadata property               |
| PROPERTY_ORDER   | NUMBER         |      | Order number of the OLAP metadata property        |

### See Also:

- "DBA\_METADATA\_PROPERTIES"
- "USER\_METADATA\_PROPERTIES"

## 3.291 ALL\_METHOD\_PARAMS

ALL\_METHOD\_PARAMS describes the method parameters of the object types accessible to the current user.

### Related Views

- DBA\_METHOD\_PARAMS describes the method parameters of all object types in the database.
- USER\_METHOD\_PARAMS describes the method parameters of the object types owned by the current user. This view does not display the OWNER column.

| Column      | Datatype       | NULL     | Description                                                                                                                           |
|-------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------|
| OWNER       | VARCHAR2 (128) | NOT NULL | Owner of the type                                                                                                                     |
| TYPE_NAME   | VARCHAR2 (128) | NOT NULL | Name of the type                                                                                                                      |
| METHOD_NAME | VARCHAR2 (128) | NOT NULL | Name of the method                                                                                                                    |
| METHOD_NO   | NUMBER         | NOT NULL | For an overloaded method, a number distinguishing this method from others of the same. Do not confuse this number with the object ID. |
| PARAM_NAME  | VARCHAR2 (128) | NOT NULL | Name of the parameter                                                                                                                 |

| Column             | Datatype       | NULL     | Description                                                                                                                                                                            |
|--------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PARAM_NO           | NUMBER         | NOT NULL | Parameter number (position)                                                                                                                                                            |
| PARAM_MODE         | VARCHAR2 (6)   |          | Mode of the parameter (IN, OUT, IN OUT)                                                                                                                                                |
| PARAM_TYPE_MOD     | VARCHAR2 (7)   |          | Whether this parameter is a REF to another object                                                                                                                                      |
| PARAM_TYPE_OWNER   | VARCHAR2 (128) |          | Owner of the type of the parameter                                                                                                                                                     |
| PARAM_TYPE_NAME    | VARCHAR2 (128) |          | Name of the type of the parameter                                                                                                                                                      |
| CHARACTER_SET_NAME | VARCHAR2 (44)  |          | Whether the character set or the method is fixed-length character set (CHAR_CS) or fixed-length national character set (NCHAR_CS), or a particular character set specified by the user |



#### See Also:

- "DBA\_METHOD\_PARAMS"
- "USER\_METHOD\_PARAMS"

## 3.292 ALL\_METHOD\_RESULTS

ALL\_METHOD\_RESULTS describes the method results of the object types accessible to the current user.

#### Related Views

- DBA\_METHOD\_RESULTS describes the method results of all object types in the database.
- USER\_METHOD\_RESULTS describes the method results of the object types owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                            |
|--------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the type                                                                                                                                                                      |
| TYPE_NAME          | VARCHAR2 (128) | NOT NULL | Name of the type                                                                                                                                                                       |
| METHOD_NAME        | VARCHAR2 (128) | NOT NULL | Name of the method                                                                                                                                                                     |
| METHOD_NO          | NUMBER         | NOT NULL | For an overloaded method, a number distinguishing this method from others of the same. Do not confuse this number with the object ID.                                                  |
| RESULT_TYPE_MOD    | VARCHAR2 (7)   |          | Whether this result is a REF to another object                                                                                                                                         |
| RESULT_TYPE_OWNER  | VARCHAR2 (128) |          | Owner of the type of the result                                                                                                                                                        |
| RESULT_TYPE_NAME   | VARCHAR2 (128) |          | Name of the type of the result                                                                                                                                                         |
| CHARACTER_SET_NAME | VARCHAR2 (44)  |          | Whether the character set or the method is fixed-length character set (CHAR_CS) or fixed-length national character set (NCHAR_CS), or a particular character set specified by the user |

**See Also:**

- "DBA\_METHOD\_RESULTS"
- "USER\_METHOD\_RESULTS"

## 3.293 ALL\_MINING\_ALGORITHMS

ALL\_MINING\_ALGORITHMS describes the settings for a current user.

| Column             | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                |
|--------------------|-----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALGORITHM_NAME     | VARCHAR2 (128)  |      | Algorithm used by the model.                                                                                                                                                                                                                                                                                                               |
| MINING_FUNCTION    | VARCHAR2 (30)   |      | Function of the machine learning model. The machine learning function is specified when the model is built: <ul style="list-style-type: none"><li>• CLASSIFICATION</li><li>• REGRESSION</li><li>• CLUSTERING</li><li>• FEATURE_EXTRACTION</li><li>• ASSOCIATION_RULES</li><li>• ATTRIBUTE_IMPORTANCE</li><li>• ANOMALY_DETECTION</li></ul> |
| ALGORITHM_TYPE     | VARCHAR2 (20)   |      | Algorithm type of the model                                                                                                                                                                                                                                                                                                                |
| ALGORITHM_METADATA | CLOB            |      | Metadata of the algorithm                                                                                                                                                                                                                                                                                                                  |
| DESCRIPTION        | VARCHAR2 (4000) |      | Description of the algorithm                                                                                                                                                                                                                                                                                                               |

## 3.294 ALL\_MINING\_MODEL\_ATTRIBUTES

ALL\_MINING\_MODEL\_ATTRIBUTES describes the attributes of the machine learning models accessible to the current user.

Only the attributes in the model signature are included in this view. The attributes in the model signature correspond to the columns in the training data that were used to build the model.

Machine learning models are schema objects created by Oracle Machine Learning for SQL.

### Related Views

- DBA\_MINING\_MODEL\_ATTRIBUTES describes the attributes of all machine learning models in the database.
- USER\_MINING\_MODEL\_ATTRIBUTES describes the attributes of the machine learning models owned by the current user. This view does not display the OWNER column.

| Column     | Datatype       | NULL     | Description                         |
|------------|----------------|----------|-------------------------------------|
| OWNER      | VARCHAR2 (128) | NOT NULL | Owner of the machine learning model |
| MODEL_NAME | VARCHAR2 (128) | NOT NULL | Name of the machine learning model  |

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ATTRIBUTE_NAME | VARCHAR2 (128) | NOT NULL | <p>Name of the attribute</p> <p>The target attribute name for ONNX models (mining model with ALGORITHM set to ONNX) is always ORA\$ONNXTARGET.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ATTRIBUTE_TYPE | VARCHAR2 (11)  |          | <p>Logical type of the attribute. The type is identified during the model build or apply process:</p> <ul style="list-style-type: none"> <li>NUMERICAL: Numeric data</li> <li>CATEGORICAL: Character data</li> <li>TEXT: Unstructured text data</li> <li>PARTITION: The input signature column is used for the partitioning key</li> <li>MIXED: The input signature column takes on more than one attribute type. This is due to user-defined embedded transformations that allow an input column to be transformed into multiple independent mining attributes, including mining attributes of different types.</li> <li>VECTOR: Attribute of type vectors (typically, target attribute of embedding models).</li> </ul> |
| DATA_TYPE      | VARCHAR2 (106) |          | Data type of the attribute                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| DATA_LENGTH    | NUMBER         |          | Length of the data type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| DATA_PRECISION | NUMBER         |          | Precision of a fixed point number. Precision, which is the total number of significant decimal digits, is represented as <i>p</i> in the data type NUMBER ( <i>p</i> , <i>s</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| DATA_SCALE     | NUMBER         |          | Scale of a fixed point number. Scale, which is the number of digits from the decimal to the least significant digit, is represented as <i>s</i> in the data type NUMBER ( <i>p</i> , <i>s</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| USAGE_TYPE     | VARCHAR2 (8)   |          | Indicates whether the attribute was used to construct the model (ACTIVE) or not (INACTIVE). Some attributes may be eliminated by transformations or algorithmic processing. The *_MINING_MODEL_ATTRIBUTES view only lists the attributes used by the model, therefore the value of this column is always ACTIVE.                                                                                                                                                                                                                                                                                                                                                                                                          |
| TARGET         | VARCHAR2 (3)   |          | Indicates whether the attribute is the target of a predictive model (YES) or not (NO). The target describes the result that is produced when the model is applied.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |



| Column         | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------|-----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ATTRIBUTE_SPEC | VARCHAR2 (4000) |      | <p>One or more keywords that identify special treatment for the attribute during model build. Values are:</p> <ul style="list-style-type: none"><li>• <b>FORCE_IN:</b> (GLM only) When feature selection is enabled, forces the inclusion of the attribute in the model build. Feature selection is disabled by default. If the model is not using GLM with feature selection enabled, this value is ignored.</li><li>• <b>NOPREP:</b> When ADP is on, prevents automatic transformation of the attribute. If ADP is OFF, this value is ignored.</li><li>• <b>TEXT:</b> Causes the attribute to be treated as unstructured text data. The TEXT value supports three subsettings: POLICY_NAME, MAX_FEATURES, TOKEN_TYPE, and MIN_DOCUMENTS. Subsettings are specified as name:value pairs within parentheses. For example: (POLICY_NAME:mypolicy) (MAX_FEATURES:2000) (TOKEN_TYPE:THEME). See <i>Oracle Machine Learning for SQL API Guide</i> for details.</li><li>• <b>NULL:</b> The ATTRIBUTE_SPEC for this attribute is NULL.</li></ul> <p>ATTRIBUTE_SPEC is a parameter to the PL/SQL procedure DBMS_DATA_MINING_TRANSFORM.SET_TRANSFORM. See <i>Oracle Database PL/SQL Packages and Types Reference</i> for details.</p> |
| VECTOR_INFO    | VARCHAR2 (56)   |      | <p>Indicates the number of vectors and their data type in an ONNX model</p> <p>Format: VECTOR(<i>dimension</i>,<i>element_type</i>)</p> <p>Example: VECTOR(768,float32)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## 3.295 ALL\_MINING\_MODEL\_PARTITIONS

ALL\_MINING\_MODEL\_PARTITIONS describes all the model partitions accessible to the user.

### Related Views

- DBA\_MINING\_MODEL\_PARTITIONS describes all the model partitions accessible to the system.
- USER\_MINING\_MODEL\_PARTITIONS describes the user's own model partitions. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                         |
|----------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Name of the model owner                                                                                                                                                             |
| MODEL_NAME     | VARCHAR2 (128) | NOT NULL | Name of the model                                                                                                                                                                   |
| PARTITION_NAME | VARCHAR2 (128) | —        | Name of the model partition                                                                                                                                                         |
| POSITION       | NUMBER         | —        | Column position number for partitioning column. Column position represents the position of the column in a multi-column partitioning key, or 1 for a unary column partitioning key. |
| COLUMN_NAME    | VARCHAR2 (128) | NOT NULL | Name of the column used for partitioning                                                                                                                                            |

| Column       | Datatype        | NULL | Description                            |
|--------------|-----------------|------|----------------------------------------|
| COLUMN_VALUE | VARCHAR2 (4000) | –    | Value of the column for this partition |

## 3.296 ALL\_MINING\_MODEL\_SETTINGS

ALL\_MINING\_MODEL\_SETTINGS describes the settings of the machine learning models accessible to the current user.

Machine learning models are schema objects created by Oracle Machine Learning for SQL.

### Related Views

- DBA\_MINING\_MODEL\_SETTINGS describes the settings of all machine learning models in the database.
- USER\_MINING\_MODEL\_SETTINGS describes the settings of the machine learning models owned by the current user. This view does not display the OWNER column.

| Column        | Datatype        | NULL     | Description                                                                                          |
|---------------|-----------------|----------|------------------------------------------------------------------------------------------------------|
| OWNER         | VARCHAR2 (128)  | NOT NULL | Owner of the machine learning model                                                                  |
| MODEL_NAME    | VARCHAR2 (128)  | NOT NULL | Name of the machine learning model                                                                   |
| SETTING_NAME  | VARCHAR2 (30)   | NOT NULL | Name of the setting                                                                                  |
| SETTING_VALUE | VARCHAR2 (4000) | –        | Value of the setting                                                                                 |
| SETTING_TYPE  | VARCHAR2 (7)    | –        | Indicates whether the default value (DEFAULT) or a user-specified value (INPUT) is used by the model |



### See Also:

Oracle Database PL/SQL Packages and Types Reference for descriptions of model settings

## 3.297 ALL\_MINING\_MODEL\_VIEWS

ALL\_MINING\_MODEL\_VIEWS provides a description of all the model views accessible to the user.

### Related Views

- DBA\_MINING\_MODEL\_VIEWS provides a description of all the model views in the database.
- USER\_MINING\_MODEL\_VIEWS provides a description of the user's own model views. This view does not display the OWNER column.

| Column     | Datatype       | NULL     | Description                                    |
|------------|----------------|----------|------------------------------------------------|
| OWNER      | VARCHAR2 (128) | NOT NULL | Owner of the model view                        |
| MODEL_NAME | VARCHAR2 (128) | NOT NULL | Name of the model to which model views belongs |
| VIEW_NAME  | VARCHAR2 (128) | NOT NULL | Name of the model view                         |

| Column    | Datatype       | NULL | Description            |
|-----------|----------------|------|------------------------|
| VIEW_TYPE | VARCHAR2 (128) | –    | Type of the model view |

**See Also:**

"ALL\_MINING\_MODEL\_VIEWS" in *Oracle Machine Learning for SQL User's Guide*

## 3.298 ALL\_MINING\_MODEL\_XFORMS

ALL\_MINING\_MODEL\_XFORMS describes the user-specified transformations embedded in all models accessible to the user.

### Related Views

- DBA\_MINING\_MODEL\_XFORMS describes the user-specified transformations embedded in all models accessible in the system.
- USER\_MINING\_MODEL\_XFORMS describes the user-specified transformations embedded with the user's own models. This view does not display the OWNER column.

| Column            | Datatype        | NULL     | Description                                                                                                   |
|-------------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------|
| OWNER             | VARCHAR2 (128)  | NOT NULL | Name of the model owner                                                                                       |
| MODEL_NAME        | VARCHAR2 (128)  | NOT NULL | Name of the model                                                                                             |
| ATTRIBUTE_NAME    | VARCHAR2 (128)  |          | Name of the attribute used in the transformation                                                              |
| ATTRIBUTE_SUBNAME | VARCHAR2 (4000) |          | Subname of the attribute used in the transformation                                                           |
| ATTRIBUTE_SPEC    | VARCHAR2 (4000) |          | Attribute specification provided to model training                                                            |
| EXPRESSION        | CLOB            |          | Transformation expression provided to model training                                                          |
| REVERSE           | VARCHAR2 (3)    |          | Indicates whether the specified transformation is a reverse transformation (YES) or a forward expression (NO) |

## 3.299 ALL\_MINING\_MODELS

ALL\_MINING\_MODELS describes the machine learning models accessible to the current user.

Mining models are schema objects created by Oracle Machine Learning for SQL.

### Related Views

- DBA\_MINING\_MODELS describes all machine learning models in the database.
- USER\_MINING\_MODELS describes the machine learning models owned by the current user. This view does not display the OWNER column.

| Column | Datatype       | NULL     | Description                         |
|--------|----------------|----------|-------------------------------------|
| OWNER  | VARCHAR2 (128) | NOT NULL | Owner of the machine learning model |

| Column          | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MODEL_NAME      | VARCHAR2 (128) | NOT NULL | Name of the machine learning model                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| MINING_FUNCTION | VARCHAR2 (30)  |          | <p>Function of the mining model. The function identifies the class of problems that can be solved by this model. The machine learning function is specified when the model is built:</p> <ul style="list-style-type: none"> <li>• CLASSIFICATION</li> <li>• REGRESSION</li> <li>• CLUSTERING</li> <li>• EMBEDDING</li> <li>• FEATURE_EXTRACTION</li> <li>• ASSOCIATION_RULES</li> <li>• ATTRIBUTE_IMPORTANCE</li> <li>• TIME_SERIES</li> </ul>                                                                                                                                                                                                                                                                                                                                                                   |
| ALGORITHM       | VARCHAR2 (30)  |          | <p>Algorithm used by the model. Each machine learning function has a default algorithm. The default can be overridden with a model setting (see *_MINING_MODEL_SETTINGS):</p> <ul style="list-style-type: none"> <li>• APRIORI_ASSOCIATION_RULES</li> <li>• CUR_DECOMPOSITION</li> <li>• DECISION_TREE</li> <li>• EXPECTATION_MAXIMIZATION</li> <li>• EXPLICIT_SEMANTIC_ANALYS</li> <li>• EXPONENTIAL_SMOOTHING</li> <li>• EXTENSIBLE_LANG</li> <li>• GENERALIZED_LINEAR_MODEL</li> <li>• KMEANS</li> <li>• MINIMUM_DESCRIPTION_LENGTH</li> <li>• MSET_SPRT</li> <li>• NAIVE_BAYES</li> <li>• NEURAL_NETWORK</li> <li>• NONNEGATIVE_MATRIX_FACTOR</li> <li>• O_CLUSTER</li> <li>• ONNX</li> <li>• RANDOM_FOREST</li> <li>• SUPPORT_VECTOR_MACHINE</li> <li>• SINGULAR_VALUE_DECOMP</li> <li>• XGBOOST</li> </ul> |
| ALGORITHM_TYPE  | VARCHAR2 (10)  |          | R type algorithm. This column is used in R algorithm registration.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CREATION_DATE   | DATE           | NOT NULL | Date that the model was created                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| BUILD_DURATION  | NUMBER         |          | Time (in seconds) of the model build process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| MODEL_SIZE      | NUMBER         |          | Size of the model (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PARTITIONED     | VARCHAR2 (3)   |          | <p>Indicates whether the model is partitioned or not. Possible values:</p> <ul style="list-style-type: none"> <li>• YES: The model is partitioned.</li> <li>• NO: The model is not partitioned</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Column       | Datatype        | NULL | Description                                                                                                                                                                                                                                                                               |
|--------------|-----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BUILD_SOURCE | CLOB            |      | Input data source (provided by the user at build time) on which to build the model<br><br>This column is populated for models created in Oracle Database 23ai or later. For older version models that were imported into Oracle Database 23ai or later, the value of this column is null. |
| COMMENTS     | VARCHAR2 (4000) |      | Comment applied to the model with a SQL COMMENT statement                                                                                                                                                                                                                                 |

## 3.300 ALL\_MLE\_ENV\_IMPORTS

ALL\_MLE\_ENV\_IMPORTS describes import name to module mappings in the Oracle Database Multilingual Engine (MLE) environments accessible to the current user.

### Related Views

- DBA\_MLE\_ENV\_IMPORTS describes import name to module mappings in all MLE environments in the database.
- USER\_MLE\_ENV\_IMPORTS describes import name to module mappings in the MLE environments owned by the current user. This view does not display the ENV\_OWNER column.

| Column       | Datatype        | NULL     | Description                                                                                                                                                                                         |
|--------------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ENV_OWNER    | VARCHAR2 (128)  | NOT NULL | Owner of the MLE environment                                                                                                                                                                        |
| ENV_NAME     | VARCHAR2 (128)  | NOT NULL | Name of the MLE environment                                                                                                                                                                         |
| ENV_ID       | NUMBER          | NOT NULL | Object number of the MLE environment                                                                                                                                                                |
| IMPORT_NAME  | VARCHAR2 (2048) | NOT NULL | Import name, as specified in the MLE environment's IMPORTS clause<br><br>It is possible for a single MLE environment to have multiple import names. The import name is a case-sensitive identifier. |
| MODULE_OWNER | VARCHAR2 (128)  |          | Owner of the MLE module                                                                                                                                                                             |
| MODULE_NAME  | VARCHAR2 (128)  | NOT NULL | Name of the MLE module                                                                                                                                                                              |



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

- "DBA\_MLE\_ENV\_IMPORTS"
- "USER\_MLE\_ENV\_IMPORTS"

## 3.301 ALL\_MLE\_ENVS

ALL\_MLE\_ENVS describes the Oracle Database Multilingual Engine (MLE) environments accessible to the current user.

### Related Views

- DBA\_MLE\_ENVS describes all MLE environments in the database.
- USER\_MLE\_ENVS describes the MLE environments owned by the current user. This view does not display the ENV\_OWNER column.

| Column           | Datatype        | NULL     | Description                          |
|------------------|-----------------|----------|--------------------------------------|
| ENV_OWNER        | VARCHAR2 (128)  | NOT NULL | Owner of the MLE environment         |
| ENV_NAME         | VARCHAR2 (128)  | NOT NULL | Name of the MLE environment          |
| ENV_ID           | NUMBER          | NOT NULL | Object number of the MLE environment |
| LANGUAGE_OPTIONS | VARCHAR2 (4000) |          | MLE environment language options     |



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

- "DBA\_MLE\_ENVS"
- "USER\_MLE\_ENVS"

## 3.302 ALL\_MLE\_MODULES

ALL\_MLE\_MODULES describes the Oracle Database Multilingual Engine (MLE) modules accessible to the current user.

### Related Views

- DBA\_MLE\_MODULES describes all MLE modules in the database.
- USER\_MLE\_MODULES describes the MLE modules owned by the current user. This view does not display the MODULE\_OWNER column.

| Column       | Datatype       | NULL     | Description                     |
|--------------|----------------|----------|---------------------------------|
| MODULE_OWNER | VARCHAR2 (128) | NOT NULL | Owner of the MLE module         |
| MODULE_NAME  | VARCHAR2 (128) | NOT NULL | Name of the MLE module          |
| MODULE_ID    | NUMBER         | NOT NULL | Object number of the MLE module |

| Column         | Datatype       | NULL     | Description                                                                                      |
|----------------|----------------|----------|--------------------------------------------------------------------------------------------------|
| MODULE         | BLOB           | NOT NULL | Contents of the MLE module                                                                       |
| LANGUAGE_OWNER | VARCHAR2 (128) |          | Owner of the MLE language of the MLE module                                                      |
| LANGUAGE_NAME  | VARCHAR2 (128) | NOT NULL | Name of the MLE language of the MLE module                                                       |
| VERSION        | VARCHAR2 (256) |          | Version of the MLE module                                                                        |
| METADATA       | CLOB           |          | Metadata of the MLE module                                                                       |
| TYPE           | VARCHAR2 (7)   |          | Type of the MLE module: <ul style="list-style-type: none"><li>• TEXT</li><li>• UNKNOWN</li></ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- "DBA\_MLE\_MODULES"
- "USER\_MLE\_MODULES"

## 3.303 ALL\_MLE\_PROCEDURES

ALL\_MLE\_PROCEDURES describes the Oracle Database Multilingual Engine (MLE) functions and procedures accessible to the current user.

**Related Views**

- DBA\_MLE\_PROCEDURES describes all MLE functions and procedures in the database.
- USER\_MLE\_PROCEDURES describes the MLE functions and procedures owned by the current user. This view does not display the OWNER column.

| Column | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                     |
|--------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER  | VARCHAR2 (128) | NOT NULL | Owner of the top-level object <ul style="list-style-type: none"><li>• For a function or procedure defined in a package or type, this column displays the owner of the package or type.</li><li>• For a standalone function or procedure, this column displays the owner of the function or procedure.</li></ul> |

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                              |
|----------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_NAME    | VARCHAR2 (128) | NOT NULL | Name of the top-level object <ul style="list-style-type: none"><li>For a function or procedure defined in a package or type, this column displays the name of the package or type.</li><li>For a standalone function or procedure, this column displays the name of the function or procedure.</li></ul> |
| PROCEDURE_NAME | VARCHAR2 (128) |          | Name of the function or procedure <ul style="list-style-type: none"><li>For a function or procedure defined in a package or type, this column displays the name of the function or procedure.</li><li>For a standalone function or procedure, the value of this column is null.</li></ul>                |
| OBJECT_ID      | NUMBER         | NOT NULL | Object number of the object displayed in OBJECT_NAME<br>This value corresponds to the OBJECT_ID column in the ALL_OBJECTS and ALL_PROCEDURES views.                                                                                                                                                      |
| SUBPROGRAM_ID  | NUMBER         | NOT NULL | Unique subprogram identifier                                                                                                                                                                                                                                                                             |
| SIGNATURE      | CLOB           |          | Signature of the function or procedure (in the target language)                                                                                                                                                                                                                                          |
| MODULE_OWNER   | VARCHAR2 (128) |          | Owner of the top-level MLE module                                                                                                                                                                                                                                                                        |
| MODULE_NAME    | VARCHAR2 (128) |          | Name of the top-level MLE module                                                                                                                                                                                                                                                                         |
| ENV_OWNER      | VARCHAR2 (128) |          | Owner of the MLE environment                                                                                                                                                                                                                                                                             |
| ENV_NAME       | VARCHAR2 (128) |          | Name of the MLE environment                                                                                                                                                                                                                                                                              |
| LANG_OWNER     | VARCHAR2 (128) |          | MLE language owner                                                                                                                                                                                                                                                                                       |
| LANG_NAME      | VARCHAR2 (128) |          | MLE language name                                                                                                                                                                                                                                                                                        |
| SRC            | CLOB           |          | Text of the source code for the function or procedure                                                                                                                                                                                                                                                    |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- "DBA\_MLE\_PROCEDURES"
- "USER\_MLE\_PROCEDURES"



## 3.304 ALL\_MVIEW\_AGGREGATES

ALL\_MVIEW\_AGGREGATES describes the grouping functions (aggregate operations) that appear in the SELECT list of materialized aggregate views accessible to the current user.

### Related Views

- DBA\_MVIEW\_AGGREGATES describes all such grouping functions defined for all materialized views in the database.
- USER\_MVIEW\_AGGREGATES describes all such grouping functions defined for all materialized views owned by the current user.



### Note:

All three views exclude materialized views that reference remote tables or that include references to a nonstatic value such as SYSDATE or USER. These views also exclude materialized views that were created as "snapshots" before Oracle8i and that were never altered to enable query rewrite.

| Column             | Datatype       | NULL     | Description                                                                                                                                      |
|--------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the materialized view                                                                                                                   |
| MVIEW_NAME         | VARCHAR2 (128) | NOT NULL | Name of the materialized view                                                                                                                    |
| POSITION_IN_SELECT | NUMBER         | NOT NULL | Ordinal position of this aggregation within the SELECT list. For the position of nonaggregate elements of the select list, see "ALL_MVIEW_KEYS". |
| CONTAINER_COLUMN   | VARCHAR2 (128) | NOT NULL | Name of this column in the container table                                                                                                       |
| AGG_FUNCTION       | VARCHAR2 (8)   |          | Aggregation function                                                                                                                             |
| DISTINCTFLAG       | VARCHAR2 (1)   |          | Indicates whether this aggregation is distinct (Y) or not (N)                                                                                    |
| MEASURE            | LONG           |          | SQL text of the measure, excluding the aggregation function. Equal to * for COUNT (*).                                                           |



### See Also:

- "DBA\_MVIEW\_AGGREGATES"
- "USER\_MVIEW\_AGGREGATES"

## 3.305 ALL\_MVIEW\_ANALYSIS

ALL\_MVIEW\_ANALYSIS describes the materialized views accessible to the current user. It provides additional information for analysis by applications. Minimal information is displayed for

materialized views that do not support query rewrite (such as materialized views with remote master tables or nondeterministic functions).

### Related Views

- `DBA_MVIEW_ANALYSIS` describes all such materialized views in the database.
- `USER_MVIEW_ANALYSIS` describes all such materialized views owned by the current user.



#### Note:

All of the information in these views is also displayed in `ALL_MVIEWS` and its related views. Oracle recommends that you refer to `ALL_MVIEWS` for this information instead of these views.

| Column            | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER             | VARCHAR2 (128) | NOT NULL | Owner of the materialized view                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| MVIEW_NAME        | VARCHAR2 (128) | NOT NULL | Name of the materialized view                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| MVIEW_TABLE_OWNER | VARCHAR2 (128) | NOT NULL | Owner of the container table (see next column)                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CONTAINER_NAME    | VARCHAR2 (128) |          | Name of the internal container in which the materialized view data is held. Normally this is the same as <code>MVIEW_NAME</code> . For materialized views created before Oracle8i, Oracle Database attaches the 6-byte prefix <code>SNAP\$_</code> . If <code>MVIEW_NAME</code> has more than 19 bytes, then Oracle Database truncates the name to 19 bytes and adds a 4-byte sequence number as a suffix to produce a nonambiguous <code>CONTAINER_NAME</code> . |
| LAST_REFRESH_SCN  | NUMBER         |          | System change number (SCN) of the last refresh operation                                                                                                                                                                                                                                                                                                                                                                                                          |
| LAST_REFRESH_DATE | DATE           |          | <code>SYSDATE</code> of the last refresh                                                                                                                                                                                                                                                                                                                                                                                                                          |
| REFRESH_METHOD    | VARCHAR2 (8)   |          | Default refresh method: <ul style="list-style-type: none"> <li>• FORCE</li> <li>• FAST</li> <li>• COMPLETE</li> <li>• NEVER</li> </ul>                                                                                                                                                                                                                                                                                                                            |
| SUMMARY           | VARCHAR2 (1)   |          | Indicates whether this materialized view includes a <code>GROUP BY</code> clause or aggregation (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                    |
| FULLREFRESHTIM    | NUMBER         |          | Approximate refresh time, in seconds, for full refresh                                                                                                                                                                                                                                                                                                                                                                                                            |
| INCREFRESHTIM     | NUMBER         |          | Approximate refresh time, in seconds, for fast refresh                                                                                                                                                                                                                                                                                                                                                                                                            |
| CONTAINS_VIEWS    | VARCHAR2 (1)   |          | Indicates whether this materialized view contains a view in its definition (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                         |
| UNUSABLE          | VARCHAR2 (1)   |          | Indicates whether this materialized view is <code>UNUSABLE</code> (inconsistent data) (Y) or not (N). A materialized view can be <code>UNUSABLE</code> if a system failure occurs during a full refresh.                                                                                                                                                                                                                                                          |
| RESTRICTED_SYNTAX | VARCHAR2 (1)   |          | Indicates whether this materialized view had a restriction in its defining query that limits the use of query rewrite (Y) or not (N). More complete information is provided by the <code>REWRITE_CAPABILITY</code> column of the <code>*_MVIEWS</code> view.                                                                                                                                                                                                      |

| Column          | Datatype     | NULL     | Description                                                                                                                                                                                         |
|-----------------|--------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INC_REFRESHABLE | VARCHAR2 (1) |          | Indicates whether this materialized view can be fast refreshed (Y) or not (N)                                                                                                                       |
| KNOWN_STALE     | VARCHAR2 (1) |          | Indicates whether the data contained in the materialized view is known to be inconsistent with the master table data because that has been updated since the last successful refresh (Y) or not (N) |
| INVALID         | VARCHAR2 (1) |          | Indicates whether this materialized view is in an invalid state (inconsistent metadata) (Y) or not (N)                                                                                              |
| REWRITE_ENABLED | VARCHAR2 (1) |          | Indicates whether this materialized view is currently enabled for query rewrite (Y) or not (N)                                                                                                      |
| QUERY_LEN       | NUMBER       |          | Length (in bytes) of the query field                                                                                                                                                                |
| QUERY           | LONG         |          | SELECT expression of the materialized view definition                                                                                                                                               |
| REVISION        | NUMBER       | NOT NULL | Reserved for internal use                                                                                                                                                                           |

**See Also:**

- ["DBA\\_MVIEW\\_ANALYSIS"](#)
- ["USER\\_MVIEW\\_ANALYSIS"](#)

## 3.306 ALL\_MVIEW\_COMMENTS

ALL\_MVIEW\_COMMENTS displays comments on the materialized views accessible to the current user.

### Related Views

- DBA\_MVIEW\_COMMENTS displays comments on the materialized views in the database.
- USER\_MVIEW\_COMMENTS displays comments on the materialized views owned by the current user. This view does not display the OWNER column.

| Column     | Datatype        | NULL     | Description                      |
|------------|-----------------|----------|----------------------------------|
| OWNER      | VARCHAR2 (128)  | NOT NULL | Owner of the materialized view   |
| MVIEW_NAME | VARCHAR2 (128)  | NOT NULL | Name of the materialized view    |
| COMMENTS   | VARCHAR2 (4000) |          | Comment on the materialized view |

**See Also:**

- ["DBA\\_MVIEW\\_COMMENTS"](#)
- ["USER\\_MVIEW\\_COMMENTS"](#)

## 3.307 ALL\_MVIEW\_DETAIL\_LOGICAL\_PARTITION

ALL\_MVIEW\_DETAIL\_LOGICAL\_PARTITION displays freshness information, with respect to logical partition change tracking (LPCT) detail partitions, for the materialized views accessible to the current user.

### Related Views

- DBA\_MVIEW\_DETAIL\_LOGICAL\_PARTITION displays freshness information, with respect to LPCT detail partitions, for all materialized views in the database.
- USER\_MVIEW\_DETAIL\_LOGICAL\_PARTITION displays freshness information, with respect to LPCT detail partitions, for the materialized views owned by the current user.

| Column                           | Datatype       | NULL     | Description                                                                                                                                                           |
|----------------------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                            | VARCHAR2 (128) | NOT NULL | Owner of the materialized view                                                                                                                                        |
| MVIEW_NAME                       | VARCHAR2 (128) | NOT NULL | Name of the materialized view                                                                                                                                         |
| DETAILOBJ_OWNER                  | VARCHAR2 (128) | NOT NULL | Owner of the detail object                                                                                                                                            |
| DETAILOBJ_NAME                   | VARCHAR2 (128) | NOT NULL | Name of the detail object                                                                                                                                             |
| DETAIL_LOGICAL_PARTITION_NAME    | VARCHAR2 (128) |          | Name of the detail object logical partition                                                                                                                           |
| DETAIL_LOGICAL_PARTITION_NUMBER  | NUMBER         | NOT NULL | Unique identifier of the detail object logical partition                                                                                                              |
| FRESHNESS                        | VARCHAR2 (7)   |          | Freshness state of the detail object logical partition.<br>Possible values: <ul style="list-style-type: none"><li>• FRESH</li><li>• STALE</li><li>• UNKNOWN</li></ul> |
| LAST_REFRESH_TIME                | DATE           |          | Date and time at which the materialized view was last refreshed                                                                                                       |
| DETAIL_LOGICAL_PARTITION_HIBOUND | LONG           |          | High bound value for the detail object logical partition                                                                                                              |



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

- "DBA\_MVIEW\_DETAIL\_LOGICAL\_PARTITION"
- "USER\_MVIEW\_DETAIL\_LOGICAL\_PARTITION"

## 3.308 ALL\_MVIEW\_DETAIL\_PARTITION

ALL\_MVIEW\_DETAIL\_PARTITION displays freshness information, with respect to partition change tracking (PCT) detail partitions, for the materialized views accessible to the current user.

### Related Views

- DBA\_MVIEW\_DETAIL\_PARTITION displays freshness information, with respect to PCT detail partitions, for all materialized views in the database.
- USER\_MVIEW\_DETAIL\_PARTITION displays freshness information, with respect to PCT detail partitions, for the materialized views owned by the current user.

| Column                    | Datatype       | NULL     | Description                                                                                                                                                           |
|---------------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                     | VARCHAR2 (128) | NOT NULL | Owner of the materialized view                                                                                                                                        |
| MVIEW_NAME                | VARCHAR2 (128) | NOT NULL | Name of the materialized view                                                                                                                                         |
| DETAILOBJ_OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the detail object                                                                                                                                            |
| DETAILOBJ_NAME            | VARCHAR2 (128) | NOT NULL | Name of the detail object                                                                                                                                             |
| DETAIL_PARTITION_NAME     | VARCHAR2 (128) |          | Name of the detail object partition                                                                                                                                   |
| DETAIL_PARTITION_POSITION | NUMBER         |          | Position of the detail object partition                                                                                                                               |
| FRESHNESS                 | VARCHAR2 (7)   |          | Freshness state of the detail object logical partition.<br>Possible values: <ul style="list-style-type: none"><li>• FRESH</li><li>• STALE</li><li>• UNKNOWN</li></ul> |
| LAST_REFRESH_TIME         | DATE           |          | Date and time at which the materialized view was last refreshed                                                                                                       |

### See Also:

- "DBA\_MVIEW\_DETAIL\_PARTITION"
- "USER\_MVIEW\_DETAIL\_PARTITION"

## 3.309 ALL\_MVIEW\_DETAIL\_RELATIONS

ALL\_MVIEW\_DETAIL\_RELATIONS describes the named detail relations that are either specified in the FROM list of the subquery that defines a materialized view accessible to the current user, or that are indirectly referenced through views in that FROM list. Inline views in the materialized view definition are not represented in this view or the related views.

### Related Views

- DBA\_MVIEW\_DETAIL\_RELATIONS describes all such detail relations defined for all materialized views in the database.
- USER\_MVIEW\_DETAIL\_RELATIONS describes such detail relations defined for all materialized views owned by the current user.

**Note:**

All three views exclude materialized views that reference remote tables or that includes references to a nonstatic value such as `SYSDATE` or `USER`. These views also exclude materialized views that were created as *snapshots* before Oracle8i and that were never altered to enable query rewrite.

| Column                   | Datatype       | NULL     | Description                                                                                                                                                 |
|--------------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                    | VARCHAR2 (128) | NOT NULL | Owner of the materialized view                                                                                                                              |
| MVIEW_NAME               | VARCHAR2 (128) | NOT NULL | Name of the materialized view                                                                                                                               |
| DETAILOBJ_OWNER          | VARCHAR2 (128) | NOT NULL | Detail object owner                                                                                                                                         |
| DETAILOBJ_NAME           | VARCHAR2 (128) | NOT NULL | Detail object name (that is, the name of a table or view)                                                                                                   |
| DETAILOBJ_TYPE           | VARCHAR2 (9)   |          | Detail object type: <ul style="list-style-type: none"> <li>• TABLE</li> <li>• VIEW</li> <li>• SNAPSHOT</li> <li>• CONTAINER</li> <li>• UNDEFINED</li> </ul> |
| DETAILOBJ_ALIAS          | VARCHAR2 (128) |          | Implicit or explicit alias for detail relation                                                                                                              |
| DETAILOBJ_PCT            | VARCHAR2 (1)   |          | Indicates whether the detail object PCT is supported (Y) or not (N)                                                                                         |
| NUM_FRESH_PCT_PARTITIONS | NUMBER         |          | Number of fresh PCT partitions                                                                                                                              |
| NUM_STALE_PCT_PARTITIONS | NUMBER         |          | Number of stale PCT partitions                                                                                                                              |

**See Also:**

- ["DBA\\_MVIEW\\_DETAIL\\_RELATIONS"](#)
- ["USER\\_MVIEW\\_DETAIL\\_RELATIONS"](#)

## 3.310 ALL\_MVIEW\_DETAIL\_SUBPARTITION

`ALL_MVIEW_DETAIL_SUBPARTITION` displays freshness information, with respect to partition change tracking (PCT) detail subpartitions, for the materialized views accessible to the current user.

### Related Views

- `DBA_MVIEW_DETAIL_SUBPARTITION` displays freshness information, with respect to PCT detail subpartitions, for all materialized views in the database.
- `USER_MVIEW_DETAIL_SUBPARTITION` displays freshness information, with respect to PCT detail subpartitions, for the materialized views owned by the current user.

| Column                       | Datatype       | NULL     | Description                                                        |
|------------------------------|----------------|----------|--------------------------------------------------------------------|
| OWNER                        | VARCHAR2 (128) | NOT NULL | Owner of the materialized view                                     |
| MVIEW_NAME                   | VARCHAR2 (128) | NOT NULL | Name of the materialized view                                      |
| DETAILOBJ_OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the detail object                                         |
| DETAILOBJ_NAME               | VARCHAR2 (128) | NOT NULL | Name of the detail object                                          |
| DETAIL_PARTITION_NAME        | VARCHAR2 (128) |          | Name of the detail object partition                                |
| DETAIL_SUBPARTITION_NAME     | VARCHAR2 (128) |          | Name of the detail object subpartition                             |
| DETAIL_SUBPARTITION_POSITION | NUMBER         |          | Position of the detail object subpartition                         |
| FRESHNESS                    | CHAR (5)       |          | Freshness state of the detail object subpartition (FRESH or STALE) |

 **See Also:**

- "DBA\_MVIEW\_DETAIL\_SUBPARTITION"
- "USER\_MVIEW\_DETAIL\_SUBPARTITION"

## 3.311 ALL\_MVIEW\_JOINS

ALL\_MVIEW\_JOINS describes joins between two columns in the WHERE clause of the subquery that defines a materialized view accessible to the current user.

### Related Views

- DBA\_MVIEW\_JOINS describes all such joins for all materialized views in the database.
- USER\_MVIEW\_JOINS describes such joins for all materialized views owned by the current user.

 **Note:**

All three views exclude materialized views that reference remote tables or that includes references to a nonstatic value such as SYSDATE or USER. These views also exclude materialized views that were created as "snapshots" before Oracle8i and that were never altered to enable query rewrite.

| Column              | Datatype       | NULL     | Description                                              |
|---------------------|----------------|----------|----------------------------------------------------------|
| OWNER               | VARCHAR2 (128) | NOT NULL | Owner of the materialized view                           |
| MVIEW_NAME          | VARCHAR2 (128) | NOT NULL | Materialized view name                                   |
| DETAILOBJ1_OWNER    | VARCHAR2 (128) | NOT NULL | Owner of the first object in the join <sup>1</sup>       |
| DETAILOBJ1_RELATION | VARCHAR2 (128) | NOT NULL | Name of the first object in the join <sup>1</sup>        |
| DETAILOBJ1_COLUMN   | VARCHAR2 (128) | NOT NULL | Join column of the first object in the join <sup>1</sup> |
| OPERATOR            | CHAR (1)       |          | Join operator <sup>1</sup>                               |

| Column              | Datatype       | NULL     | Description                                                                                                                |
|---------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------|
| OPERATOR_TYPE       | VARCHAR2 (1)   |          | Indicates whether the join is an inner join (I) or the DETAILOBJ1 table is the left side of an outer join (L) <sup>1</sup> |
| DETAILOBJ2_OWNER    | VARCHAR2 (128) | NOT NULL | Owner of the second object in the join <sup>1</sup>                                                                        |
| DETAILOBJ2_RELATION | VARCHAR2 (128) | NOT NULL | Name of the second object in the join <sup>1</sup>                                                                         |
| DETAILOBJ2_COLUMN   | VARCHAR2 (128) | NOT NULL | Join column of the second object in the join <sup>1</sup>                                                                  |

<sup>1</sup> These rows relate only to materialized join views and materialized aggregate views. They describe the two detail objects of a materialized view join.



#### See Also:

- "DBA\_MVIEW\_JOINS"
- "USER\_MVIEW\_JOINS"

## 3.312 ALL\_MVIEW\_KEYS

ALL\_MVIEW\_KEYS describes the columns or expressions in the SELECT list upon which materialized views accessible to the current user are based.

#### Related Views

- DBA\_MVIEW\_KEYS describes such columns and expressions for all materialized views in the database.
- USER\_MVIEW\_KEYS describes such columns and expressions for all materialized views owned by the current user.



#### Note:

All three views exclude materialized views that reference remote tables or that includes references to a nonstatic value such as SYSDATE or USER. These views also exclude materialized views that were created as *snapshots* before Oracle8i and that were never altered to enable query rewrite.

| Column             | Datatype       | NULL     | Description                                                   |
|--------------------|----------------|----------|---------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the materialized view                                |
| MVIEW_NAME         | VARCHAR2 (128) | NOT NULL | Materialized view name                                        |
| POSITION_IN_SELECT | NUMBER         | NOT NULL | Ordinal position of this key within the SELECT list           |
| CONTAINER_COLUMN   | VARCHAR2 (128) | NOT NULL | Name of the column in the container table                     |
| DETAILOBJ_OWNER    | VARCHAR2 (128) | NOT NULL | Detail object owner                                           |
| DETAILOBJ_NAME     | VARCHAR2 (128) | NOT NULL | Detail object name (for example, the name of a table or view) |
| DETAILOBJ_ALIAS    | VARCHAR2 (128) |          | Implicit or explicit alias for detail relation                |



| Column           | Datatype       | NULL     | Description                                                                               |
|------------------|----------------|----------|-------------------------------------------------------------------------------------------|
| DETAILOBJ_TYPE   | VARCHAR2 (5)   |          | Detail object type: <ul style="list-style-type: none"> <li>TABLE</li> <li>VIEW</li> </ul> |
| DETAILOBJ_COLUMN | VARCHAR2 (128) | NOT NULL | Name of the detail relation column                                                        |



#### See Also:

- "DBA\_MVIEW\_KEYS"
- "USER\_MVIEW\_KEYS"

## 3.313 ALL\_MVIEW\_LOGS

ALL\_MVIEW\_LOGS describes all materialized view logs accessible to the current user.

#### Related Views

- DBA\_MVIEW\_LOGS describes all materialized view logs in the database.
- USER\_MVIEW\_LOGS describes all materialized view logs owned by the current user.

| Column             | Datatype       | NULL | Description                                                                                                                                      |
|--------------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| LOG_OWNER          | VARCHAR2 (128) |      | Owner of the materialized view log                                                                                                               |
| MASTER             | VARCHAR2 (128) |      | Name of the master table or master materialized view whose changes are logged                                                                    |
| LOG_TABLE          | VARCHAR2 (128) |      | Name of the table where the changes to the master table or master materialized view are logged                                                   |
| LOG_TRIGGER        | VARCHAR2 (128) |      | Obsolete with Oracle8i and later. Set to NULL. Formerly, this parameter was an after-row trigger on the master which inserted rows into the log. |
| ROWIDS             | VARCHAR2 (3)   |      | Indicates whether rowid information is recorded (YES) or not (NO)                                                                                |
| PRIMARY_KEY        | VARCHAR2 (3)   |      | Indicates whether primary key information is recorded (YES) or not (NO)                                                                          |
| OBJECT_ID          | VARCHAR2 (3)   |      | Indicates whether object identifier information in an object table is recorded (YES) or not (NO)                                                 |
| FILTER_COLUMNS     | VARCHAR2 (3)   |      | Indicates whether filter column information is recorded (YES) or not (NO)                                                                        |
| SEQUENCE           | VARCHAR2 (3)   |      | Indicates whether the sequence value, which provides additional ordering information, is recorded (YES) or not (NO)                              |
| INCLUDE_NEW_VALUES | VARCHAR2 (3)   |      | Indicates whether both old and new values are recorded (YES) or old values are recorded but new values are not recorded (NO)                     |
| PURGE_ASYNCHRONOUS | VARCHAR2 (3)   |      | Indicates whether the materialized view log is purged asynchronously (YES) or not (NO)                                                           |

| Column            | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PURGE_DEFERRED    | VARCHAR2 (3)   |      | Indicates whether the materialized view log is purged in a deferred manner (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PURGE_START       | DATE           |      | For deferred purge, the purge start date                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PURGE_INTERVAL    | VARCHAR2 (200) |      | For deferred purge, the purge interval                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| LAST_PURGE_DATE   | DATE           |      | Date of the last purge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| LAST_PURGE_STATUS | NUMBER         |      | Status of the last purge (error code or 0 for success)                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| NUM_ROWS_PURGED   | NUMBER         |      | Number of rows purged in the last purge                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| COMMIT_SCN_BASED  | VARCHAR2 (3)   |      | Indicates whether the materialized view log is commit SCN-based (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| STAGING_LOG       | VARCHAR2 (3)   |      | Indicates whether the materialized view log is a staging log for synchronous refresh (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                            |
| AUTO              | VARCHAR2 (6)   |      | Indicates whether the materialized view log is an automatic materialized view log. Possible values: <ul style="list-style-type: none"> <li>• YES - It is an automatic materialized view log</li> <li>• NO - It is a user-created materialized view log</li> <li>• HYBRID - It is a hybrid materialized view log. It was initially a user-created materialized view log and was subsequently altered automatically to include one or more additional columns to support an automatic materialized view.</li> </ul> |



#### See Also:

- ["DBA\\_MVIEW\\_LOGS"](#)
- ["USER\\_MVIEW\\_LOGS"](#)

## 3.314 ALL\_MVIEW\_REFRESH\_TIMES

ALL\_MVIEW\_REFRESH\_TIMES describes refresh times of the materialized views accessible to the current user.

#### Related Views

- DBA\_MVIEW\_REFRESH\_TIMES describes refresh times of all materialized views in the database.
- USER\_MVIEW\_REFRESH\_TIMES describes refresh times of the materialized views owned by the current user.

| Column       | Datatype       | NULL     | Description                    |
|--------------|----------------|----------|--------------------------------|
| OWNER        | VARCHAR2 (128) | NOT NULL | Owner of the materialized view |
| NAME         | VARCHAR2 (128) | NOT NULL | Name of the materialized view  |
| MASTER_OWNER | VARCHAR2 (128) |          | Owner of the master table      |
| MASTER       | VARCHAR2 (128) |          | Name of the master table       |

| Column       | Datatype | NULL | Description                                                               |
|--------------|----------|------|---------------------------------------------------------------------------|
| LAST_REFRESH | DATE     |      | <code>SYSDATE</code> from the master site at the time of the last refresh |

**See Also:**

- `"DBA_MVIEW_REFRESH_TIMES"`
- `"USER_MVIEW_REFRESH_TIMES"`

## 3.315 ALL\_MVIEWS

`ALL_MVIEWS` describes all materialized views accessible to the current user.

### Related Views

- `DBA_MVIEWS` describes all materialized views in the database.
- `USER_MVIEWS` describes all materialized views owned by the current user.

| Column              | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128) | NOT NULL | Schema in which the materialized view was created                                                                                                                                                                                                                                                                                                                                                                                                             |
| MVIEW_NAME          | VARCHAR2 (128) | NOT NULL | Name of the materialized view                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CONTAINER_NAME      | VARCHAR2 (128) | NOT NULL | Name of the container in which the materialized view's data is held. Normally this is the same as <code>MVIEW_NAME</code> . For materialized views created before Oracle8i, Oracle Database attaches the 6-byte prefix <code>SNAP\$_</code> . If <code>MVIEW_NAME</code> has more than 19 bytes, then Oracle Database truncates the name to 19 bytes and may add a 4-byte sequence number as a suffix to produce a nonambiguous <code>CONTAINER_NAME</code> . |
| QUERY               | LONG           |          | Query that defines the materialized view                                                                                                                                                                                                                                                                                                                                                                                                                      |
| QUERY_LEN           | NUMBER (38)    |          | Length (in bytes) of the defining query                                                                                                                                                                                                                                                                                                                                                                                                                       |
| UPDATABLE           | VARCHAR2 (1)   |          | Indicates whether the materialized view is updatable (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                           |
| UPDATE_LOG          | VARCHAR2 (128) |          | For updatable materialized views, the filename of the update log                                                                                                                                                                                                                                                                                                                                                                                              |
| MASTER_ROLLBACK_SEG | VARCHAR2 (128) |          | Rollback segment for the master site or the master materialized view site                                                                                                                                                                                                                                                                                                                                                                                     |
| MASTER_LINK         | VARCHAR2 (128) |          | Database link for the master site or the master materialized view site                                                                                                                                                                                                                                                                                                                                                                                        |
| REWRITE_ENABLED     | VARCHAR2 (1)   |          | Indicates whether rewrite is enabled (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                           |

| Column             | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------|---------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REWRITE_CAPABILITY | VARCHAR2 (9)  |      | <p>Indicates whether the materialized view is eligible for rewrite, and if so, what rules must be followed:</p> <ul style="list-style-type: none"> <li>NONE - Materialized view cannot be used for rewrite, because rewrite is disallowed or prevented</li> <li>TEXTMATCH - Defining query of the materialized view contained restrictions on the use of query rewrite</li> <li>GENERAL - Defining query of the materialized view contained no restrictions on the use of query rewrite, so Oracle Database can apply any rewrite rule that is supported</li> </ul>                     |
| REFRESH_MODE       | VARCHAR2 (6)  |      | <p>Refresh mode of the materialized view:</p> <ul style="list-style-type: none"> <li>DEMAND - Oracle Database refreshes this materialized view whenever an appropriate refresh procedure is called</li> <li>COMMIT - Oracle Database refreshes this materialized view when a transaction on one of the materialized view's masters commits</li> <li>NEVER - Oracle Database never refreshes this materialized view</li> </ul>                                                                                                                                                           |
| REFRESH_METHOD     | VARCHAR2 (8)  |      | <p>Default method used to refresh the materialized view (can be overridden through the API):</p> <ul style="list-style-type: none"> <li>COMPLETE - Materialized view is completely refreshed from the masters</li> <li>FORCE - Oracle Database performs a fast refresh if possible, otherwise a complete refresh</li> <li>FAST - Oracle Database performs an incremental refresh applying changes that correspond to changes in the masters since the last refresh</li> <li>NEVER - User specified that Oracle Database should not refresh this materialized view</li> </ul>            |
| BUILD_MODE         | VARCHAR2 (9)  |      | <p>Indicates how the materialized view was populated during creation:</p> <ul style="list-style-type: none"> <li>IMMEDIATE - Populated from the masters during creation</li> <li>DEFERRED - Not populated during creation. Must be explicitly populated later by the user.</li> <li>PREBUILT - Populated with an existing table during creation. The relationship of the contents of this prebuilt table to the materialized view's masters is unknown to Oracle Database.</li> </ul>                                                                                                   |
| FAST_REFRESHABLE   | VARCHAR2 (18) |      | <p>Indicates whether the materialized view is eligible for incremental (fast) refresh. Oracle Database calculates this value statically, based on the materialized view definition query:</p> <ul style="list-style-type: none"> <li>NO - Materialized view is not fast refreshable, and hence is complex</li> <li>DML - Fast refresh is supported only for DML operations</li> <li>DIRLOAD_DML - Fast refresh is supported for both direct loads and DML operations</li> <li>DIRLOAD_LIMITEDDML - Fast refresh is supported for direct loads and a subset of DML operations</li> </ul> |

| Column                 | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|---------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LAST_REFRESH_TYPE      | VARCHAR2 (8)  |      | Method used for the most recent refresh: <ul style="list-style-type: none"> <li>• COMPLETE - Most recent refresh was complete</li> <li>• FAST - Most recent refresh was fast (incremental)</li> <li>• NA - Materialized view has not yet been refreshed (for example, if it was created DEFERRED)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LAST_REFRESH_DATE      | DATE          |      | Date on which the materialized view was most recently refreshed (blank if not yet populated)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LAST_REFRESH_END_TIME  | DATE          |      | End time of the most recent refresh on the materialized view (blank if not yet populated)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| STALENESS              | VARCHAR2 (19) |      | Relationship between the contents of the materialized view and the contents of the materialized view's masters: <ul style="list-style-type: none"> <li>• FRESH - Materialized view is a read-consistent view of the current state of its masters</li> <li>• IMPORT - Materialized view is imported from another database (the value of the UNKNOWN_IMPORT column is Y). Therefore, it is unknown whether the materialized view is in a read-consistent view of its masters from any point in time. The STALENESS of this view will turn to FRESH on a complete refresh.</li> <li>• NEEDS_COMPILE - Some object upon which the materialized view depends has changed. An ALTER MATERIALIZED VIEW...COMPILE statement is required to validate this materialized view and compute the staleness of the contents.</li> <li>• STALE - Materialized view is out of date because one or more of its masters has changed. If the materialized view was FRESH before it became STALE, then it is a read-consistent view of a former state of its masters.</li> <li>• UNDEFINED - Materialized view has remote masters. The concept of staleness is not defined for such materialized views.</li> <li>• UNKNOWN - Oracle Database does not know whether the materialized view is in a read-consistent view of its masters from any point in time (this is the case for materialized views created on prebuilt tables)</li> <li>• UNUSABLE - Materialized view is not a read-consistent view of its masters from any point in time</li> </ul> |
| AFTER_FAST_REFRESH     | VARCHAR2 (19) |      | Specifies the staleness value that will occur if a fast refresh is applied to this materialized view. Its values are the same as for the STALENESS column, plus the value NA, which is used when fast refresh is not applicable to this materialized view.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| UNKNOWN_PREBUILT       | VARCHAR2 (1)  |      | Indicates whether the materialized view is prebuilt (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| UNKNOWN_PLSQL_FUNC     | VARCHAR2 (1)  |      | Indicates whether the materialized view contains PL/SQL functions (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| UNKNOWN_EXTERNAL_TABLE | VARCHAR2 (1)  |      | Indicates whether the materialized view contains external tables (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Column                 | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UNKNOWN_CONSIDER_FRESH | VARCHAR2 (1)   |      | Indicates whether the materialized view is considered fresh (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| UNKNOWN_IMPORT         | VARCHAR2 (1)   |      | Indicates whether the materialized view is imported (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| UNKNOWN_TRUSTED_FD     | VARCHAR2 (1)   |      | Indicates whether the materialized view uses trusted constraints for refresh (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| COMPILE_STATE          | VARCHAR2 (19)  |      | Validity of the materialized view with respect to the objects upon which it depends: <ul style="list-style-type: none"> <li>VALID - Materialized view has been validated without error, and no object upon which it depends has changed since the last validation</li> <li>NEEDS_COMPILE - Some object upon which the materialized view depends has changed. An ALTER MATERIALIZED VIEW...COMPILE statement is required to validate this materialized view.</li> <li>ERROR - Materialized view has been validated with one or more errors</li> </ul> |
| USE_NO_INDEX           | VARCHAR2 (1)   |      | Indicates whether the materialized view was created using the USING NO INDEX clause (Y) or the materialized view was created with the default index (N). The USING NO INDEX clause suppresses the creation of the default index.                                                                                                                                                                                                                                                                                                                     |
| STALE_SINCE            | DATE           |      | Time from when the materialized view became stale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NUM_PCT_TABLES         | NUMBER         |      | Number of PCT detail tables                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NUM_FRESH_PCT_REGIONS  | NUMBER         |      | Number of fresh PCT partition regions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| NUM_STALE_PCT_REGIONS  | NUMBER         |      | Number of stale PCT partition regions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| SEGMENT_CREATED        | VARCHAR2 (3)   |      | Indicates whether the materialized view was created using the SEGMENT CREATION DEFERRED clause. The value is YES if the segment for the materialized view is created and NO if it is not.                                                                                                                                                                                                                                                                                                                                                            |
| EVALUATION_EDITION     | VARCHAR2 (128) |      | Name of the edition in which editioned objects referenced in an expression column are resolved                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| UNUSABLE_BEFORE        | VARCHAR2 (128) |      | Name of the oldest edition in which the stored results of the materialized view's subquery may be used for query rewrite. In editions before the specified edition, the stored results of the materialized view's data are considered unusable. This value is NULL if no such edition is specified.                                                                                                                                                                                                                                                  |
| UNUSABLE_BEGINNING     | VARCHAR2 (128) |      | Name of the oldest edition in which the stored results of the materialized view's subquery may <i>not</i> be used for query rewrite. The data is unusable for query rewrite in the specified edition and in any descendants of this edition. This value is NULL if no such edition is specified.                                                                                                                                                                                                                                                     |
| DEFAULT_COLLATION      | VARCHAR2 (100) |      | Default collation for the materialized view                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ON_QUERY_COMPUTATION   | VARCHAR2 (1)   |      | Indicates whether the materialized view is a real-time materialized view (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| AUTO                   | VARCHAR2 (3)   |      | Indicates whether the materialized view is an automatic materialized view (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Column                     | Datatype    | NULL | Description                                                                              |
|----------------------------|-------------|------|------------------------------------------------------------------------------------------|
| CONCURRENT_REFRESH_ENABLED | VARCHAR2(1) |      | Indicates whether concurrent refresh is enabled for the materialized view (Y) or not (N) |



#### See Also:

- "DBA\_MVIEWS"
- "USER\_MVIEWS"
- *Oracle Database Data Warehousing Guide* for more information on materialized views to support data warehousing

## 3.316 ALL\_NESTED\_TABLE\_COLS

ALL\_NESTED\_TABLE\_COLS describes the columns of the nested tables accessible to the current user. To gather statistics for this view, use the DBMS\_STATS package.

#### Related Views

- DBA\_NESTED\_TABLE\_COLS describes the columns of all nested tables in the database.
- USER\_NESTED\_TABLE\_COLS describes the columns of the nested tables owned by the current user. This view does not display the OWNER column.

| Column          | Datatype       | NULL     | Description                                                                                                                                        |
|-----------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2(128)  | NOT NULL | Owner of the nested table                                                                                                                          |
| TABLE_NAME      | VARCHAR2(128)  | NOT NULL | Name of the nested table                                                                                                                           |
| COLUMN_NAME     | VARCHAR2(128)  | NOT NULL | Column name                                                                                                                                        |
| DATA_TYPE       | VARCHAR2(128)  |          | Data type of the column                                                                                                                            |
| DATA_TYPE_MOD   | VARCHAR2(3)    |          | Data type modifier of the column                                                                                                                   |
| DATA_TYPE_OWNER | VARCHAR2(128)  |          | Owner of the data type of the column                                                                                                               |
| DATA_LENGTH     | NUMBER         | NOT NULL | Length of the column (in bytes)                                                                                                                    |
| DATA_PRECISION  | NUMBER         |          | Decimal precision for NUMBER data type; binary precision for FLOAT data type; NULL for all other data types                                        |
| DATA_SCALE      | NUMBER         |          | Digits to the right of the decimal point in a number                                                                                               |
| NULLABLE        | VARCHAR2(1)    |          | Indicates whether a column allows NULLs. The value is N if there is a NOT NULL constraint on the column or if the column is part of a PRIMARY KEY. |
| COLUMN_ID       | NUMBER         |          | Sequence number of the column as created                                                                                                           |
| DEFAULT_LENGTH  | NUMBER         |          | Length of the default value for the column                                                                                                         |
| DATA_DEFAULT    | LONG           |          | Default value for the column                                                                                                                       |
| DATA_DEFAULT_VC | VARCHAR2(4000) |          | Default value for the column<br>This column may truncate the default value.                                                                        |

| Column               | Datatype     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------|--------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM_DISTINCT         | NUMBER       |      | Number of distinct values in the column.<br>This column remains for backward compatibility with Oracle7. This information is now in the {TAB PART}_COL_STATISTICS views.                                                                                                                                                                                                                                                                                                                                              |
| LOW_VALUE            | RAW(1000)    |      | Low value in the column.<br>This column remains for backward compatibility with Oracle7. This information is now in the {TAB PART}_COL_STATISTICS views.                                                                                                                                                                                                                                                                                                                                                              |
| HIGH_VALUE           | RAW(1000)    |      | High value in the column.<br>This column remains for backward compatibility with Oracle7. This information is now in the {TAB PART}_COL_STATISTICS views.                                                                                                                                                                                                                                                                                                                                                             |
| DENSITY              | NUMBER       |      | If a histogram is available on COLUMN_NAME, then this column displays the selectivity of a value that spans fewer than 2 endpoints in the histogram. It does not represent the selectivity of values that span 2 or more endpoints.<br>If a histogram is not available on COLUMN_NAME, then the value of this column is 1/NUM_DISTINCT.<br>This column remains for backward compatibility with Oracle7. This information is now in the {TAB PART}_COL_STATISTICS views.                                               |
| NUM_NULLS            | NUMBER       |      | Number of NULLs in the column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| NUM_BUCKETS          | NUMBER       |      | Number of buckets in the histogram for the column<br><b>Note:</b> The number of buckets in a histogram is specified in the SIZE parameter of the SQL ANALYZE statement. However, Oracle Database does not create a histogram with more buckets than the number of rows in the sample. Also, if the sample contains any values that are very repetitious, Oracle Database creates the specified number of buckets, but the value indicated by this column may be smaller because of an internal compression algorithm. |
| LAST_ANALYZED        | DATE         |      | Date on which this column was most recently analyzed                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SAMPLE_SIZE          | NUMBER       |      | Sample size used in analyzing this column                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CHARACTER_SET_NAME   | VARCHAR2(44) |      | Name of the character set: <ul style="list-style-type: none"> <li>CHAR_CS</li> <li>NCHAR_CS</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                |
| CHAR_COL_DECL_LENGTH | NUMBER       |      | Declaration length of the character type column                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| GLOBAL_STATS         | VARCHAR2(3)  |      | GLOBAL_STATS will be YES if statistics are gathered or incrementally maintained, otherwise it will be NO                                                                                                                                                                                                                                                                                                                                                                                                              |
| USER_STATS           | VARCHAR2(3)  |      | Indicates whether statistics were entered directly by the user (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| AVG_COL_LEN          | NUMBER       |      | Average length of the column (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |



| Column             | Datatype        | NULL     | Description                                                                                                                                                                                                                                                    |
|--------------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CHAR_LENGTH        | NUMBER          |          | Displays the length of the column in characters. This value only applies to the following data types: <ul style="list-style-type: none"> <li>CHAR</li> <li>VARCHAR2</li> <li>NCHAR</li> <li>NVARCHAR2</li> </ul>                                               |
| CHAR_USED          | VARCHAR2 (1)    |          | Indicates that the column uses BYTE length semantics (B) or CHAR length semantics (C), or whether the data type is not any of the following (NULL): <ul style="list-style-type: none"> <li>CHAR</li> <li>VARCHAR2</li> <li>NCHAR</li> <li>NVARCHAR2</li> </ul> |
| V80_FMT_IMAGE      | VARCHAR2 (3)    |          | Indicates whether the column data is in release 8.0 image format (YES) or not (NO)                                                                                                                                                                             |
| DATA_UPGRADED      | VARCHAR2 (3)    |          | Indicates whether the column data has been upgraded to the latest type version format (YES) or not (NO)                                                                                                                                                        |
| HIDDEN_COLUMN      | VARCHAR2 (3)    |          | Indicates whether the column is a hidden column (YES) or not (NO)                                                                                                                                                                                              |
| VIRTUAL_COLUMN     | VARCHAR2 (3)    |          | Indicates whether the column is a virtual column (YES) or not (NO)                                                                                                                                                                                             |
| SEGMENT_COLUMN_ID  | NUMBER          |          | Sequence number of the column in the segment                                                                                                                                                                                                                   |
| INTERNAL_COLUMN_ID | NUMBER          | NOT NULL | Internal sequence number of the column                                                                                                                                                                                                                         |
| HISTOGRAM          | VARCHAR2 (15)   |          | Indicates existence/type of histogram: <ul style="list-style-type: none"> <li>NONE</li> <li>FREQUENCY</li> <li>HEIGHT BALANCED</li> </ul>                                                                                                                      |
| QUALIFIED_COL_NAME | VARCHAR2 (4000) |          | Qualified column name                                                                                                                                                                                                                                          |

 **See Also:**

- ["DBA\\_NESTED\\_TABLE\\_COLS"](#)
- ["USER\\_NESTED\\_TABLE\\_COLS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_STATS package

## 3.317 ALL\_NESTED\_TABLES

ALL\_NESTED\_TABLES describes the nested tables in tables accessible to the current user.

### Related Views

- DBA\_NESTED\_TABLES describes all nested tables in the database.
- USER\_NESTED\_TABLES describes nested tables owned by the current user. This view does not display the OWNER column.

| Column                | Datatype        | NULL | Description                                                                 |
|-----------------------|-----------------|------|-----------------------------------------------------------------------------|
| OWNER                 | VARCHAR2 (128)  |      | Owner of the nested table                                                   |
| TABLE_NAME            | VARCHAR2 (128)  |      | Name of the nested table                                                    |
| TABLE_TYPE_OWNER      | VARCHAR2 (128)  |      | Owner of the type of which the nested table was created                     |
| TABLE_TYPE_NAME       | VARCHAR2 (128)  |      | Name of the type of the nested table                                        |
| PARENT_TABLE_NAME     | VARCHAR2 (128)  |      | Name of the parent table containing the nested table                        |
| PARENT_TABLE_COLUMN   | VARCHAR2 (4000) |      | Column name of the parent table that corresponds to the nested table        |
| STORAGE_SPEC          | VARCHAR2 (30)   |      | Indicates whether storage for the nested table is USER_SPECIFIED or DEFAULT |
| RETURN_TYPE           | VARCHAR2 (20)   |      | Return type of the varray column (LOCATOR) or (VALUE)                       |
| ELEMENT_SUBSTITUTABLE | VARCHAR2 (25)   |      | Indicates whether the nested table element is substitutable (Y) or not (N)  |

**See Also:**

- "DBA\_NESTED\_TABLES"
- "USER\_NESTED\_TABLES"

## 3.318 ALL\_OBJ\_COLATTRS

ALL\_OBJ\_COLATTRS describes object columns and attributes contained in the tables accessible to the current user.

### Related Views

- DBA\_OBJ\_COLATTRS describes object columns and attributes contained in all tables in the database.
- USER\_OBJ\_COLATTRS describes object columns and attributes contained in the tables owned by the current user. This view does not display the OWNER column.

| Column        | Datatype        | NULL | Description                                                  |
|---------------|-----------------|------|--------------------------------------------------------------|
| OWNER         | VARCHAR2 (128)  |      | Owner of the table                                           |
| TABLE_NAME    | VARCHAR2 (128)  |      | Name of the table containing the object column or attribute  |
| COLUMN_NAME   | VARCHAR2 (4000) |      | Fully qualified name of the object column or attribute       |
| SUBSTITUTABLE | VARCHAR2 (15)   |      | Indicates whether the column is substitutable (Y) or not (N) |

**See Also:**

- "DBA\_OBJ\_COLATTRS"
- "USER\_OBJ\_COLATTRS"

## 3.319 ALL\_OBJECT\_TABLES

ALL\_OBJECT\_TABLES describes the object tables accessible to the current user.

**Related Views**

- DBA\_OBJECT\_TABLES describes all object tables in the database.
- USER\_OBJECT\_TABLES describes the object tables owned by the current user. This view does not display the OWNER column.

| Column          | Datatype       | NULL     | Description                                                                                                                                                                         |
|-----------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the table                                                                                                                                                                  |
| TABLE_NAME      | VARCHAR2 (128) | NOT NULL | Name of the table                                                                                                                                                                   |
| TABLESPACE_NAME | VARCHAR2 (30)  |          | Name of the tablespace containing the table; NULL for partitioned, temporary, and index-organized tables                                                                            |
| CLUSTER_NAME    | VARCHAR2 (128) |          | Name of the cluster, if any, to which the table belongs                                                                                                                             |
| IOT_NAME        | VARCHAR2 (128) |          | Name of the index-organized table, if any, to which the overflow or mapping table entry belongs. If the IOT_TYPE column is not NULL, then this column contains the base table name. |
| STATUS          | VARCHAR2 (8)   |          | If a previous DROP TABLE operation failed, indicates whether the table is unusable (UNUSABLE) or valid (VALID)                                                                      |
| PCT_FREE        | NUMBER         |          | Minimum percentage of free space in a block; NULL for partitioned tables                                                                                                            |
| PCT_USED        | NUMBER         |          | Minimum percentage of used space in a block; NULL for partitioned tables                                                                                                            |
| INI_TRANS       | NUMBER         |          | Initial number of transactions; NULL for partitioned tables                                                                                                                         |
| MAX_TRANS       | NUMBER         |          | Maximum number of transactions; NULL for partitioned tables                                                                                                                         |
| INITIAL_EXTENT  | NUMBER         |          | Size of the initial extent (in bytes); NULL for partitioned tables                                                                                                                  |
| NEXT_EXTENT     | NUMBER         |          | Size of secondary extents (in bytes); NULL for partitioned tables                                                                                                                   |
| MIN_EXTENTS     | NUMBER         |          | Minimum number of extents allowed in the segment; NULL for partitioned tables                                                                                                       |
| MAX_EXTENTS     | NUMBER         |          | Maximum number of extents allowed in the segment; NULL for partitioned tables                                                                                                       |
| PCT_INCREASE    | NUMBER         |          | Percentage increase in extent size; NULL for partitioned tables                                                                                                                     |

| Column                    | Datatype       | NULL | Description                                                                                                                                                        |
|---------------------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FREELISTS                 | NUMBER         |      | Number of process freelists allocated to the segment; NULL for partitioned tables                                                                                  |
| FREELIST_GROUPS           | NUMBER         |      | Number of freelist groups allocated to the segment; NULL for partitioned tables                                                                                    |
| LOGGING                   | VARCHAR2 (3)   |      | Indicates whether or not changes to the table are logged: <ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> </ul>                                    |
| BACKED_UP                 | VARCHAR2 (1)   |      | Indicates whether the table has been backed up since the last modification (Y) or not (N)                                                                          |
| NUM_ROWS                  | NUMBER         |      | Number of rows in the table                                                                                                                                        |
| BLOCKS                    | NUMBER         |      | Number of used blocks in the table                                                                                                                                 |
| EMPTY_BLOCKS              | NUMBER         |      | Number of empty (never used) blocks in the table                                                                                                                   |
| AVG_SPACE                 | NUMBER         |      | Average available free space in the table                                                                                                                          |
| CHAIN_CNT                 | NUMBER         |      | Number of chained rows in the table                                                                                                                                |
| AVG_ROW_LEN               | NUMBER         |      | Average row length, including row overhead                                                                                                                         |
| AVG_SPACE_FREELIST_BLOCKS | NUMBER         |      | Average free space of all blocks on a freelist                                                                                                                     |
| NUM_FREELIST_BLOCKS       | NUMBER         |      | Number of blocks on the freelist                                                                                                                                   |
| DEGREE                    | VARCHAR2 (10)  |      | Number of parallel execution processes per instance for scanning the table, or DEFAULT                                                                             |
| INSTANCES                 | VARCHAR2 (10)  |      | Number of instances across which the table is to be scanned, or DEFAULT                                                                                            |
| CACHE                     | VARCHAR2 (5)   |      | Indicates whether the table is to be cached in the buffer cache (Y) or not (N)                                                                                     |
| TABLE_LOCK                | VARCHAR2 (8)   |      | Indicates whether table locking is enabled (ENABLED) or disabled (DISABLED)                                                                                        |
| SAMPLE_SIZE               | NUMBER         |      | Sample size used in analyzing this table                                                                                                                           |
| LAST_ANALYZED             | DATE           |      | Date on which this table was most recently analyzed                                                                                                                |
| PARTITIONED               | VARCHAR2 (3)   |      | Indicates whether the table is partitioned (YES) or not (NO)                                                                                                       |
| IOT_TYPE                  | VARCHAR2 (12)  |      | If the table is an index-organized table, then IOT_TYPE is IOT, IOT_OVERFLOW, or IOT_MAPPING. If the table is not an index-organized table, then IOT_TYPE is NULL. |
| OBJECT_ID_TYPE            | VARCHAR2 (16)  |      | Indicates whether the object ID (OID) is USER-DEFINED or SYSTEM GENERATED                                                                                          |
| TABLE_TYPE_OWNER          | VARCHAR2 (128) |      | Owner of the type of the table                                                                                                                                     |
| TABLE_TYPE                | VARCHAR2 (128) |      | Type of the table                                                                                                                                                  |
| TEMPORARY                 | VARCHAR2 (1)   |      | Indicates whether this is a temporary table (Y) or not (N)                                                                                                         |
| SECONDARY                 | VARCHAR2 (1)   |      | Indicates whether the object table is a secondary object created by the ODCIIndexCreate method of the Oracle Data Cartridge (Y) or not (N)                         |
| NESTED                    | VARCHAR2 (3)   |      | Indicates whether the table is a nested table (YES) or not (NO)                                                                                                    |

| Column           | Datatype       | NULL | Description                                                                                                                                                                                                                                           |
|------------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BUFFER_POOL      | VARCHAR2 (7)   |      | Buffer pool to be used for table blocks: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• RECYCLE</li> <li>• NULL</li> </ul>                                                                                               |
| FLASH_CACHE      | VARCHAR2 (7)   |      | Database Smart Flash Cache hint to be used for table blocks: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> Solaris and Oracle Linux functionality only.                                                 |
| CELL_FLASH_CACHE | VARCHAR2 (7)   |      | Cell flash cache hint to be used for table blocks: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> <b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information             |
| ROW_MOVEMENT     | VARCHAR2 (8)   |      | Indicates whether partitioned row movement is enabled (ENABLED) or disabled (DISABLED)                                                                                                                                                                |
| GLOBAL_STATS     | VARCHAR2 (3)   |      | GLOBAL_STATS will be YES if statistics are gathered or incrementally maintained, otherwise it will be NO                                                                                                                                              |
| USER_STATS       | VARCHAR2 (3)   |      | Indicates whether statistics were entered directly by the user (YES) or not (NO)                                                                                                                                                                      |
| DURATION         | VARCHAR2 (15)  |      | Indicates the duration of a temporary table: <ul style="list-style-type: none"> <li>• SYS\$SESSION - Rows are preserved for the duration of the session</li> <li>• SYS\$TRANSACTION - Rows are deleted after COMMIT</li> </ul> Null - Permanent table |
| SKIP_CORRUPT     | VARCHAR2 (8)   |      | Indicates whether Oracle Database ignores blocks marked corrupt during table and index scans (ENABLED) or raises an error (DISABLED). To enable this feature, run the DBMS_REPAIR.SKIP_CORRUPT_BLOCKS procedure.                                      |
| MONITORING       | VARCHAR2 (3)   |      | Indicates whether the table has the MONITORING attribute set (YES) or not (NO)                                                                                                                                                                        |
| CLUSTER_OWNER    | VARCHAR2 (128) |      | Owner of the cluster, if any, to which the table belongs                                                                                                                                                                                              |
| DEPENDENCIES     | VARCHAR2 (8)   |      | Indicates whether row-level dependency tracking is enabled (ENABLED) or disabled (DISABLED)                                                                                                                                                           |
| COMPRESSION      | VARCHAR2 (8)   |      | Indicates whether table compression is enabled (ENABLED) or not (DISABLED); NULL for partitioned tables                                                                                                                                               |

| Column              | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------|---------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPRESS_FOR        | VARCHAR2 (30) |      | <p>Default compression for what kind of operations:</p> <ul style="list-style-type: none"> <li>• BASIC</li> <li>• ADVANCED</li> <li>• QUERY LOW</li> <li>• QUERY HIGH</li> <li>• ARCHIVE LOW</li> <li>• ARCHIVE HIGH</li> <li>• NULL</li> </ul> <p>The QUERY LOW, QUERY HIGH, ARCHIVE LOW, and ARCHIVE HIGH values are associated with Hybrid Columnar Compression, a feature of the Enterprise Edition of Oracle Database. See <i>Oracle Database Concepts</i> for more information.</p> |
| DROPPED             | VARCHAR2 (3)  |      | <p>Indicates whether the table has been dropped and is in the recycle bin (YES) or not (NO); NULL for partitioned tables</p> <p>This view does not return the names of tables that have been dropped.</p>                                                                                                                                                                                                                                                                                 |
| SEGMENT_CREATED     | VARCHAR2 (3)  |      | Indicates whether the table segment has been created (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                    |
| INMEMORY            | VARCHAR2 (8)  |      | Indicates whether the In-Memory Column Store (IM column store) is enabled (ENABLED) or disabled (DISABLED) for this segment                                                                                                                                                                                                                                                                                                                                                               |
| INMEMORY_PRIORITY   | VARCHAR2 (8)  |      | <p>Indicates the priority for In-Memory Column Store (IM column store) population. Possible values:</p> <ul style="list-style-type: none"> <li>• LOW</li> <li>• MEDIUM</li> <li>• HIGH</li> <li>• CRITICAL</li> <li>• NONE</li> <li>• NULL</li> </ul> <p>This column has a value based on where the segments lie for a table. For example, if the table is partitioned and is enabled for the IM column store, the value is NULL for ALL_TABLES but non-NULL for ALL_TAB_PARTITIONS.</p>  |
| INMEMORY_DISTRIBUTE | VARCHAR2 (15) |      | <p>Indicates how the IM column store is distributed in an Oracle Real Application Clusters (Oracle RAC) environment:</p> <ul style="list-style-type: none"> <li>• AUTO</li> <li>• BY ROWID RANGE</li> <li>• BY PARTITION</li> <li>• BY SUBPARTITION</li> </ul>                                                                                                                                                                                                                            |

| Column                  | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------|---------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INMEMORY_COMPRESSION    | VARCHAR2 (17) |      | <p>Indicates the compression level for the IM column store:</p> <ul style="list-style-type: none"> <li>• NO MEMCOMPRESS</li> <li>• FOR DML</li> <li>• FOR QUERY [ LOW   HIGH ]</li> <li>• FOR CAPACITY [ LOW   HIGH ]</li> <li>• AUTO</li> <li>• NULL</li> </ul> <p>This column has a value based on where the segments lie for a table. For example, if the table is partitioned and is enabled for the IM column store, the value is NULL for ALL_TABLES but non-NULL for ALL_TAB_PARTITIONS.</p>                                                                                                                                                                                                                                                                          |
| INMEMORY_DUPLICATE      | VARCHAR2 (13) |      | <p>Indicates the duplicate setting for the IM column store in an Oracle RAC environment:</p> <ul style="list-style-type: none"> <li>• NO DUPLICATE</li> <li>• DUPLICATE</li> <li>• DUPLICATE ALL</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EXTERNAL                | VARCHAR2 (3)  |      | <p>Indicates whether the table is an external table (YES) or not (NO).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CELLMEMORY <sup>1</sup> | VARCHAR2 (24) |      | <p>The value for columnar compression in the storage cell flash cache. Possible values:</p> <ul style="list-style-type: none"> <li>• ENABLED: Oracle Exadata Storage will decide automatically whether to cache in columnar form</li> <li>• DISABLED: Oracle Exadata Storage is prevented from caching in columnar form</li> <li>• NO CACHECOMPRESS: Oracle Exadata Storage will cache in HCC format (no recompression)</li> <li>• FOR QUERY: Oracle Exadata Storage will recompress and cache in INMEMORY query high format</li> <li>• FOR CAPACITY: Oracle Exadata Storage will recompress and cache in INMEMORY capacity low format</li> </ul>                                                                                                                            |
| HYBRID                  | VARCHAR2 (3)  |      | <p>Indicates whether the table is a hybrid partitioned table (YES) or not (NO). A hybrid partitioned table can contain a mixture of partitions stored in segments and partitions stored externally.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| INMEMORY_SERVICE        | VARCHAR2 (12) |      | <p>Indicates how the IM column store is populated on various instances. The possible values are:</p> <ul style="list-style-type: none"> <li>• DEFAULT: Data is populated on all instances specified with the PARALLEL_INSTANCE_GROUP initialization parameter. If that parameter is not set, then the data is populated on all instances. This is the default.</li> <li>• NONE: Data is not populated on any instance.</li> <li>• ALL: Data is populated on all instances, regardless of the value of the PARALLEL_INSTANCE_GROUP initialization parameter.</li> <li>• USER_DEFINED: Data is populated only on the instances on which the user-specified service is active. The service name corresponding to this is stored in the INMEMORY_SERVICE_NAME column.</li> </ul> |

| Column                | Datatype        | NULL | Description                                                                                                                                                                                                                 |
|-----------------------|-----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INMEMORY_SERVICE_NAME | VARCHAR2 (1000) |      | Indicates the service name for the service on which the IM column store should be populated. This column has a value only when the corresponding INMEMORY_SERVICE is USER_DEFINED. In all other cases, this column is null. |
| MEMOPTIMIZE_READ      | VARCHAR2 (8)    |      | Indicates whether the table is enabled for Fast Key Based Access (ENABLED) or not (DISABLED)                                                                                                                                |
| MEMOPTIMIZE_WRITE     | VARCHAR2 (8)    |      | For internal use only                                                                                                                                                                                                       |
| HAS_SENSITIVE_COLUMN  | VARCHAR2 (3)    |      | Indicates whether the table has one or more sensitive columns (YES) or not (NO)                                                                                                                                             |
| LOGICAL_REPLICATION   | VARCHAR2 (8)    |      | Indicates whether the table is enabled for logical replication (ENABLED) or not (DISABLED). This setting is ignored if database-wide column data supplemental logging is enabled.                                           |
| STAGING               | VARCHAR2 (3)    |      | Indicates whether the table is a staging table (YES) or not (NO)                                                                                                                                                            |
| HAS_RESERVABLE_COLUMN | VARCHAR2 (3)    |      | Indicates whether the table has one or more reservable columns (YES) or not (NO)                                                                                                                                            |

<sup>1</sup> This column is intended for use with Oracle Exadata.



#### See Also:

- "DBA\_OBJECT\_TABLES"
- "USER\_OBJECT\_TABLES"
- "PARALLEL\_INSTANCE\_GROUP"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_REPAIR.SKIP\_CORRUPT\_BLOCKS procedure

## 3.320 ALL\_OBJECTS

ALL\_OBJECTS describes all objects accessible to the current user.

#### Related Views

- DBA\_OBJECTS describes all objects in the database.
- USER\_OBJECTS describes all objects owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                    |
|----------------|----------------|----------|------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the object                            |
| OBJECT_NAME    | VARCHAR2 (128) | NOT NULL | Name of the object                             |
| SUBOBJECT_NAME | VARCHAR2 (128) |          | Name of the subobject (for example, partition) |
| OBJECT_ID      | NUMBER         | NOT NULL | Dictionary object number of the object         |



| Column            | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DATA_OBJECT_ID    | NUMBER         |          | Dictionary object number of the segment that contains the object.<br><b>Note:</b> OBJECT_ID and DATA_OBJECT_ID display data dictionary metadata. Do not confuse these numbers with the unique 16-byte object identifier ( <i>object ID</i> ) that Oracle Database assigns to row objects in object tables in the system.                                                                                            |
| OBJECT_TYPE       | VARCHAR2 (23)  |          | Type of the object (such as TABLE, INDEX)                                                                                                                                                                                                                                                                                                                                                                           |
| CREATED           | DATE           | NOT NULL | Timestamp for the creation of the object                                                                                                                                                                                                                                                                                                                                                                            |
| LAST_DDL_TIME     | DATE           | NOT NULL | Timestamp for the last modification of the object and dependent objects resulting from a DDL statement (including grants and revokes)                                                                                                                                                                                                                                                                               |
| TIMESTAMP         | VARCHAR2 (19)  |          | Timestamp for the specification of the object (character data)                                                                                                                                                                                                                                                                                                                                                      |
| STATUS            | VARCHAR2 (7)   |          | Status of the object: <ul style="list-style-type: none"> <li>VALID</li> <li>INVALID</li> <li>N/A</li> </ul>                                                                                                                                                                                                                                                                                                         |
| TEMPORARY         | VARCHAR2 (1)   |          | Indicates whether the object is temporary (the current session can see only data that it placed in this object itself) (Y) or not (N)                                                                                                                                                                                                                                                                               |
| GENERATED         | VARCHAR2 (1)   |          | Indicates whether the name of this object was system-generated (Y) or not (N)                                                                                                                                                                                                                                                                                                                                       |
| SECONDARY         | VARCHAR2 (1)   |          | Indicates whether this is a secondary object created by the ODCIIndexCreate method of the Oracle Data Cartridge (Y) or not (N)                                                                                                                                                                                                                                                                                      |
| NAMESPACE         | NUMBER         | NOT NULL | Namespace for the object                                                                                                                                                                                                                                                                                                                                                                                            |
| EDITION_NAME      | VARCHAR2 (128) |          | Name of the edition in which the object is actual                                                                                                                                                                                                                                                                                                                                                                   |
| SHARING           | VARCHAR2 (18)  |          | Values: <ul style="list-style-type: none"> <li>DATA LINK - If the object is data-linked or a data link to an object in the root</li> <li>METADATA LINK - If the object is metadata-linked or a metadata link to an object in the root</li> <li>EXTENDED DATA LINK - If the object is extended-data-linked or an extended data link to an object in the root</li> <li>NONE - If none of the above applies</li> </ul> |
| EDITIONABLE       | VARCHAR2 (1)   |          | Values: <ul style="list-style-type: none"> <li>Y - For objects marked EDITIONABLE</li> <li>N - For objects marked NONEDITIONABLE</li> <li>NULL - For objects whose type is not editionable in the database</li> </ul>                                                                                                                                                                                               |
| ORACLE_MAINTAINED | VARCHAR2 (1)   |          | Denotes whether the object was created, and is maintained, by Oracle-supplied scripts (such as catalog.sql or catproc.sql). An object for which this column has the value Y must not be changed in any way except by running an Oracle-supplied script.                                                                                                                                                             |
| APPLICATION       | VARCHAR2 (1)   |          | Indicates whether the object is an Application common object (Y) or not (N)                                                                                                                                                                                                                                                                                                                                         |

| Column                 | Datatype      | NULL | Description                                                                    |
|------------------------|---------------|------|--------------------------------------------------------------------------------|
| DEFAULT_COLLATION      | VARCHAR2(100) |      | Default collation for the object                                               |
| DUPLICATED             | VARCHAR2(1)   |      | Indicates whether this object is duplicated on this shard (Y) or not (N)       |
| SHARDED                | VARCHAR2(1)   |      | Indicates whether this object is sharded (Y) or not (N)                        |
| IMPORTED_OBJECT        | VARCHAR2(1)   |      | Indicates whether this object is imported (Y) or not (N)                       |
| SYNCHRONOUS_DUPLICATED | VARCHAR2(1)   |      | Indicates whether this object is a synchronous duplicated table (Y) or not (N) |
| CREATED_APPID          | NUMBER        |      | ID of the Application that created the object                                  |
| CREATED_VSNID          | NUMBER        |      | ID of the Application Version that created the object                          |
| MODIFIED_APPID         | NUMBER        |      | ID of the Application that last modified the object                            |
| MODIFIED_VSNID         | NUMBER        |      | ID of the Application Version that last modified the object                    |



#### See Also:

- ["DBA\\_OBJECTS"](#)
- ["USER\\_OBJECTS"](#)

## 3.321 ALL\_OBJECTS\_AE

ALL\_OBJECTS\_AE describes the objects (across all editions) accessible to the current user. Dropped objects appear in this view with OBJECT\_TYPE = NON-EXISTENT.

#### Related Views

- DBA\_OBJECTS\_AE describes all objects (across all editions) in the database.
- USER\_OBJECTS\_AE describes the objects (across all editions) owned by the current user. This view does not display the OWNER column.

| Column         | Datatype      | NULL     | Description                                                                                                                           |
|----------------|---------------|----------|---------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2(128) | NOT NULL | Owner of the object                                                                                                                   |
| OBJECT_NAME    | VARCHAR2(128) | NOT NULL | Name of the object                                                                                                                    |
| SUBOBJECT_NAME | VARCHAR2(128) |          | Name of the subobject (for example, partition)                                                                                        |
| OBJECT_ID      | NUMBER        | NOT NULL | Dictionary object number of the object                                                                                                |
| DATA_OBJECT_ID | NUMBER        |          | Dictionary object number of the segment which contains the object                                                                     |
| OBJECT_TYPE    | VARCHAR2(23)  |          | Type of the object                                                                                                                    |
| CREATED        | DATE          | NOT NULL | Timestamp for the creation of the object                                                                                              |
| LAST_DDL_TIME  | DATE          | NOT NULL | Timestamp for the last modification of the object and dependent objects resulting from a DDL statement (including grants and revokes) |

| Column                 | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TIMESTAMP              | VARCHAR2 (19)  |          | Timestamp for the specification of the object (character data)                                                                                                                                                                                                                                                                                                                                                              |
| STATUS                 | VARCHAR2 (7)   |          | Status of the object: <ul style="list-style-type: none"> <li>• VALID</li> <li>• INVALID</li> <li>• N/A</li> </ul>                                                                                                                                                                                                                                                                                                           |
| TEMPORARY              | VARCHAR2 (1)   |          | Indicates whether the object is temporary (the current session can see only data that it placed in this object itself) (Y) or not (N)                                                                                                                                                                                                                                                                                       |
| GENERATED              | VARCHAR2 (1)   |          | Indicates whether the name of this object was system-generated (Y) or not (N)                                                                                                                                                                                                                                                                                                                                               |
| SECONDARY              | VARCHAR2 (1)   |          | Indicates whether this is a secondary object created by the <code>ODCIIndexCreate</code> method of the Oracle Data Cartridge (Y) or not (N)                                                                                                                                                                                                                                                                                 |
| NAMESPACE              | NUMBER         | NOT NULL | Namespace for the object                                                                                                                                                                                                                                                                                                                                                                                                    |
| EDITION_NAME           | VARCHAR2 (128) |          | Name of the edition in which the object is actual                                                                                                                                                                                                                                                                                                                                                                           |
| SHARING                | VARCHAR2 (18)  |          | Values: <ul style="list-style-type: none"> <li>• DATA LINK - If the object is data-linked or a data link to an object in the root</li> <li>• METADATA LINK - If the object is metadata-linked or a metadata link to an object in the root</li> <li>• EXTENDED DATA LINK - If the object is extended-data-linked or an extended data link to an object in the root</li> <li>• NONE - If none of the above applies</li> </ul> |
| EDITIONABLE            | VARCHAR2 (1)   |          | Values: <ul style="list-style-type: none"> <li>• Y - For objects marked EDITIONABLE</li> <li>• N - For objects marked NONEDITIONABLE</li> <li>• NULL - For objects whose type is not editionable in the database</li> </ul>                                                                                                                                                                                                 |
| ORACLE_MAINTAINED      | VARCHAR2 (1)   |          | Denotes whether the object was created, and is maintained, by Oracle-supplied scripts (such as <code>catalog.sql</code> or <code>catproc.sql</code> ). An object for which this column has the value Y must not be changed in any way except by running an Oracle-supplied script.                                                                                                                                          |
| APPLICATION            | VARCHAR2 (1)   |          | Indicates whether the object is an Application common object (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                 |
| DEFAULT_COLLATION      | VARCHAR2 (100) |          | Default collation for the object                                                                                                                                                                                                                                                                                                                                                                                            |
| DUPLICATED             | VARCHAR2 (1)   |          | Indicates whether this object is duplicated on this shard (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                    |
| SHARDED                | VARCHAR2 (1)   |          | Indicates whether this object is sharded (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                     |
| IMPORTED_OBJECT        | VARCHAR2 (1)   |          | Indicates whether this object is imported (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                    |
| SYNCHRONOUS_DUPLICATED | VARCHAR2 (1)   |          | Indicates whether this object is a synchronous duplicated table (Y) or not (N)                                                                                                                                                                                                                                                                                                                                              |
| CREATED_APPID          | NUMBER         |          | ID of the Application that created the object                                                                                                                                                                                                                                                                                                                                                                               |
| CREATED_VSNID          | NUMBER         |          | ID of the Application Version that created the object                                                                                                                                                                                                                                                                                                                                                                       |
| MODIFIED_APPID         | NUMBER         |          | ID of the Application that last modified the object                                                                                                                                                                                                                                                                                                                                                                         |

| Column         | Datatype | NULL | Description                                                 |
|----------------|----------|------|-------------------------------------------------------------|
| MODIFIED_VSNID | NUMBER   |      | ID of the Application Version that last modified the object |

**See Also:**

- ["DBA\\_OBJECTS\\_AE"](#)
- ["USER\\_OBJECTS\\_AE"](#)

## 3.322 ALL\_OPANCILLARY

ALL\_OPANCILLARY describes operators whose bindings are ancillary to other (primary) operators.

**Related Views**

- DBA\_OPANCILLARY describes such information about all operators in the database.
- USER\_OPANCILLARY describes such information about operators owned by the current user.

| Column        | Datatype       | NULL     | Description                              |
|---------------|----------------|----------|------------------------------------------|
| OWNER         | VARCHAR2 (128) | NOT NULL | Owner of the ancillary operator          |
| OPERATOR_NAME | VARCHAR2 (128) | NOT NULL | Name of the ancillary operator           |
| BINDING#      | NUMBER         | NOT NULL | Binding number of the ancillary operator |
| PRIMOP_OWNER  | VARCHAR2 (128) | NOT NULL | Owner of the primary operator            |
| PRIMOP_NAME   | VARCHAR2 (128) | NOT NULL | Name of the primary operator             |
| PRIMOP_BIND#  | NUMBER         | NOT NULL | Binding number of the primary operator   |

**See Also:**

- ["DBA\\_OPANCILLARY"](#)
- ["USER\\_OPANCILLARY"](#)

## 3.323 ALL\_OPARGUMENTS

ALL\_OPARGUMENTS describes arguments for each operator binding accessible to the current user.

**Related Views**

- DBA\_OPARGUMENTS describes arguments of all operator bindings in the database.
- USER\_OPARGUMENTS describes arguments of all operator bindings owned by the current user.

| Column        | Datatype       | NULL     | Description                                      |
|---------------|----------------|----------|--------------------------------------------------|
| OWNER         | VARCHAR2 (128) | NOT NULL | Owner of the operator argument                   |
| OPERATOR_NAME | VARCHAR2 (128) | NOT NULL | Name of the operator argument                    |
| BINDING#      | NUMBER         | NOT NULL | Binding number of the operator argument          |
| POSITION      | NUMBER         | NOT NULL | Position of the operator argument (1, 2, 3, ...) |
| ARGUMENT_TYPE | VARCHAR2 (61)  |          | Datatype of the operator argument                |

**See Also:**

- "DBA\_OPARGUMENTS"
- "USER\_OPARGUMENTS"

## 3.324 ALL\_OPBINDINGS

ALL\_OPBINDINGS describes the binding functions and methods on the operators accessible to the current user.

**Related Views**

- DBA\_OPBINDINGS describes the binding functions and methods on all operators in the database.
- USER\_OPBINDINGS describes the binding functions and methods on the operators owned by the current user.

| Column                     | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                      | VARCHAR2 (128) | NOT NULL | Owner of the operator                                                                                                                                                                                                                                                                                                                                              |
| OPERATOR_NAME              | VARCHAR2 (128) | NOT NULL | Name of the operator                                                                                                                                                                                                                                                                                                                                               |
| BINDING#                   | NUMBER         | NOT NULL | Binding number of the operator                                                                                                                                                                                                                                                                                                                                     |
| FUNCTION_NAME              | VARCHAR2 (92)  |          | Name of the binding function or method as specified by the user                                                                                                                                                                                                                                                                                                    |
| RETURN_SCHEMA              | VARCHAR2 (128) |          | Name of the schema of the return type if the return type of the binding is an object type                                                                                                                                                                                                                                                                          |
| RETURN_TYPE                | VARCHAR2 (128) |          | Name of the return type                                                                                                                                                                                                                                                                                                                                            |
| IMPLEMENTATION_TYPE_SCHEMA | VARCHAR2 (128) |          | If the operator was created WITH INDEX CONTEXT or SCAN CONTEXT, then this column displays the schema of the implementation type used by the functional implementation of the operator as a scan context (null if the operator was created without this syntax).<br><b>See Also:</b> the CREATE OPERATOR statement in <i>Oracle Database SQL Language Reference</i> |

| Column              | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                      |
|---------------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IMPLEMENTATION_TYPE | VARCHAR2 (128) |      | If the operator was created WITH INDEX CONTEXT or SCAN CONTEXT, then this column displays the name of the implementation type used by the functional implementation of the operator as a scan context (null if the operator was created without this syntax).<br><b>See Also:</b> the CREATE OPERATOR statement in <i>Oracle Database SQL Language Reference</i> |
| PROPERTY            | VARCHAR2 (43)  |      | Property of the operator binding: <ul style="list-style-type: none"><li>• WITH INDEX CONTEXT</li><li>• COMPUTE ANCILLARY DATA</li><li>• ANCILLARY TO</li><li>• WITH COLUMN CONTEXT</li><li>• WITH INDEX, COLUMN CONTEXT</li><li>• COMPUTE ANCILLARY DATA, WITH COLUMN CONTEXT</li></ul>                                                                          |

**See Also:**

- "DBA\_OPBINDINGS"
- "USER\_OPBINDINGS"

## 3.325 ALL\_OPERATOR\_COMMENTS

ALL\_OPERATOR\_COMMENTS displays comments for the user-defined operators accessible to the current user.

**Related Views**

- DBA\_OPERATOR\_COMMENTS displays comments for all user-defined operators in the database.
- USER\_OPERATOR\_COMMENTS displays comments for the user-defined operators owned by the current user.

| Column        | Datatype        | NULL     | Description                           |
|---------------|-----------------|----------|---------------------------------------|
| OWNER         | VARCHAR2 (128)  | NOT NULL | Owner of the user-defined operator    |
| OPERATOR_NAME | VARCHAR2 (128)  | NOT NULL | Name of the user-defined operator     |
| COMMENTS      | VARCHAR2 (4000) |          | Comment for the user-defined operator |

**See Also:**

- "DBA\_OPERATOR\_COMMENTS"
- "USER\_OPERATOR\_COMMENTS"

## 3.326 ALL\_OPERATORS

ALL\_OPERATORS describes the operators accessible to the current user.

### Related Views

- DBA\_OPERATORS describes all operators in the database.
- USER\_OPERATORS describes the operators owned by the current user.

| Column          | Datatype       | NULL     | Description                                     |
|-----------------|----------------|----------|-------------------------------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the operator                           |
| OPERATOR_NAME   | VARCHAR2 (128) | NOT NULL | Name of the operator                            |
| NUMBER_OF_BINDS | NUMBER         | NOT NULL | Number of bindings associated with the operator |



### See Also:

- ["DBA\\_OPERATORS"](#)
- ["USER\\_OPERATORS"](#)

## 3.327 ALL\_OUTLINE\_HINTS

ALL\_OUTLINE\_HINTS is a synonym for USER\_OUTLINE\_HINTS.



### See Also:

- ["USER\\_OUTLINE\\_HINTS"](#)

## 3.328 ALL\_OUTLINES

ALL\_OUTLINES is a synonym for USER\_OUTLINES.



### See Also:

- ["USER\\_OUTLINES"](#)

# 4

## Static Data Dictionary Views: ALL\_PART\_COL\_STATISTICS to DATABASE\_PROPERTIES

This chapter contains the static data dictionary views `ALL_PART_COL_STATISTICS` through `DATABASE_PROPERTIES`.

### 4.1 ALL\_PART\_COL\_STATISTICS

`ALL_PART_COL_STATISTICS` displays column statistics and histogram information for the table partitions accessible to the current user.

#### Related Views

- `DBA_PART_COL_STATISTICS` displays column statistics and histogram information for all table partitions in the database.
- `USER_PART_COL_STATISTICS` displays column statistics and histogram information for the table partitions owned by the current user. This view does not display the `OWNER` column.

| Column         | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                           |
|----------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128)  | NOT NULL | Owner of the partitioned table                                                                                                                                                                                                                                                                                                                                                        |
| TABLE_NAME     | VARCHAR2 (128)  | NOT NULL | Name of the table                                                                                                                                                                                                                                                                                                                                                                     |
| PARTITION_NAME | VARCHAR2 (128)  |          | Name of the table partition                                                                                                                                                                                                                                                                                                                                                           |
| COLUMN_NAME    | VARCHAR2 (4000) |          | Name of the column                                                                                                                                                                                                                                                                                                                                                                    |
| NUM_DISTINCT   | NUMBER          |          | Number of distinct values in the column                                                                                                                                                                                                                                                                                                                                               |
| LOW_VALUE      | RAW (1000)      |          | Low value in the column                                                                                                                                                                                                                                                                                                                                                               |
| HIGH_VALUE     | RAW (1000)      |          | High value in the column                                                                                                                                                                                                                                                                                                                                                              |
| DENSITY        | NUMBER          |          | If a histogram is available on <code>COLUMN_NAME</code> , then this column displays the selectivity of a value that spans fewer than 2 endpoints in the histogram. It does not represent the selectivity of values that span 2 or more endpoints.<br><br>If a histogram is not available on <code>COLUMN_NAME</code> , then the value of this column is <code>1/NUM_DISTINCT</code> . |
| NUM_NULLS      | NUMBER          |          | Number of NULLs in the column                                                                                                                                                                                                                                                                                                                                                         |
| NUM_BUCKETS    | NUMBER          |          | Number of buckets in histogram for the column                                                                                                                                                                                                                                                                                                                                         |
| SAMPLE_SIZE    | NUMBER          |          | Sample size used in analyzing the column                                                                                                                                                                                                                                                                                                                                              |
| LAST_ANALYZED  | DATE            |          | Date on which the column was most recently analyzed                                                                                                                                                                                                                                                                                                                                   |
| GLOBAL_STATS   | VARCHAR2 (3)    |          | <code>GLOBAL_STATS</code> will be <code>YES</code> if statistics have been gathered or <code>NO</code> if statistics have been aggregated from subpartitions or have not been gathered                                                                                                                                                                                                |



| Column      | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------|---------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USER_STATS  | VARCHAR2 (3)  |      | Indicates whether statistics were entered directly by the user (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| NOTES       | VARCHAR2 (81) |      | <p>Additional properties of the statistics, if any. Possible values:</p> <ul style="list-style-type: none"> <li>ADAPTIVE_SAMPLING: The column has synopses, and the synopses are in the adaptive sampling format introduced in Oracle Database 11g Release 1 (11.1).</li> <li>HIST_FOR_INCREM_STATS: A histogram used to support incremental statistics has been created and it is not used for optimization.</li> <li>HISTOGRAM_ONLY: Table statistics were gathered using the GATHER AUTO option and histograms were gathered without re-gathering other table and column statistics.</li> <li>HYPERLOGLOG: The column has synopses, and the synopses are in the HyperLogLog format introduced in Oracle Database 12c Release 2 (12.2.0.1).</li> <li>INCREMENTAL: The column has synopses.</li> <li>STATS_ON_LOAD: Online statistics were gathered during direct path load.</li> </ul> <p>This column can be used to determine whether synopses in the adaptive sampling format have been phased out entirely and purged properly.</p> |
| AVG_COL_LEN | NUMBER        |      | Average length of the column (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| HISTOGRAM   | VARCHAR2 (15) |      | <p>Indicates existence/type of histogram:</p> <ul style="list-style-type: none"> <li>NONE</li> <li>FREQUENCY</li> <li>HEIGHT BALANCED</li> <li>HYBRID</li> <li>TOP-FREQUENCY</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

#### See Also:

- "DBA\_PART\_COL\_STATISTICS"
- "USER\_PART\_COL\_STATISTICS"

## 4.2 ALL\_PART\_HISTOGRAMS

ALL\_PART\_HISTOGRAMS displays the histogram data (endpoints per histogram) for the histograms on the table partitions accessible to the current user.

### Related Views

- DBA\_PART\_HISTOGRAMS displays the histogram data for the histograms on all table partitions in the database.

- `USER_PART_HISTOGRAMS` displays the histogram data for the histograms on the table partitions owned by the current user. This view does not display the `OWNER` column.

**Note:**

These views are populated only if you collect statistics on the index using the `DBMS_STATS` package.

| Column                                 | Datatype                     | NULL | Description                                                                                              |
|----------------------------------------|------------------------------|------|----------------------------------------------------------------------------------------------------------|
| <code>OWNER</code>                     | <code>VARCHAR2 (128)</code>  |      | Owner of the table                                                                                       |
| <code>TABLE_NAME</code>                | <code>VARCHAR2 (128)</code>  |      | Name of the table                                                                                        |
| <code>PARTITION_NAME</code>            | <code>VARCHAR2 (128)</code>  |      | Name of the table partition                                                                              |
| <code>COLUMN_NAME</code>               | <code>VARCHAR2 (4000)</code> |      | Name of the column                                                                                       |
| <code>BUCKET_NUMBER</code>             | <code>NUMBER</code>          |      | Bucket number of the histogram                                                                           |
| <code>ENDPOINT_VALUE</code>            | <code>NUMBER</code>          |      | Normalized endpoint values for the bucket                                                                |
| <code>ENDPOINT_ACTUAL_VALUE</code>     | <code>VARCHAR2 (4000)</code> |      | Actual (not normalized) string value of the endpoint for the bucket                                      |
| <code>ENDPOINT_ACTUAL_VALUE_RAW</code> | <code>RAW (1000)</code>      |      | Endpoint actual value in raw format                                                                      |
| <code>ENDPOINT_REPEAT_COUNT</code>     | <code>NUMBER</code>          |      | Frequency of the endpoint (applies only to hybrid histograms, and is set to 0 for other histogram types) |

**See Also:**

- ["DBA\\_PART\\_HISTOGRAMS"](#)
- ["USER\\_PART\\_HISTOGRAMS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_STATS` package

## 4.3 ALL\_PART\_INDEXES

`ALL_PART_INDEXES` displays the object-level partitioning information for the partitioned indexes accessible to the current user.

**Related Views**

- `DBA_PART_INDEXES` displays the object-level partitioning information for all partitioned indexes in the database.
- `USER_PART_INDEXES` displays the object-level partitioning information for the partitioned indexes owned by the current user. This view does not display the `OWNER` column.

| Column             | Datatype                    | NULL                  | Description                    |
|--------------------|-----------------------------|-----------------------|--------------------------------|
| <code>OWNER</code> | <code>VARCHAR2 (128)</code> | <code>NOT NULL</code> | Owner of the partitioned index |

| Column                    | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                  |
|---------------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INDEX_NAME                | VARCHAR2 (128) | NOT NULL | Name of the partitioned index                                                                                                                                                                                                                                                |
| TABLE_NAME                | VARCHAR2 (128) | NOT NULL | Name of the partitioned table                                                                                                                                                                                                                                                |
| PARTITIONING_TYPE         | VARCHAR2 (9)   |          | Type of the partitioning method: <ul style="list-style-type: none"> <li>NONE - Not specified</li> </ul> <b>See Also:</b> the *_INDEXES view <ul style="list-style-type: none"> <li>RANGE</li> <li>HASH</li> <li>SYSTEM</li> <li>LIST</li> <li>REFERENCE</li> </ul>           |
| SUBPARTITIONING_TYPE      | VARCHAR2 (9)   |          | Type of the composite partitioning method: <ul style="list-style-type: none"> <li>NONE - Not specified</li> </ul> <b>See Also:</b> the *_INDEXES view <ul style="list-style-type: none"> <li>RANGE</li> <li>HASH</li> <li>SYSTEM</li> <li>LIST</li> <li>REFERENCE</li> </ul> |
| PARTITION_COUNT           | NUMBER         | NOT NULL | Number of partitions in the index                                                                                                                                                                                                                                            |
| DEF_SUBPARTITION_COUNT    | NUMBER         |          | For a composite-partitioned index, the default number of subpartitions, if specified                                                                                                                                                                                         |
| PARTITIONING_KEY_COUNT    | NUMBER         | NOT NULL | Number of columns in the partitioning key                                                                                                                                                                                                                                    |
| SUBPARTITIONING_KEY_COUNT | NUMBER         |          | For a composite-partitioned index, the number of columns in the subpartitioning key                                                                                                                                                                                          |
| LOCALITY                  | VARCHAR2 (6)   |          | Indicates whether the partitioned index is local (LOCAL) or global (GLOBAL)                                                                                                                                                                                                  |
| ALIGNMENT                 | VARCHAR2 (12)  |          | Indicates whether the partitioned index is prefixed (PREFIXED) or non-prefixed (NON_PREFIXED)                                                                                                                                                                                |
| DEF_TABLESPACE_NAME       | VARCHAR2 (30)  |          | For a local index, the default tablespace to be used when adding or splitting a table partition                                                                                                                                                                              |
| DEF_PCT_FREE              | NUMBER         | NOT NULL | For a local index, the default PCTFREE value to be used when adding a table partition                                                                                                                                                                                        |
| DEF_INI_TRANS             | NUMBER         | NOT NULL | For a local index, the default INITRANS value to be used when adding a table partition                                                                                                                                                                                       |
| DEF_MAX_TRANS             | NUMBER         | NOT NULL | For a local index, the default MAXTRANS value to be used when adding a table partition                                                                                                                                                                                       |
| DEF_INITIAL_EXTENT        | VARCHAR2 (40)  |          | For a local index, the default INITIAL value (in Oracle blocks) to be used when adding a table partition, or DEFAULT if no INITIAL value was specified                                                                                                                       |
| DEF_NEXT_EXTENT           | VARCHAR2 (40)  |          | For a local index, the default NEXT value (in Oracle blocks) to be used when adding a table partition, or DEFAULT if no NEXT value was specified                                                                                                                             |
| DEF_MIN_EXTENTS           | VARCHAR2 (40)  |          | For a local index, the default MINEXTENTS value to be used when adding a table partition, or DEFAULT if no MINEXTENTS value was specified                                                                                                                                    |
| DEF_MAX_EXTENTS           | VARCHAR2 (40)  |          | For a local index, the default MAXEXTENTS value to be used when adding a table partition, or DEFAULT if no MAXEXTENTS value was specified                                                                                                                                    |

| Column                | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                     |
|-----------------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DEF_MAX_SIZE          | VARCHAR2 (40)   |          | For a local index, the default MAXSIZE value to be used when adding a table partition, or DEFAULT if no MAXSIZE value was specified                                                                                                                                             |
| DEF_PCT_INCREASE      | VARCHAR2 (40)   |          | For a local index, the default PCTINCREASE value to be used when adding a table partition, or DEFAULT if no PCTINCREASE value was specified                                                                                                                                     |
| DEF_FREELISTS         | NUMBER          | NOT NULL | For a local index, the default FREELISTS value to be used when adding a table partition                                                                                                                                                                                         |
| DEF_FREELIST_GROUPS   | NUMBER          | NOT NULL | For a local index, the default FREELIST GROUPS value to be used when adding a table partition                                                                                                                                                                                   |
| DEF_LOGGING           | VARCHAR2 (7)    |          | For a local index, the default LOGGING attribute to be used when adding a table partition: <ul style="list-style-type: none"> <li>NONE - Not specified</li> </ul> <b>See Also:</b> the *_INDEXES view <ul style="list-style-type: none"> <li>YES</li> <li>NO</li> </ul>         |
| DEF_BUFFER_POOL       | VARCHAR2 (7)    |          | For a local index, the default buffer pool to be used when adding a table partition: <ul style="list-style-type: none"> <li>DEFAULT</li> <li>KEEP</li> <li>RECYCLE</li> <li>NULL</li> </ul>                                                                                     |
| DEF_FLASH_CACHE       | VARCHAR2 (7)    |          | For a local index, the default Database Smart Flash Cache hint to be used when adding a table partition: <ul style="list-style-type: none"> <li>DEFAULT</li> <li>KEEP</li> <li>NONE</li> </ul> Solaris and Oracle Linux functionality only.                                     |
| DEF_CELL_FLASH_CACHE  | VARCHAR2 (7)    |          | For a local index, the default cell flash cache hint to be used when adding a table partition: <ul style="list-style-type: none"> <li>DEFAULT</li> <li>KEEP</li> <li>NONE</li> </ul> <b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information |
| DEF_PARAMETERS        | VARCHAR2 (1000) |          | Default parameter string for domain indexes                                                                                                                                                                                                                                     |
| INTERVAL              | VARCHAR2 (1000) |          | String of the interval value                                                                                                                                                                                                                                                    |
| AUTOLIST              | VARCHAR2 (3)    |          | Indicates whether a local index is partitioned by auto list partitioning (YES) or not (NO)                                                                                                                                                                                      |
| INTERVAL_SUBPARTITION | VARCHAR2 (1000) |          | String of the subpartition interval value                                                                                                                                                                                                                                       |
| AUTOLIST_SUBPARTITION | VARCHAR2 (3)    |          | Indicates whether a local index is subpartitioned by auto list partitioning (YES) or not (NO)                                                                                                                                                                                   |

**See Also:**

- ["DBA\\_PART\\_INDEXES"](#)
- ["USER\\_PART\\_INDEXES"](#)

## 4.4 ALL\_PART\_KEY\_COLUMNS

ALL\_PART\_KEY\_COLUMNS describes the partitioning key columns for the partitioned objects accessible to the current user.

**Related Views**

- DBA\_PART\_KEY\_COLUMNS describes the partitioning key columns for all partitioned objects in the database.
- USER\_PART\_KEY\_COLUMNS describes the partitioning key columns for the partitioned objects owned by the current user. This view does not display the OWNER column.

| Column             | Datatype        | NULL | Description                                                                               |
|--------------------|-----------------|------|-------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128)  |      | Owner of the partitioned table or index                                                   |
| NAME               | VARCHAR2 (128)  |      | Name of the partitioned table or index                                                    |
| OBJECT_TYPE        | CHAR (5)        |      | Object type: <ul style="list-style-type: none"><li>• TABLE</li><li>• INDEX</li></ul>      |
| COLUMN_NAME        | VARCHAR2 (4000) |      | Name of the column                                                                        |
| COLUMN_POSITION    | NUMBER          |      | Position of the column within the partitioning key                                        |
| COLLATED_COLUMN_ID | NUMBER          |      | Internal sequence number of the column for which this column provides linguistic ordering |

**See Also:**

- ["DBA\\_PART\\_KEY\\_COLUMNS"](#)
- ["USER\\_PART\\_KEY\\_COLUMNS"](#)

## 4.5 ALL\_PART\_LOBS

ALL\_PART\_LOBS displays table-level information about the partitioned LOBs accessible to the current user, including default attributes for LOB data partitions.

**Related Views**

- DBA\_PART\_LOBS displays table-level information about all partitioned LOBs in the database.
- USER\_PART\_LOBS displays table-level information about the partitioned LOBs owned by the current user. This view does not display the TABLE\_OWNER column.

| Column              | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABLE_OWNER         | VARCHAR2 (128)  | NOT NULL | Owner of the partitioned table containing the LOBs                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TABLE_NAME          | VARCHAR2 (128)  | NOT NULL | Name of the partitioned table containing the LOBs                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| COLUMN_NAME         | VARCHAR2 (4000) |          | Name of the LOB column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| LOB_NAME            | VARCHAR2 (128)  | NOT NULL | Name of the partitioned LOB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LOB_INDEX_NAME      | VARCHAR2 (128)  | NOT NULL | Name of the partitioned LOB index                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| DEF_CHUNK           | NUMBER          | NOT NULL | Default value of <code>CHUNK</code> for a LOB data partition to be used when adding a partition                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DEF_PCTVERSION      | NUMBER          | NOT NULL | Default value of <code>PCTVERSION</code> for a LOB data partition to be used when adding a partition                                                                                                                                                                                                                                                                                                                                                                                                                      |
| DEF_CACHE           | VARCHAR2 (10)   |          | Indicates whether and how the LOB data is cached by default in the buffer cache: <ul style="list-style-type: none"> <li>• <code>YES</code> - LOB data is placed in the buffer cache</li> <li>• <code>NO</code> - LOB data either is not brought into the buffer cache or is brought into the buffer cache and placed at the least recently used end of the LRU list</li> <li>• <code>CACHEREADS</code> - LOB data is brought into the buffer cache only during read operations but not during write operations</li> </ul> |
| DEF_IN_ROW          | VARCHAR2 (3)    |          | Indicates whether LOB data < 4000 bytes is stored by default inline (in the row) ( <code>YES</code> ) or not ( <code>NO</code> ); that is, whether or not <code>ENABLE STORAGE IN ROW</code> was specified when the LOB column was created or last altered                                                                                                                                                                                                                                                                |
| DEF_TABLESPACE_NAME | VARCHAR2 (30)   |          | Default tablespace for a LOB data partition to be used when adding a partition                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| DEF_INITIAL_EXTENT  | VARCHAR2 (40)   |          | Default value of <code>INITIAL</code> for a LOB data partition to be used when adding a partition, or <code>DEFAULT</code> if no <code>INITIAL</code> value was specified                                                                                                                                                                                                                                                                                                                                                 |
| DEF_NEXT_EXTENT     | VARCHAR2 (40)   |          | Default value of <code>NEXT</code> for a LOB data partition to be used when adding a partition, or <code>DEFAULT</code> if no <code>NEXT</code> value was specified                                                                                                                                                                                                                                                                                                                                                       |
| DEF_MIN_EXTENTS     | VARCHAR2 (40)   |          | Default value of <code>MINEXTENTS</code> for a LOB data partition to be used when adding a partition, or <code>DEFAULT</code> if no <code>MINEXTENTS</code> value was specified                                                                                                                                                                                                                                                                                                                                           |
| DEF_MAX_EXTENTS     | VARCHAR2 (40)   |          | Default value of <code>MAXEXTENTS</code> for a LOB data partition to be used when adding a partition, or <code>DEFAULT</code> if no <code>MAXEXTENTS</code> value was specified                                                                                                                                                                                                                                                                                                                                           |
| DEF_MAX_SIZE        | VARCHAR2 (40)   |          | Default value of <code>MAXSIZE</code> for a LOB data partition to be used when adding a partition, or <code>DEFAULT</code> if no <code>MAXSIZE</code> value was specified                                                                                                                                                                                                                                                                                                                                                 |

| Column               | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------|---------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DEF_RETENTION        | VARCHAR2 (7)  |      | <p>Default value of <code>RETENTION</code> for a LOB data partition to be used when adding a partition.</p> <p>Possible values for SecureFiles:</p> <ul style="list-style-type: none"> <li>• NONE</li> <li>• AUTO</li> <li>• MIN</li> <li>• MAX</li> <li>• DEFAULT</li> <li>• INVALID</li> </ul> <p>Possible values for BasicFiles:</p> <ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> </ul> |
| DEF_MINRET           | VARCHAR2 (40) |      | Default value of <code>RETENTION MIN</code> for a LOB data partition to be used when adding a partition, or <code>DEFAULT</code> if no <code>RETENTION MIN</code> value was specified                                                                                                                                                                                                                         |
| DEF_PCT_INCREASE     | VARCHAR2 (40) |      | Default value of <code>PCTINCREASE</code> for a LOB data partition to be used when adding a partition, or <code>DEFAULT</code> if no <code>PCTINCREASE</code> value was specified                                                                                                                                                                                                                             |
| DEF_FREELISTS        | VARCHAR2 (40) |      | Default value of <code>FREELISTS</code> for a LOB data partition to be used when adding a partition, or <code>DEFAULT</code> if no <code>FREELISTS</code> value was specified                                                                                                                                                                                                                                 |
| DEF_FREELIST_GROUPS  | VARCHAR2 (40) |      | Default value of <code>FREELIST GROUPS</code> for a LOB data partition to be used when adding a partition, or <code>DEFAULT</code> if no <code>FREELIST GROUPS</code> value was specified                                                                                                                                                                                                                     |
| DEF_LOGGING          | VARCHAR2 (7)  |      | <p>Default <code>LOGGING</code> attribute for a LOB data partition to be used when adding a partition:</p> <ul style="list-style-type: none"> <li>• NONE - Not specified</li> </ul> <p><b>See Also:</b> the <code>*_LOBS</code> and <code>*_LOB_PARTITIONS</code> views</p> <ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> </ul>                                                             |
| DEF_BUFFER_POOL      | VARCHAR2 (7)  |      | <p>Default buffer pool for a LOB data partition to be used when adding a partition:</p> <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• RECYCLE</li> <li>• NULL</li> </ul>                                                                                                                                                                                                        |
| DEF_FLASH_CACHE      | VARCHAR2 (7)  |      | <p>Default Database Smart Flash Cache hint to be used when adding a partition:</p> <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> <p>Solaris and Oracle Linux functionality only.</p>                                                                                                                                                                            |
| DEF_CELL_FLASH_CACHE | VARCHAR2 (7)  |      | <p>Default cell flash cache hint to be used when adding a partition:</p> <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> <p><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information</p>                                                                                                                                        |

| Column          | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------|---------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DEF_ENCRYPT     | VARCHAR2 (4)  |      | Default value of <code>ENCRYPT</code> for a LOB data partition to be used when adding a partition.<br>Possible values for SecureFiles: <ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> </ul> Possible value for BasicFiles: <ul style="list-style-type: none"> <li>• NONE - Not applicable</li> </ul>                                                         |
| DEF_COMPRESS    | VARCHAR2 (6)  |      | Default value of <code>COMPRESS</code> for a LOB data partition to be used when adding a partition.<br>Possible values for SecureFiles: <ul style="list-style-type: none"> <li>• LOW</li> <li>• MEDIUM</li> <li>• HIGH</li> <li>• NO - Compression is off</li> </ul> Possible value for BasicFiles: <ul style="list-style-type: none"> <li>• NONE - Not applicable</li> </ul> |
| DEF_DEDUPLICATE | VARCHAR2 (15) |      | Default value of <code>DEDUPLICATE</code> for a LOB data partition to be used when adding a partition.<br>Possible values for SecureFiles: <ul style="list-style-type: none"> <li>• LOB - Deduplicate</li> <li>• NO - Keep duplicates</li> </ul> Possible values for BasicFiles: <ul style="list-style-type: none"> <li>• NONE - Not applicable</li> </ul>                    |
| DEF_SECUREFILE  | VARCHAR2 (3)  |      | Indicates whether the LOB is SecureFiles (YES) or not (NO)                                                                                                                                                                                                                                                                                                                    |
| DEF_MAX_INLINE  | NUMBER        |      | Default inline LOB size (in bytes)                                                                                                                                                                                                                                                                                                                                            |



#### See Also:

- ["DBA\\_PART\\_LOBS"](#)
- ["USER\\_PART\\_LOBS"](#)

## 4.6 ALL\_PART\_TABLES

`ALL_PART_TABLES` displays the object-level partitioning information for the partitioned tables accessible to the current user.

### Related Views

- `DBA_PART_TABLES` displays the object-level partitioning information for all partitioned tables in the database.
- `USER_PART_TABLES` displays the object-level partitioning information for the partitioned tables owned by the current user. This view does not display the `OWNER` column.



| Column                    | Datatype       | NULL | Description                                                                                                                                                                                                                                                                      |
|---------------------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                     | VARCHAR2 (128) |      | Owner of the partitioned table                                                                                                                                                                                                                                                   |
| TABLE_NAME                | VARCHAR2 (128) |      | Name of the partitioned table                                                                                                                                                                                                                                                    |
| PARTITIONING_TYPE         | VARCHAR2 (9)   |      | Type of the partitioning method: <ul style="list-style-type: none"> <li>UNKNOWN - Not specified</li> </ul> <b>See Also:</b> the *_TABLES view <ul style="list-style-type: none"> <li>RANGE</li> <li>HASH</li> <li>SYSTEM</li> <li>LIST</li> <li>REFERENCE</li> </ul>             |
| SUBPARTITIONING_TYPE      | VARCHAR2 (9)   |      | Type of the composite partitioning method: <ul style="list-style-type: none"> <li>NONE - Not subpartitioned</li> </ul> <b>See Also:</b> the *_TABLES view <ul style="list-style-type: none"> <li>RANGE</li> <li>HASH</li> <li>SYSTEM</li> <li>LIST</li> <li>REFERENCE</li> </ul> |
| PARTITION_COUNT           | NUMBER         |      | Number of partitions in the table. For interval partitioned tables, the value of this column is always 1048575.                                                                                                                                                                  |
| DEF_SUBPARTITION_COUNT    | NUMBER         |      | For a composite-partitioned table, the default number of subpartitions, if specified                                                                                                                                                                                             |
| PARTITIONING_KEY_COUNT    | NUMBER         |      | Number of columns in the partitioning key                                                                                                                                                                                                                                        |
| SUBPARTITIONING_KEY_COUNT | NUMBER         |      | For a composite-partitioned table, the number of columns in the subpartitioning key                                                                                                                                                                                              |
| STATUS                    | VARCHAR2 (8)   |      | If a previous DROP TABLE operation failed, indicates whether the table is unusable (UNUSABLE) or valid (VALID)                                                                                                                                                                   |
| DEF_TABLESPACE_NAME       | VARCHAR2 (30)  |      | Default tablespace to be used when adding a partition                                                                                                                                                                                                                            |
| DEF_PCT_FREE              | NUMBER         |      | Default value of PCTFREE to be used when adding a partition                                                                                                                                                                                                                      |
| DEF_PCT_USED              | NUMBER         |      | Default value of PCTUSED to be used when adding a partition                                                                                                                                                                                                                      |
| DEF_INI_TRANS             | NUMBER         |      | Default value of INITRANS to be used when adding a partition                                                                                                                                                                                                                     |
| DEF_MAX_TRANS             | NUMBER         |      | Default value of MAXTRANS to be used when adding a partition                                                                                                                                                                                                                     |
| DEF_INITIAL_EXTENT        | VARCHAR2 (40)  |      | Default value of INITIAL (in Oracle blocks) to be used when adding a partition, or DEFAULT if no INITIAL value was specified                                                                                                                                                     |
| DEF_NEXT_EXTENT           | VARCHAR2 (40)  |      | Default value of NEXT (in Oracle blocks) to be used when adding a partition, or DEFAULT if no NEXT value was specified                                                                                                                                                           |
| DEF_MIN_EXTENTS           | VARCHAR2 (40)  |      | Default value of MINEXTENTS to be used when adding a partition, or DEFAULT if no MINEXTENTS value was specified                                                                                                                                                                  |

| Column              | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                    |
|---------------------|---------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DEF_MAX_EXTENTS     | VARCHAR2 (40) |      | Default value of MAXEXTENTS to be used when adding a partition, or DEFAULT if no MAXEXTENTS value was specified                                                                                                                                                                                                                |
| DEF_MAX_SIZE        | VARCHAR2 (40) |      | Default value of MAXSIZE to be used when adding a partition, or DEFAULT if no MAXSIZE value was specified                                                                                                                                                                                                                      |
| DEF_PCT_INCREASE    | VARCHAR2 (40) |      | Default value of PCTINCREASE to be used when adding a partition, or DEFAULT if no PCTINCREASE value was specified                                                                                                                                                                                                              |
| DEF_FREELISTS       | NUMBER        |      | Default value of FREELISTS to be used when adding a partition                                                                                                                                                                                                                                                                  |
| DEF_FREELIST_GROUPS | NUMBER        |      | Default value of FREELIST GROUPS to be used when adding a partition                                                                                                                                                                                                                                                            |
| DEF_LOGGING         | VARCHAR2 (7)  |      | Default LOGGING attribute to be used when adding a partition: <ul style="list-style-type: none"> <li>NONE - Not specified</li> </ul> <p><b>See Also:</b> the *_TABLES view</p> <ul style="list-style-type: none"> <li>YES</li> <li>NO</li> </ul>                                                                               |
| DEF_COMPRESSION     | VARCHAR2 (8)  |      | Default compression to be used when adding a partition: <ul style="list-style-type: none"> <li>NONE - Not specified</li> </ul> <p><b>See Also:</b> the *_TABLES view</p> <ul style="list-style-type: none"> <li>ENABLED</li> <li>DISABLED</li> </ul>                                                                           |
| DEF_COMPRESS_FOR    | VARCHAR2 (30) |      | Default compression for what kind of operations to be used when adding a partition: <ul style="list-style-type: none"> <li>BASIC</li> <li>ADVANCED</li> <li>QUERY LOW<sup>1</sup></li> <li>QUERY HIGH<sup>1</sup></li> <li>ARCHIVE LOW<sup>1</sup></li> <li>ARCHIVE HIGH<sup>1</sup></li> <li>UNKNOWN</li> <li>NULL</li> </ul> |
| DEF_BUFFER_POOL     | VARCHAR2 (7)  |      | Default buffer pool to be used when adding a partition: <ul style="list-style-type: none"> <li>DEFAULT</li> <li>KEEP</li> <li>RECYCLE</li> <li>NULL</li> </ul>                                                                                                                                                                 |
| DEF_FLASH_CACHE     | VARCHAR2 (7)  |      | Default Database Smart Flash Cache hint to be used when adding a partition: <ul style="list-style-type: none"> <li>DEFAULT</li> <li>KEEP</li> <li>NONE</li> </ul> <p>Solaris and Oracle Linux functionality only.</p>                                                                                                          |

| Column                  | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                           |
|-------------------------|-----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DEF_CELL_FLASH_CACHE    | VARCHAR2 (7)    |      | <p>Default cell flash cache hint to be used when adding a partition:</p> <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> <p><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information</p>                                |
| REF_PTN_CONSTRAINT_NAME | VARCHAR2 (128)  |      | Name of the partitioning referential constraint for reference-partitioned tables                                                                                                                                                                                                                      |
| INTERVAL                | VARCHAR2 (1000) |      | String of the interval value                                                                                                                                                                                                                                                                          |
| AUTOLIST                | VARCHAR2 (3)    |      | Indicates whether a table is partitioned by auto list partitioning (YES) or not (NO)                                                                                                                                                                                                                  |
| INTERVAL_SUBPARTITION   | VARCHAR2 (1000) |      | String of the subpartition interval value                                                                                                                                                                                                                                                             |
| AUTOLIST_SUBPARTITION   | VARCHAR2 (3)    |      | Indicates whether auto list partitioning is being used (YES) or not (NO) for this subpartition                                                                                                                                                                                                        |
| IS_NESTED               | VARCHAR2 (3)    |      | <p>Indicates whether the partitioned table is a nested table (YES) or not (NO)</p> <p><b>See Also:</b> the *_NESTED_TABLES view for the parent table name/column</p>                                                                                                                                  |
| DEF_SEGMENT_CREATION    | VARCHAR2 (4)    |      | <p>Specifies whether the default for segment creation was specified on the table level:</p> <ul style="list-style-type: none"> <li>• NO - deferred was specified</li> <li>• YES - immediate was specified</li> <li>• NONE - a default for segment creation was not specified</li> </ul>               |
| DEF_INDEXING            | VARCHAR2 (3)    |      | <p>Indicates the indexing property specified for the table.</p> <p>Possible values:</p> <ul style="list-style-type: none"> <li>• ON - INDEXING on was specified explicitly, or no indexing property was specified</li> <li>• OFF - INDEXING off was specified.</li> </ul>                             |
| DEF_INMEMORY            | VARCHAR2 (8)    |      | Indicates whether the In-Memory Column Store (IM column store) is by default enabled (ENABLED), disabled (DISABLED), or not specified (NONE) for partitions in this table                                                                                                                             |
| DEF_INMEMORY_PRIORITY   | VARCHAR2 (8)    |      | <p>Indicates the default priority for In-Memory Column Store (IM column store) population. Possible values:</p> <ul style="list-style-type: none"> <li>• LOW</li> <li>• MEDIUM</li> <li>• HIGH</li> <li>• CRITICAL</li> <li>• NONE</li> <li>• NULL</li> </ul>                                         |
| DEF_INMEMORY_DISTRIBUTE | VARCHAR2 (15)   |      | <p>Indicates how the IM column store is distributed by default for partitions of the table in an Oracle Real Application Clusters (Oracle RAC) environment:</p> <ul style="list-style-type: none"> <li>• AUTO</li> <li>• BY ROWID RANGE</li> <li>• BY PARTITION</li> <li>• BY SUBPARTITION</li> </ul> |

| Column                      | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------|-----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DEF_INMEMORY_COMPRESSION    | VARCHAR2 (17)   |      | Default compression level for the IM column store: <ul style="list-style-type: none"> <li>• NO MEMCOMPRESS</li> <li>• FOR DML</li> <li>• FOR QUERY [ LOW   HIGH ]</li> <li>• FOR CAPACITY [ LOW   HIGH ]</li> <li>• AUTO</li> <li>• NULL</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DEF_INMEMORY_DUPLICATE      | VARCHAR2 (13)   |      | Indicates the default duplicate setting for the IM column store in an Oracle RAC environment: <ul style="list-style-type: none"> <li>• NO DUPLICATE</li> <li>• DUPLICATE</li> <li>• DUPLICATE ALL</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| DEF_READ_ONLY               | VARCHAR2 (3)    |      | Indicates the default setting for new partitions: <ul style="list-style-type: none"> <li>• YES: The default setting for new partitions is read-only.</li> <li>• NO: The default setting for new partitions is read/write.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| DEF_CELLMEMORY <sup>2</sup> | VARCHAR2 (24)   |      | Shows the default value for the <code>CELLMEMORY</code> attribute that new partitions in the parent table will inherit unless the behavior is overridden explicitly                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DEF_INMEMORY_SERVICE        | VARCHAR2 (12)   |      | Indicates how the IM column store is populated on various instances by default for partitions of the table. The possible values are: <ul style="list-style-type: none"> <li>• <b>DEFAULT:</b> Data is populated on all instances specified with the <code>PARALLEL_INSTANCE_GROUP</code> initialization parameter. If that parameter is not set, then the data is populated on all instances. This is the default.</li> <li>• <b>NONE:</b> Data is not populated on any instance.</li> <li>• <b>ALL:</b> Data is populated on all instances, regardless of the value of the <code>PARALLEL_INSTANCE_GROUP</code> initialization parameter.</li> <li>• <b>USER_DEFINED:</b> Data is populated only on the instances on which the user-specified service is active. The service name corresponding to this is stored in the <code>DEF_INMEMORY_SERVICE_NAME</code> column.</li> </ul> |
| DEF_INMEMORY_SERVICE_NAME   | VARCHAR2 (1000) |      | Specifies the service name for the service on which the IM column store should be populated by default for partitions of the table. This column has a value only when the corresponding <code>DEF_INMEMORY_SERVICE</code> is <code>USER_DEFINED</code> . In all other cases, this column is null.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| AUTO                        | VARCHAR2 (3)    |      | Indicates whether the table was automatically partitioned (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

<sup>1</sup> Hybrid Columnar Compression is a feature of the Enterprise Edition of Oracle Database that is dependent on the underlying storage system. See *Oracle Database Concepts* for more information.

<sup>2</sup> This column is intended for use with Oracle Exadata

**See Also:**

- "DBA\_PART\_TABLES"
- "USER\_PART\_TABLES"
- "PARALLEL\_INSTANCE\_GROUP"

## 4.7 ALL\_PARTIAL\_DROP\_TABS

**ALL\_PARTIAL\_DROP\_TABS** describes tables accessible to the current user that have partially completed **DROP COLUMN** operations. Such operations might have been interrupted by the user or by a system crash.

**Related Views**

- **DBA\_PARTIAL\_DROP\_TABS** describes all tables in the database that have partially completed **DROP COLUMN** operations.
- **USER\_PARTIAL\_DROP\_TABS** describes tables in the schema of the current user that have partially completed **DROP COLUMN** operations. This view does not display the **OWNER** column.

| Column     | Datatype       | NULL     | Description         |
|------------|----------------|----------|---------------------|
| OWNER      | VARCHAR2 (128) | NOT NULL | Owner of the object |
| TABLE_NAME | VARCHAR2 (128) | NOT NULL | Name of the table   |

**See Also:**

- "DBA\_PARTIAL\_DROP\_TABS"
- "USER\_PARTIAL\_DROP\_TABS"

## 4.8 ALL\_PENDING\_CONV\_TABLES

**ALL\_PENDING\_CONV\_TABLES** describes the pending conversion tables (tables which are not upgraded to the latest type version) accessible to the current user.

**Related Views**

- **DBA\_PENDING\_CONV\_TABLES** describes all pending conversion tables in the database.
- **USER\_PENDING\_CONV\_TABLES** describes the pending conversion tables owned by the current user. This view does not display the **OWNER** column.

| Column     | Datatype       | NULL     | Description        |
|------------|----------------|----------|--------------------|
| OWNER      | VARCHAR2 (128) | NOT NULL | Owner of the table |
| TABLE_NAME | VARCHAR2 (128) | NOT NULL | Name of the table  |

 **See Also:**

- ["DBA\\_PENDING\\_CONV\\_TABLES"](#)
- ["USER\\_PENDING\\_CONV\\_TABLES"](#)

## 4.9 ALL\_PG\_EDGE\_RELATIONSHIPS

ALL\_PG\_EDGE\_RELATIONSHIPS describes edge relationships in the property graphs accessible to the current user.

This view displays one row for each key column used for an edge relationship. For example, an edge table defined as follows will result in two rows in this view:

```
EDGE TABLES(et1 SOURCE KEY(cx, cy) REFERENCES vt1(fk1, fk2) ...)
```

### Related Views

- DBA\_PG\_EDGE\_RELATIONSHIPS describes edge relationships in all property graphs in the database.
- USER\_PG\_EDGE\_RELATIONSHIPS describes edge relationships in the property graphs owned by the current user. This view does not display the OWNER column.

| Column          | Datatype       | NULL     | Description                                                                                                      |
|-----------------|----------------|----------|------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the property graph                                                                                      |
| GRAPH_NAME      | VARCHAR2 (128) | NOT NULL | Name of the property graph                                                                                       |
| EDGE_TAB_NAME   | VARCHAR2 (128) | NOT NULL | Name of the edge table                                                                                           |
| VERTEX_TAB_NAME | VARCHAR2 (128) | NOT NULL | Name of the vertex table                                                                                         |
| EDGE_END        | VARCHAR2 (11)  |          | Indicates whether the vertex table is a source vertex table (SOURCE) or a destination vertex table (DESTINATION) |
| EDGE_COL_NAME   | VARCHAR2 (128) | NOT NULL | Name of the foreign column in the edge table                                                                     |
| VERTEX_COL_NAME | VARCHAR2 (128) | NOT NULL | Name of the referenced column in the vertex table                                                                |

 **Note:**

This view is available starting with Oracle Database 23ai.

 **See Also:**

- ["DBA\\_PG\\_EDGE\\_RELATIONSHIPS"](#)
- ["USER\\_PG\\_EDGE\\_RELATIONSHIPS"](#)

## 4.10 ALL\_PG\_ELEMENT\_LABELS

ALL\_PG\_ELEMENT\_LABELS describes labels for the element tables in the property graphs accessible to the current user.

### Related Views

- DBA\_PG\_ELEMENT\_LABELS describes labels for the element tables in all property graphs in the database.
- USER\_PG\_ELEMENT\_LABELS describes labels for the element tables in the property graphs owned by the current user. This view does not display the OWNER column.

| Column       | Datatype       | NULL     | Description                 |
|--------------|----------------|----------|-----------------------------|
| OWNER        | VARCHAR2 (128) | NOT NULL | Owner of the property graph |
| GRAPH_NAME   | VARCHAR2 (128) | NOT NULL | Name of the property graph  |
| ELEMENT_NAME | VARCHAR2 (128) | NOT NULL | Name of the element table   |
| LABEL_NAME   | VARCHAR2 (128) | NOT NULL | Name of the label           |



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

- ["DBA\\_PG\\_ELEMENT\\_LABELS"](#)
- ["USER\\_PG\\_ELEMENT\\_LABELS"](#)

## 4.11 ALL\_PG\_ELEMENTS

ALL\_PG\_ELEMENTS describes element tables in the property graphs accessible to the current user.

### Related Views

- DBA\_PG\_ELEMENTS describes element tables in all property graphs in the database.
- USER\_PG\_ELEMENTS describes element tables in the property graphs owned by the current user. This view does not display the OWNER column.

| Column       | Datatype       | NULL     | Description                 |
|--------------|----------------|----------|-----------------------------|
| OWNER        | VARCHAR2 (128) | NOT NULL | Owner of the property graph |
| GRAPH_NAME   | VARCHAR2 (128) | NOT NULL | Name of the property graph  |
| ELEMENT_NAME | VARCHAR2 (128) | NOT NULL | Name of the element table   |

| Column       | Datatype       | NULL     | Description                                                 |
|--------------|----------------|----------|-------------------------------------------------------------|
| ELEMENT_KIND | VARCHAR2 (6)   |          | Kind of element table (VERTEX or EDGE)                      |
| OBJECT_OWNER | VARCHAR2 (128) | NOT NULL | Schema in which the object storing the elements was created |
| OBJECT_NAME  | VARCHAR2 (128) | NOT NULL | Name of the object storing the elements                     |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_PG\\_ELEMENTS"](#)
- ["USER\\_PG\\_ELEMENTS"](#)

## 4.12 ALL\_PG\_KEYS

ALL\_PG\_KEYS describes key columns in the property graphs accessible to the current user.

### Related Views

- DBA\_PG\_KEYS describes key columns in all property graphs in the database.
- USER\_PG\_KEYS describes key columns in the property graphs owned by the current user. This view does not display the OWNER column.

| Column       | Datatype       | NULL     | Description                               |
|--------------|----------------|----------|-------------------------------------------|
| OWNER        | VARCHAR2 (128) | NOT NULL | Owner of the property graph               |
| GRAPH_NAME   | VARCHAR2 (128) | NOT NULL | Name of the property graph                |
| ELEMENT_NAME | VARCHAR2 (128) | NOT NULL | Name of the element table                 |
| COLUMN_NAME  | VARCHAR2 (128) | NOT NULL | Name of the column used to define the key |

**Note:**

This view is available starting with Oracle Database 23ai.



**See Also:**

- ["DBA\\_PG\\_KEYS"](#)
- ["USER\\_PG\\_KEYS"](#)

## 4.13 ALL\_PG\_LABEL\_PROPERTIES

ALL\_PG\_LABEL\_PROPERTIES describes properties in the property graphs accessible to the current user.

### Related Views

- DBA\_PG\_LABEL\_PROPERTIES describes properties in all property graphs in the database.
- USER\_PG\_LABEL\_PROPERTIES describes properties in the property graphs owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                 |
|--------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the property graph                                                                                 |
| GRAPH_NAME         | VARCHAR2 (128) | NOT NULL | Name of the property graph                                                                                  |
| LABEL_NAME         | VARCHAR2 (128) | NOT NULL | Name of the label                                                                                           |
| PROPERTY_NAME      | VARCHAR2 (128) | NOT NULL | Name of the property                                                                                        |
| DATA_TYPE          | VARCHAR2 (106) |          | Data type of the property                                                                                   |
| DATA_LENGTH        | NUMBER         | NOT NULL | Length of the data type (in bytes)                                                                          |
| DATA_PRECISION     | NUMBER         |          | Decimal precision for NUMBER data type; binary precision for FLOAT data type; null for all other data types |
| DATA_SCALE         | NUMBER         |          | Digits to the right of the decimal point in a number; null for all other data types                         |
| DATA_CHAR_LENGTH   | NUMBER         |          | Maximum length of the property (in characters)                                                              |
| CHARACTER_SET_NAME | VARCHAR2 (44)  |          | Name of the character set: <ul style="list-style-type: none"> <li>• CHAR_CS</li> <li>• NCHAR_CS</li> </ul>  |
| COLLATION          | VARCHAR2 (100) |          | Collation for the column. Only applies to columns with character data types.                                |
| PROPERTY_ORDER     | NUMBER         | NOT NULL | Declaration order of the property in the label                                                              |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_PG\\_LABEL\\_PROPERTIES"](#)
- ["USER\\_PG\\_LABEL\\_PROPERTIES"](#)

## 4.14 ALL\_PG\_LABELS

ALL\_PG\_LABELS describes labels in the property graphs accessible to the current user.

**Related Views**

- DBA\_PG\_LABELS describes labels in all property graphs in the database.
- USER\_PG\_LABELS describes labels in the property graphs owned by the current user. This view does not display the OWNER column.

| Column     | Datatype       | NULL     | Description                 |
|------------|----------------|----------|-----------------------------|
| OWNER      | VARCHAR2 (128) | NOT NULL | Owner of the property graph |
| GRAPH_NAME | VARCHAR2 (128) | NOT NULL | Name of the property graph  |
| LABEL_NAME | VARCHAR2 (128) | NOT NULL | Name of the label           |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_PG\\_LABELS"](#)
- ["USER\\_PG\\_LABELS"](#)

## 4.15 ALL\_PG\_PROP\_DEFINITIONS

ALL\_PG\_PROP\_DEFINITIONS describes columns and expressions exposed as properties in the property graphs accessible to the current user.

**Related Views**

- DBA\_PG\_PROP\_DEFINITIONS describes columns and expressions exposed as properties in all property graphs in the database.
- USER\_PG\_PROP\_DEFINITIONS describes columns and expressions exposed as properties in the property graphs owned by the current user. This view does not display the OWNER column.

| Column        | Datatype       | NULL     | Description                        |
|---------------|----------------|----------|------------------------------------|
| OWNER         | VARCHAR2 (128) | NOT NULL | Owner of the property graph        |
| GRAPH_NAME    | VARCHAR2 (128) | NOT NULL | Name of the property graph         |
| ELEMENT_NAME  | VARCHAR2 (128) | NOT NULL | Name of the element table          |
| PROPERTY_NAME | VARCHAR2 (128) | NOT NULL | Name of the property               |
| COLUMN_NAME   | VARCHAR2 (128) |          | Column exposed by the property     |
| COLUMN_EXPR   | LONG           |          | Expression exposed by the property |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_PG\\_PROP\\_DEFINITIONS"](#)
- ["USER\\_PG\\_PROP\\_DEFINITIONS"](#)

## 4.16 ALL\_PLSQL\_COLL\_TYPES

ALL\_PLSQL\_COLL\_TYPES describes named PL/SQL collection types accessible to the user.

### Related Views

- DBA\_PLSQL\_COLL\_TYPES describes all named PL/SQL collection types in the database. This view does not display the CHAR\_USED column.
- USER\_PLSQL\_COLL\_TYPES describes the user's own named PL/SQL collection types. This view does not display the OWNER or CHAR\_USED columns.

| Column            | Datatype       | NULL | Description                                                                     |
|-------------------|----------------|------|---------------------------------------------------------------------------------|
| OWNER             | VARCHAR2 (128) |      | Owner of the type                                                               |
| TYPE_NAME         | VARCHAR2 (128) |      | Name of the type                                                                |
| PACKAGE_NAME      | VARCHAR2 (128) |      | Name of the package containing the collection                                   |
| COLL_TYPE         | VARCHAR2 (128) |      | Collection type                                                                 |
| UPPER_BOUND       | NUMBER         |      | The upper bound of a varray or length constraint of an index by VARCHAR2 table  |
| ELEM_TYPE_OWNER   | VARCHAR2 (128) |      | Owner of the type of the element                                                |
| ELEM_TYPE_NAME    | VARCHAR2 (136) |      | Name of the type of the element                                                 |
| ELEM_TYPE_PACKAGE | VARCHAR2 (128) |      | Name of the package containing the element                                      |
| LENGTH            | NUMBER         |      | Length of the CHAR element or maximum length of the VARCHAR or VARCHAR2 element |

| Column             | Datatype      | NULL | Description                                                                                                                        |
|--------------------|---------------|------|------------------------------------------------------------------------------------------------------------------------------------|
| PRECISION          | NUMBER        |      | Decimal precision of the <code>NUMBER</code> or <code>DECIMAL</code> element or binary precision of the <code>FLOAT</code> element |
| SCALE              | NUMBER        |      | Scale of the <code>NUMBER</code> or <code>DECIMAL</code> element                                                                   |
| CHARACTER_SET_NAME | VARCHAR2 (44) |      | Character set name of the element                                                                                                  |
| ELEM_STORAGE       | VARCHAR2 (7)  |      | Storage optimization specification for <code>VARRAY</code> of numeric elements                                                     |
| NULLS_STORED       | VARCHAR2 (3)  |      | Indicates whether null information is stored with each <code>VARRAY</code> element ( <code>YES</code> ) or not ( <code>NO</code> ) |
| CHAR_USED          | VARCHAR2 (1)  |      | <code>C</code> if the width was specified in characters, <code>B</code> if in bytes                                                |
| INDEX_BY           | VARCHAR2 (14) |      | Index by <code>BINARY_INTEGER</code> or <code>VARCHAR2</code>                                                                      |
| ELEM_TYPE_MOD      | VARCHAR2 (7)  |      | Type modifier of the element                                                                                                       |



#### See Also:

- "DBA\_PLSQL\_COLL\_TYPES"
- "USER\_PLSQL\_COLL\_TYPES"

## 4.17 ALL\_PLSQL\_OBJECT\_SETTINGS

`ALL_PLSQL_OBJECT_SETTINGS` displays information about the compiler settings for the stored objects accessible to the current user.

#### Related Views

- `DBA_PLSQL_OBJECT_SETTINGS` displays information about the compiler settings for all stored objects in the database.
- `USER_PLSQL_OBJECT_SETTINGS` displays information about the compiler settings for the stored objects owned by the current user. This view does not display the `OWNER` column.

| Column               | Datatype        | NULL     | Description                                                                                                                                                                                              |
|----------------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                | VARCHAR2 (128)  | NOT NULL | Owner of the object                                                                                                                                                                                      |
| NAME                 | VARCHAR2 (128)  | NOT NULL | Name of the object                                                                                                                                                                                       |
| TYPE                 | VARCHAR2 (12)   |          | Type of the object: <ul style="list-style-type: none"> <li>• PROCEDURE</li> <li>• FUNCTION</li> <li>• PACKAGE</li> <li>• PACKAGE BODY</li> <li>• TRIGGER</li> <li>• TYPE</li> <li>• TYPE BODY</li> </ul> |
| PLSQL_OPTIMIZE_LEVEL | NUMBER          |          | Optimization level that was used to compile the object                                                                                                                                                   |
| PLSQL_CODE_TYPE      | VARCHAR2 (4000) |          | Compilation mode for the object                                                                                                                                                                          |

| Column                         | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------|-----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PLSQL_DEBUG                    | VARCHAR2 (4000) |      | Indicates whether the object was compiled with debug information or not                                                                                                                                                                                                                                                                                                           |
| PLSQL_WARNINGS                 | VARCHAR2 (4000) |      | Compiler warning settings that were used to compile the object                                                                                                                                                                                                                                                                                                                    |
| NLS_LENGTH_SEMANTICS           | VARCHAR2 (4000) |      | NLS length semantics that were used to compile the object                                                                                                                                                                                                                                                                                                                         |
| PLSQL_CCFLAGS                  | VARCHAR2 (4000) |      | Conditional compilation flag settings that were used to compile the object                                                                                                                                                                                                                                                                                                        |
| PLSCOPE_SETTINGS               | VARCHAR2 (4000) |      | Settings for using PL/Scope                                                                                                                                                                                                                                                                                                                                                       |
| ORIGIN_CON_ID                  | NUMBER          |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root)</li> </ul> |
| PLSQL_IMPLICIT_CONVERSION_BOOL | VARCHAR2 (4000) |      | Indicates whether the object is to be compiled with implicit conversion for the <code>BOOLEAN</code> data type or not                                                                                                                                                                                                                                                             |



#### See Also:

- ["DBA\\_PLSQL\\_OBJECT\\_SETTINGS"](#)
- ["USER\\_PLSQL\\_OBJECT\\_SETTINGS"](#)

## 4.18 ALL\_PLSQL\_TYPE\_ATTRS

ALL\_PLSQL\_TYPE\_ATTRS describes the attributes of PL/SQL types accessible to the user.

#### Related Views

- DBA\_PLSQL\_TYPE\_ATTRS describes the attributes of all PL/SQL types in the database.
- USER\_PLSQL\_TYPE\_ATTRS describes the attributes of the user's own PL/SQL types. This view does not display the OWNER or CHAR\_USED columns.

| Column            | Datatype       | NULL | Description                                       |
|-------------------|----------------|------|---------------------------------------------------|
| OWNER             | VARCHAR2 (128) |      | Owner of the type                                 |
| TYPE_NAME         | VARCHAR2 (136) |      | Name of the type                                  |
| PACKAGE_NAME      | VARCHAR2 (128) |      | Name of the package containing the type           |
| ATTR_NAME         | VARCHAR2 (128) |      | Name of the attribute                             |
| ATTR_TYPE_MOD     | VARCHAR2 (7)   |      | Type modifier of the attribute                    |
| ATTR_TYPE_OWNER   | VARCHAR2 (128) |      | Owner of the type of the attribute                |
| ATTR_TYPE_NAME    | VARCHAR2 (136) |      | Name of the type of the attribute                 |
| ATTR_TYPE_PACKAGE | VARCHAR2 (128) |      | Name of the package containing the attribute type |

| Column             | Datatype      | NULL | Description                                                                                                                                                      |
|--------------------|---------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LENGTH             | NUMBER        |      | Length of the <code>CHAR</code> attribute or maximum length of the <code>VARCHAR</code> or <code>VARCHAR2</code> attribute                                       |
| PRECISION          | NUMBER        |      | Decimal precision of the <code>NUMBER</code> or <code>DECIMAL</code> attribute or binary precision of the <code>FLOAT</code> attribute                           |
| SCALE              | NUMBER        |      | Scale of the <code>NUMBER</code> or <code>DECIMAL</code> attribute                                                                                               |
| CHARACTER_SET_NAME | VARCHAR2 (44) |      | Character set name of the attribute                                                                                                                              |
| ATTR_NO            | NUMBER        |      | Syntactical order number or position of the attribute as specified in the type specification or <code>CREATE TYPE</code> statement (not to be used as ID number) |
| CHAR_USED          | VARCHAR2 (1)  |      | C if the width was specified in characters, B if in bytes                                                                                                        |



#### See Also:

- "DBA\_PLSQL\_TYPE\_ATTRS"
- "USER\_PLSQL\_TYPE\_ATTRS"

## 4.19 ALL\_PLSQL\_TYPES

`ALL_PLSQL_TYPES` describes the PL/SQL types accessible to the user.

#### Related Views

- `DBA_PLSQL_TYPES` describes all the PL/SQL types in the database.
- `USER_PLSQL_TYPES` describes the user's own PL/SQL types. This view does not display the `OWNER` column.

| Column         | Datatype       | NULL     | Description                                                                      |
|----------------|----------------|----------|----------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the type                                                                |
| TYPE_NAME      | VARCHAR2 (136) |          | Name of the type                                                                 |
| PACKAGE_NAME   | VARCHAR2 (128) | NOT NULL | Name of the package containing the type                                          |
| TYPE_OID       | RAW (16)       | NOT NULL | Object identifier (OID) of the type                                              |
| TYPECODE       | VARCHAR2 (58)  |          | Typecode of the type                                                             |
| ATTRIBUTES     | NUMBER         |          | Number of attributes in the type                                                 |
| CONTAINS_PLSQL | VARCHAR2 (3)   |          | Indicates whether the type contains PL/SQL-specific data types (YES) or not (NO) |



#### See Also:

- "DBA\_PLSQL\_TYPES"
- "USER\_PLSQL\_TYPES"

## 4.20 ALL\_POLICIES

**ALL\_POLICIES** describes all Oracle Virtual Private Database (VPD) security policies for objects accessible to the current user. A security policy is a list of security requirements and rules that regulate row level access to those database objects.

### Related Views

- **DBA\_POLICIES** describes all Oracle Virtual Private Database (VPD) security policies in the database.
- **USER\_POLICIES** describes all Oracle Virtual Private Database (VPD) security policies associated with objects owned by the current user. This view does not display the **OBJECT\_OWNER** or **EDITION\_NAME** columns.

| Column         | Datatype       | NULL | Description                                                                                                                                                                          |
|----------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_OWNER   | VARCHAR2 (128) |      | Owner of the synonym, table, or view                                                                                                                                                 |
| OBJECT_NAME    | VARCHAR2 (128) |      | Name of the synonym, table, or view                                                                                                                                                  |
| POLICY_GROUP   | VARCHAR2 (128) |      | Name of the policy group                                                                                                                                                             |
| POLICY_NAME    | VARCHAR2 (128) |      | Name of the policy                                                                                                                                                                   |
| PF_OWNER       | VARCHAR2 (128) |      | Owner of the policy function                                                                                                                                                         |
| PACKAGE        | VARCHAR2 (128) |      | Name of the package containing the policy function                                                                                                                                   |
| FUNCTION       | VARCHAR2 (128) |      | Name of the policy function                                                                                                                                                          |
| SEL            | VARCHAR2 (3)   |      | Indicates whether the policy is applied to queries on the object (YES) or not (NO)                                                                                                   |
| INS            | VARCHAR2 (3)   |      | Indicates whether the policy is applied to INSERT statements on the object (YES) or not (NO)                                                                                         |
| UPD            | VARCHAR2 (3)   |      | Indicates whether the policy is applied to UPDATE statements on the object (YES) or not (NO)                                                                                         |
| DEL            | VARCHAR2 (3)   |      | Indicates whether the policy is applied to DELETE statements on the object (YES) or not (NO)                                                                                         |
| IDX            | VARCHAR2 (3)   |      | Indicates whether the policy is enforced for index maintenance on the object (YES) or not (NO)                                                                                       |
| CHK_OPTION     | VARCHAR2 (3)   |      | Indicates whether the check option is enforced for the policy (YES) or not (NO)                                                                                                      |
| ENABLE         | VARCHAR2 (3)   |      | Indicates whether the policy is enabled (YES) or disabled (NO)                                                                                                                       |
| STATIC_POLICY  | VARCHAR2 (3)   |      | Indicates whether the policy is static (YES) or not (NO). This column is obsolete because information about static policies is shown in the <b>POLICY_TYPE</b> column.               |
| POLICY_TYPE    | VARCHAR2 (24)  |      | Policy type: <ul style="list-style-type: none"> <li>• STATIC</li> <li>• SHARED_STATIC</li> <li>• CONTEXT_SENSITIVE</li> <li>• SHARED_CONTEXT_SENSITIVE</li> <li>• DYNAMIC</li> </ul> |
| LONG_PREDICATE | VARCHAR2 (3)   |      | Indicates whether the policy function can return a maximum of 32 KB of predicate (YES) or not (NO). If NO, the default maximum predicate size is 4000 bytes.                         |

| Column       | Datatype       | NULL | Description                                                                                                      |
|--------------|----------------|------|------------------------------------------------------------------------------------------------------------------|
| COMMON       | VARCHAR2 (3)   |      | Indicates whether the policy is applied and enforced in all application PDBs (YES) or only in the local PDB (NO) |
| INHERITED    | VARCHAR2 (3)   |      | Indicates whether the policy is inherited from the root (YES) or not (NO)                                        |
| EDITION_NAME | VARCHAR2 (128) |      | Name of the edition of the synonym or view<br>For tables, the value of this column is null.                      |



#### See Also:

- "DBA\_POLICIES"
- "USER\_POLICIES"
- *Oracle Database Security Guide* for more information about security policies
- The DBMS\_RLS package in *Oracle Database PL/SQL Packages and Types Reference* for information on administering security policies

## 4.21 ALL\_POLICY\_ATTRIBUTES

ALL\_POLICY\_ATTRIBUTES lists the attribute associations {Namespaces, Attributes} of context-sensitive and shared context-sensitive Oracle Virtual Private Database (VPD) policies for objects accessible to the current user.

#### Related Views

- DBA\_POLICY\_ATTRIBUTES lists the attribute associations {Namespaces, Attributes} of all context-sensitive and shared context-sensitive Oracle Virtual Private Database (VPD) policies in the database.
- USER\_POLICY\_ATTRIBUTES lists the attribute associations {Namespaces, Attributes} of all context-sensitive and shared-context sensitive Oracle Virtual Private Database (VPD) policies for synonyms, tables, or views owned by the user.

| Column       | Datatype       | NULL | Description                                                                                                                |
|--------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------|
| OBJECT_OWNER | VARCHAR2 (128) |      | Owner of the synonym, table, or view                                                                                       |
| OBJECT_NAME  | VARCHAR2 (128) |      | Name of the synonym, table, or view                                                                                        |
| POLICY_GROUP | VARCHAR2 (128) |      | Name of the policy group                                                                                                   |
| POLICY_NAME  | VARCHAR2 (128) |      | Name of the policy                                                                                                         |
| NAMESPACE    | VARCHAR2 (128) |      | Name of the local application context                                                                                      |
| ATTRIBUTE    | VARCHAR2 (128) |      | Name of the attribute                                                                                                      |
| COMMON       | VARCHAR2 (3)   |      | Indicates whether the policy attribute is applied and enforced in all application PDBs (YES) or only in the local PDB (NO) |
| INHERITED    | VARCHAR2 (3)   |      | Indicates whether the policy attribute is inherited from the root (YES) or not (NO)                                        |



**See Also:**

- ["DBA\\_POLICY\\_ATTRIBUTES"](#)
- ["USER\\_POLICY\\_ATTRIBUTES"](#)

## 4.22 ALL\_POLICY\_CONTEXTS

`ALL_POLICY_CONTEXTS` describes the driving contexts defined for the synonyms, tables, and views accessible to the current user.

**Related Views**

- `DBA_POLICY_CONTEXTS` describes all driving contexts in the database.
- `USER_POLICY_CONTEXTS` describes the driving contexts defined for the synonyms, tables, and views owned by the current user. This view does not display the `OBJECT_OWNER` column.

| Column                    | Datatype                    | NULL     | Description                                                                                                              |
|---------------------------|-----------------------------|----------|--------------------------------------------------------------------------------------------------------------------------|
| <code>OBJECT_OWNER</code> | <code>VARCHAR2 (128)</code> | NOT NULL | Owner of the synonym, table, or view                                                                                     |
| <code>OBJECT_NAME</code>  | <code>VARCHAR2 (128)</code> | NOT NULL | Name of the synonym, table, or view                                                                                      |
| <code>NAMESPACE</code>    | <code>VARCHAR2 (128)</code> | NOT NULL | Namespace of the driving context                                                                                         |
| <code>ATTRIBUTE</code>    | <code>VARCHAR2 (128)</code> | NOT NULL | Attribute of the driving context                                                                                         |
| <code>COMMON</code>       | <code>VARCHAR2 (3)</code>   |          | Indicates whether the policy context is applied and enforced in all application PDBs (YES) or only in the local PDB (NO) |
| <code>INHERITED</code>    | <code>VARCHAR2 (3)</code>   |          | Indicates whether the policy context is inherited from the root (YES) or not (NO)                                        |

**See Also:**

- ["DBA\\_POLICY\\_CONTEXTS"](#)
- ["USER\\_POLICY\\_CONTEXTS"](#)

## 4.23 ALL\_POLICY\_GROUPS

`ALL_POLICY_GROUPS` describes the policy groups defined for the synonyms, tables, and views accessible to the current user.

**Related Views**

- `DBA_POLICY_GROUPS` describes all policy groups in the database.
- `USER_POLICY_GROUPS` describes the policy groups defined for the synonyms, tables, and views owned by the current user. This view does not display the `OBJECT_OWNER` column.

| Column       | Datatype       | NULL | Description                                                                                                            |
|--------------|----------------|------|------------------------------------------------------------------------------------------------------------------------|
| OBJECT_OWNER | VARCHAR2 (128) |      | Owner of the synonym, table, or view                                                                                   |
| OBJECT_NAME  | VARCHAR2 (128) |      | Name of the synonym, table, or view                                                                                    |
| POLICY_GROUP | VARCHAR2 (128) |      | Name of the policy group                                                                                               |
| COMMON       | VARCHAR2 (3)   |      | Indicates whether the policy group is applied and enforced in all application PDBs (YES) or only in the local PDB (NO) |
| INHERITED    | VARCHAR2 (3)   |      | Indicates whether the policy group is inherited from the root (YES) or not (NO)                                        |



#### See Also:

- "DBA\_POLICY\_GROUPS"
- "USER\_POLICY\_GROUPS"

## 4.24 ALL\_PROCEEDURES

**ALL\_PROCEEDURES** lists all functions and procedures that are accessible to the current user, along with associated properties. For example, **ALL\_PROCEEDURES** indicates whether or not a function is pipelined, parallel enabled or an aggregate function. If a function is pipelined or an aggregate function, the associated implementation type (if any) is also identified.

#### Related Views

- **DBA\_PROCEEDURES** lists all functions and procedures available in the database, along with associated properties.
- **USER\_PROCEEDURES** lists all functions and procedures owned by the current user, along with associated properties. It does not contain the **OWNER** column.

| Column         | Datatype       | NULL | Description                                                                     |
|----------------|----------------|------|---------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) |      | Owner of the procedure                                                          |
| OBJECT_NAME    | VARCHAR2 (128) |      | Name of the object: top-level function, procedure, or package name              |
| PROCEDURE_NAME | VARCHAR2 (128) |      | Name of the procedure                                                           |
| OBJECT_ID      | NUMBER         |      | Object number of the object                                                     |
| SUBPROGRAM_ID  | NUMBER         |      | Unique subprogram identifier                                                    |
| OVERLOAD       | VARCHAR2 (40)  |      | Overload unique identifier                                                      |
| OBJECT_TYPE    | VARCHAR2 (13)  |      | The typename of the object                                                      |
| AGGREGATE      | VARCHAR2 (3)   |      | Indicates whether the procedure is an aggregate function (YES) or not (NO)      |
| PIPELINED      | VARCHAR2 (3)   |      | Indicates whether the procedure is a pipelined table function (YES) or not (NO) |
| IMPLTYPEOWNER  | VARCHAR2 (128) |      | Owner of the implementation type, if any                                        |
| IMPLTYPENAME   | VARCHAR2 (128) |      | Name of the implementation type, if any                                         |

| Column                     | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------|-----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PARALLEL                   | VARCHAR2 (3)    |      | Indicates whether the procedure or function is parallel-enabled (YES) or not (NO)                                                                                                                                                                                                                                                                                                 |
| INTERFACE                  | VARCHAR2 (3)    |      | YES, if the procedure/function is a table function implemented using the ODCI interface; otherwise NO                                                                                                                                                                                                                                                                             |
| DETERMINISTIC              | VARCHAR2 (3)    |      | YES, if the procedure/function is declared to be deterministic; otherwise NO                                                                                                                                                                                                                                                                                                      |
| AUTHID                     | VARCHAR2 (12)   |      | Indicates whether the procedure/function is declared to execute as <code>DEFINER</code> or <code>CURRENT_USER</code> (invoker)                                                                                                                                                                                                                                                    |
| RESULT_CACHE               | VARCHAR2 (3)    |      | Indicates whether the function is result-cached (YES) or not (NO)                                                                                                                                                                                                                                                                                                                 |
| ORIGIN_CON_ID              | VARCHAR2 (256)  |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root)</li> </ul> |
| POLYMORPHIC                | VARCHAR2 (5)    |      | The type of polymorphic table function: <ul style="list-style-type: none"> <li>ROW</li> <li>TABLE</li> <li>LEAF</li> <li>NULL</li> </ul>                                                                                                                                                                                                                                          |
| SQL_MACRO                  | VARCHAR2 (6)    |      | Indicates whether the procedure is a SQL macro. Possible values: <ul style="list-style-type: none"> <li>SCALAR: The procedure is a SQL macro for a scalar expression</li> <li>TABLE: The procedure is a SQL macro for a table expression</li> <li>NULL: The procedure is not a SQL macro</li> </ul>                                                                               |
| BLOCKCHAIN                 | VARCHAR2 (3)    |      | For internal use only                                                                                                                                                                                                                                                                                                                                                             |
| BLOCKCHAIN_MANDATORY_VOTES | VARCHAR2 (4000) |      | For internal use only                                                                                                                                                                                                                                                                                                                                                             |



#### See Also:

- ["DBA\\_PROCEEDURES"](#)
- ["USER\\_PROCEEDURES"](#)
- ["ALL\\_ARGUMENTS"](#) for information about the arguments of the functions and procedures that are accessible to the current user

## 4.25 ALL\_PROPAGATION

ALL\_PROPAGATION displays information about the propagations that have a source queue accessible to the current user.

### Related View

DBA\_PROPAGATION displays information about all propagations in the database.

| Column                      | Datatype        | NULL     | Description                                                                                                                                                                                                                                                |
|-----------------------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROPAGATION_NAME            | VARCHAR2 (128)  | NOT NULL | Name of the propagation                                                                                                                                                                                                                                    |
| SOURCE_QUEUE_OWNER          | VARCHAR2 (128)  |          | Owner of the source queue of the propagation                                                                                                                                                                                                               |
| SOURCE_QUEUE_NAME           | VARCHAR2 (128)  |          | Name of the source queue of the propagation                                                                                                                                                                                                                |
| DESTINATION_QUEUE_OWNER     | VARCHAR2 (128)  |          | Owner of the destination queue of the propagation                                                                                                                                                                                                          |
| DESTINATION_QUEUE_NAME      | VARCHAR2 (128)  |          | Name of the destination queue of the propagation                                                                                                                                                                                                           |
| DESTINATION_DBLINK          | VARCHAR2 (128)  |          | Database link to propagate events from the source queue to the destination queue                                                                                                                                                                           |
| RULE_SET_OWNER              | VARCHAR2 (128)  |          | Owner of the propagation positive rule set                                                                                                                                                                                                                 |
| RULE_SET_NAME               | VARCHAR2 (128)  |          | Name of the propagation positive rule set                                                                                                                                                                                                                  |
| NEGATIVE_RULE_SET_OWNER     | VARCHAR2 (128)  |          | Owner of the propagation negative rule set                                                                                                                                                                                                                 |
| NEGATIVE_RULE_SET_NAME      | VARCHAR2 (128)  |          | Name of the propagation negative rule set                                                                                                                                                                                                                  |
| QUEUE_TO_QUEUE              | VARCHAR2 (5)    |          | Indicates whether the propagation is a queue-to-queue propagation ( <b>TRUE</b> ) or not ( <b>FALSE</b> ). A queue-to-queue propagation always has its own exclusive propagation job to propagate messages from the source queue to the destination queue. |
| STATUS                      | VARCHAR2 (8)    |          | Status of the propagation: <ul style="list-style-type: none"> <li>• DISABLED</li> <li>• ENABLED</li> <li>• ABORTED</li> </ul>                                                                                                                              |
| ERROR_MESSAGE               | VARCHAR2 (4000) |          | Error message last encountered by propagation                                                                                                                                                                                                              |
| ERROR_DATE                  | DATE            |          | Time that propagation last encountered an error                                                                                                                                                                                                            |
| ORIGINAL_PROPAGATION_NAME   | VARCHAR2 (128)  |          | Original propagation from which the propagation is cloned                                                                                                                                                                                                  |
| ORIGINAL_SOURCE_QUEUE_OWNER | VARCHAR2 (128)  |          | Source queue owner of the original propagation                                                                                                                                                                                                             |
| ORIGINAL_SOURCE_QUEUE_NAME  | VARCHAR2 (128)  |          | Source queue name of the original propagation                                                                                                                                                                                                              |
| ACKED_SCN                   | NUMBER          |          | Acknowledged SCN of the subscribers of captured messages in the destination queue for the propagation                                                                                                                                                      |
| AUTO_MERGE_THRESHOLD        | NUMBER          |          | Merge threshold value for merging the propagation back to the original source queue                                                                                                                                                                        |



### See Also:

"DBA\_PROPAGATION"

## 4.26 ALL\_PROPERTY\_GRAPHS

ALL\_PROPERTY\_GRAPHS describes the property graphs accessible to the current user.

### Related Views

- [DBA\\_PROPERTY\\_GRAPHS](#) describes all property graphs in the database.
- [USER\\_PROPERTY\\_GRAPHS](#) describes the property graphs owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                      |
|--------------------|----------------|----------|--------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the property graph                                                                      |
| GRAPH_NAME         | VARCHAR2 (128) | NOT NULL | Name of the property graph                                                                       |
| GRAPH_MODE         | VARCHAR2 (8)   |          | Mode of the property graph (ENFORCED or TRUSTED)                                                 |
| ALLOWS_MIXED_TYPES | VARCHAR2 (3)   |          | Indicates whether mixed property types are allowed in the property graph (YES) or not (NO)       |
| INMEMORY           | VARCHAR2 (3)   |          | Indicates whether the property graph is enabled for the In-Memory Column Store (YES) or not (NO) |



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

- ["DBA\\_PROPERTY\\_GRAPHS"](#)
- ["USER\\_PROPERTY\\_GRAPHS"](#)

## 4.27 ALL\_QUEUE\_EVENT\_STREAMS

ALL\_QUEUE\_EVENT\_STREAMS describes the Transactional Event Queue (TxEventQ) event streams accessible to the current user.

### Related Views

- [DBA\\_QUEUE\\_EVENT\\_STREAMS](#) describes all TxEventQ event streams in the database.
- [USER\\_QUEUE\\_EVENT\\_STREAMS](#) describes the TxEventQ event streams owned by the current user.

| Column   | Datatype       | NULL     | Description        |
|----------|----------------|----------|--------------------|
| OWNER    | VARCHAR2 (128) | NOT NULL | Owner of the queue |
| NAME     | VARCHAR2 (128) | NOT NULL | Name of the queue  |
| QUEUE_ID | NUMBER         | NOT NULL | Queue ID           |

| Column                | Datatype      | NULL     | Description                                                                                                           |
|-----------------------|---------------|----------|-----------------------------------------------------------------------------------------------------------------------|
| BASE_QUEUE_ID         | NUMBER        |          | If the queue is an exception queue, then this column displays the base queue ID                                       |
| EVENT_STREAM_ID       | NUMBER        | NOT NULL | Event stream ID                                                                                                       |
| DELAY_EVENT_STREAM_ID | NUMBER        |          | Delay event stream ID                                                                                                 |
| ENQUEUE_INSTANCE      | NUMBER        | NOT NULL | Event stream enqueue instance ID                                                                                      |
| EVENT_STREAM_TYPE     | VARCHAR2 (10) |          | Type of event stream. Possible values: <ul style="list-style-type: none"> <li>VOLATILE</li> <li>PERSISTENT</li> </ul> |

#### See Also:

- ["DBA\\_QUEUE\\_EVENT\\_STREAMS"](#)
- ["USER\\_QUEUE\\_EVENT\\_STREAMS"](#)
- *Oracle Database Advanced Queuing User's Guide* for more information about Oracle Transactional Event Queues and Advanced Queuing

## 4.28 ALL\_QUEUE\_SCHEDULES

`ALL_QUEUE_SCHEDULES` describes the propagation schedules whose source queues are accessible to the current user.

#### Related Views

- `DBA_QUEUE_SCHEDULES` describes all propagation schedules in the database.
- `USER_QUEUE_SCHEDULES` describes the propagation schedules whose source queues are owned by the current user. This view does not display the `SCHEMA` column.

| Column             | Datatype                     | NULL | Description                                                                 |
|--------------------|------------------------------|------|-----------------------------------------------------------------------------|
| SCHEMA             | VARCHAR2 (128)               |      | Source queue owner                                                          |
| QNAME              | VARCHAR2 (128)               |      | Source queue name                                                           |
| DESTINATION        | VARCHAR2 (395)               |      | Destination name, currently limited to be a <code>DBLINK</code> name        |
| START_DATE         | TIMESTAMP (6) WITH TIME ZONE |      | Date at which to start propagation                                          |
| START_TIME         | VARCHAR2 (8)                 |      | Time of day at which to start propagation (in <code>HH:MI:SS</code> format) |
| PROPAGATION_WINDOW | NUMBER                       |      | Duration for the propagation window (in seconds)                            |
| NEXT_TIME          | VARCHAR2 (4000)              |      | Function to compute the start of the next propagation window                |
| LATENCY            | NUMBER                       |      | Maximum wait time to propagate a message during the propagation window      |

| Column                | Datatype                     | NULL | Description                                                                                                                                         |
|-----------------------|------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| SCHEDULE_DISABLED     | VARCHAR2 (1)                 |      | Indicates whether the schedule is disabled (Y) or enabled (N). If disabled, then the schedule will not be executed.                                 |
| PROCESS_NAME          | VARCHAR2 (4)                 |      | Name of the process executing the schedule; NULL if not currently executing                                                                         |
| SESSION_ID            | VARCHAR2 (82)                |      | Session ID and session serial number of the job executing this schedule (SID, SERIAL#); NULL if not currently executing                             |
| INSTANCE              | NUMBER                       |      | Cluster database instance number executing the schedule                                                                                             |
| LAST_RUN_DATE         | TIMESTAMP (6) WITH TIME ZONE |      | Date of the last successful execution                                                                                                               |
| LAST_RUN_TIME         | VARCHAR2 (8)                 |      | Time of day of the last successful execution (in HH:MI:SS format)                                                                                   |
| CURRENT_START_DATE    | TIMESTAMP (6) WITH TIME ZONE |      | Date at which the current window of this schedule was started                                                                                       |
| CURRENT_START_TIME    | VARCHAR2 (8)                 |      | Time of day at which the current window of this schedule was started (in HH:MI:SS format)                                                           |
| NEXT_RUN_DATE         | TIMESTAMP (6) WITH TIME ZONE |      | Date at which the next window of this schedule will be started                                                                                      |
| NEXT_RUN_TIME         | VARCHAR2 (8)                 |      | Time of day at which the next window of this schedule will be started (in HH:MI:SS format)                                                          |
| TOTAL_TIME            | NUMBER                       |      | Total time spent by the system in executing this schedule (in seconds)                                                                              |
| TOTAL_NUMBER          | NUMBER                       |      | Total number of messages propagated in this schedule                                                                                                |
| TOTAL_BYTES           | NUMBER                       |      | Total number of bytes propagated in this schedule                                                                                                   |
| MAX_NUMBER            | NUMBER                       |      | Maximum number of messages propagated in a propagation window                                                                                       |
| MAX_BYTES             | NUMBER                       |      | Maximum number of bytes propagated in a propagation window                                                                                          |
| AVG_NUMBER            | NUMBER                       |      | Average number of messages propagated in a propagation window                                                                                       |
| AVG_SIZE              | NUMBER                       |      | Average size of a propagated message (in bytes)                                                                                                     |
| AVG_TIME              | NUMBER                       |      | Average time to propagate a message (in seconds)                                                                                                    |
| FAILURES              | NUMBER                       |      | Number of consecutive times schedule execution has failed, if any. After 16 consecutive failures, a propagation job becomes disabled automatically. |
| LAST_ERROR_DATE       | DATE                         |      | Date of the last unsuccessful execution                                                                                                             |
| LAST_ERROR_TIME       | VARCHAR2 (8)                 |      | Time of day of the last unsuccessful execution (in HH:MI:SS format)                                                                                 |
| LAST_ERROR_MSG        | VARCHAR2 (4000)              |      | Error number and error message text of the last unsuccessful execution                                                                              |
| MESSAGE_DELIVERY_MODE | VARCHAR2 (10)                |      | Message delivery mode: <ul style="list-style-type: none"> <li>PERSISTENT</li> <li>BUFFERED</li> </ul>                                               |
| ELAPSED_DEQUEUE_TIME  | NUMBER                       |      | Elapsed dequeue time (in hundredths of a second)                                                                                                    |

| Column              | Datatype       | NULL | Description                                                                                                                                                      |
|---------------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ELAPSED_PICKLE_TIME | NUMBER         |      | Elapsed pickle time (time taken to linearize a logical change record (LCR) into a stream of bytes that can be sent over the network) (in hundredths of a second) |
| JOB_NAME            | VARCHAR2 (128) |      | Name of the Scheduler job                                                                                                                                        |



#### See Also:

- "DBA\_QUEUE\_SCHEDULES"
- "USER\_QUEUE\_SCHEDULES"

## 4.29 ALL\_QUEUE\_SUBSCRIBERS

ALL\_QUEUE\_SUBSCRIBERS displays the list of subscribers that the current user has privilege to dequeue from.

#### Related Views

- DBA\_QUEUE\_SUBSCRIBERS displays the list of subscribers on all queues in the database.
- USER\_QUEUE\_SUBSCRIBERS displays the list of subscribers on queues that are under the current user's schema. This view does not display the OWNER column.

| Column                   | Datatype        | NULL     | Description                                                                                                                                                    |
|--------------------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                    | VARCHAR2 (128)  | NOT NULL | Owner of the queue                                                                                                                                             |
| QUEUE_NAME               | VARCHAR2 (128)  | NOT NULL | Name of the queue                                                                                                                                              |
| QUEUE_TABLE              | VARCHAR2 (128)  | NOT NULL | Name of the queue table on which the queue is defined                                                                                                          |
| CONSUMER_NAME            | VARCHAR2 (512)  |          | Name of the subscriber                                                                                                                                         |
| ADDRESS                  | VARCHAR2 (1024) |          | Address of the subscriber                                                                                                                                      |
| PROTOCOL                 | NUMBER          |          | Protocol of the subscriber                                                                                                                                     |
| TRANSFORMATION           | VARCHAR2 (61)   |          | Transformation for the subscriber                                                                                                                              |
| RULE                     | CLOB            |          | Rule condition for the subscriber                                                                                                                              |
| DELIVERY_MODE            | VARCHAR2 (22)   |          | Message delivery mode for the subscriber: <ul style="list-style-type: none"> <li>• PERSISTENT</li> <li>• BUFFERED</li> <li>• PERSISTENT_OR_BUFFERED</li> </ul> |
| IF_NONDURABLE_SUBSCRIBER | VARCHAR2 (3)    |          | Indicates whether the subscriber is a non-durable subscriber (YES) or not (NO)                                                                                 |
| QUEUE_TO_QUEUE           | VARCHAR2 (5)    |          | Indicates whether the subscriber is a queue-to-queue subscriber (TRUE) or not (FALSE)                                                                          |
| SUBSCRIBER_ID            | NUMBER          |          | ID of the subscriber                                                                                                                                           |
| POS_BITMAP               | NUMBER          |          | Position of the subscriber in the bitmap                                                                                                                       |



**See Also:**

- "DBA\_QUEUE\_SUBSCRIBERS"
- "USER\_QUEUE\_SUBSCRIBERS"

## 4.30 ALL\_QUEUE\_TABLES

ALL\_QUEUE\_TABLES describes the queues in the queue tables accessible to the current user.

### Related Views

- DBA\_QUEUE\_TABLES describes the queues in all queue tables in the database.
- USER\_QUEUE\_TABLES describes the queues in the queue tables created in the current user's schema. This view does not display the OWNER column.

| Column             | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) |      | Owner of the queue table                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| QUEUE_TABLE        | VARCHAR2 (128) |      | Name of the queue table                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TYPE               | VARCHAR2 (9)   |      | Type of user data: <ul style="list-style-type: none"> <li>• RAW - Raw type</li> <li>• OBJECT - User-defined object type</li> <li>• VARIANT - Variant type (for internal use only)</li> </ul>                                                                                                                                                                                                                                                                      |
| OBJECT_TYPE        | VARCHAR2 (257) |      | Object type of the payload when TYPE is OBJECT                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SORT_ORDER         | VARCHAR2 (22)  |      | User-specified sort order                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| RECIPIENTS         | VARCHAR2 (8)   |      | SINGLE or MULTIPLE recipients                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| MESSAGE_GROUPING   | VARCHAR2 (13)  |      | NONE or TRANSACTIONAL                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| REPLICATION_MODE   | VARCHAR2 (22)  |      | Indicates whether the queue tables are enabled for replication through Oracle GoldenGate. If the queue tables are replicated, these values appear in the column: <ul style="list-style-type: none"> <li>• REPLICATED_SOURCE: This value is displayed for a source queue table.</li> <li>• REPLICATED_DESTINATION: This value is displayed for a destination queue table.</li> </ul> If replication is not enabled on the queue tables, then this column is empty. |
| COMPATIBLE         | VARCHAR2 (6)   |      | Lowest release level which the queue table is compatible with (for example, 8.0.3)                                                                                                                                                                                                                                                                                                                                                                                |
| PRIMARY_INSTANCE   | NUMBER         |      | Indicates the instance number of the instance which is the primary owner of the queue table. A value of 0 indicates that there is no primary owner.                                                                                                                                                                                                                                                                                                               |
| SECONDARY_INSTANCE | NUMBER         |      | Indicates the instance number of the instance which is the secondary owner of the queue table. This instance becomes the owner of the queue table if the primary owner goes down. A value of 0 indicates that there is no secondary owner.                                                                                                                                                                                                                        |
| OWNER_INSTANCE     | NUMBER         |      | Instance number of the instance which currently owns the queue table                                                                                                                                                                                                                                                                                                                                                                                              |

| Column       | Datatype      | NULL | Description                                                   |
|--------------|---------------|------|---------------------------------------------------------------|
| USER_COMMENT | VARCHAR2 (50) |      | Comment supplied by the user                                  |
| SECURE       | VARCHAR2 (3)  |      | Indicates whether the queue table is secure (YES) or not (NO) |



#### See Also:

- ["DBA\\_QUEUE\\_TABLES"](#)
- ["USER\\_QUEUE\\_TABLES"](#)
- *Oracle Database Advanced Queuing User's Guide* for more information  
Advanced Queuing

## 4.31 ALL\_QUEUES

**ALL\_QUEUES** describes all queues on which the current user has enqueue or dequeue privileges. If the user has any Advanced Queuing system privileges, like **MANAGE ANY QUEUE**, **ENQUEUE ANY QUEUE** or **DEQUEUE ANY QUEUE**, then this view describes all queues in the database.

#### Related Views

- **DBA\_QUEUES** describes all queues in the database.
- **USER\_QUEUES** describes the operational characteristics of every queue owned by the current user. This view does not display the **OWNER** column.

| Column          | Datatype       | NULL     | Description                                                                                                                                                     |
|-----------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the queue                                                                                                                                              |
| NAME            | VARCHAR2 (128) | NOT NULL | Name of the queue                                                                                                                                               |
| QUEUE_TABLE     | VARCHAR2 (128) | NOT NULL | Name of the table the queue data resides in                                                                                                                     |
| QID             | NUMBER         | NOT NULL | Object number of the queue                                                                                                                                      |
| QUEUE_TYPE      | VARCHAR2 (20)  |          | Type of the queue. Possible values: <ul style="list-style-type: none"> <li>• EXCEPTION_QUEUE</li> <li>• NON_PERSISTENT_QUEUE</li> <li>• NORMAL_QUEUE</li> </ul> |
| MAX_RETRIES     | NUMBER         |          | Maximum number of retries allowed when dequeuing from the queue                                                                                                 |
| RETRY_DELAY     | NUMBER         |          | Time interval between retries                                                                                                                                   |
| ENQUEUE_ENABLED | VARCHAR2 (7)   |          | Indicates whether the queue is enabled for enqueue (YES) or not (NO)                                                                                            |
| DEQUEUE_ENABLED | VARCHAR2 (7)   |          | Indicates whether the queue is enabled for dequeue (YES) or not (NO)                                                                                            |
| RETENTION       | VARCHAR2 (40)  |          | Time interval (in seconds) processed messages are retained in the queue, or <b>FOREVER</b>                                                                      |
| USER_COMMENT    | VARCHAR2 (50)  |          | User specified comment                                                                                                                                          |

| Column         | Datatype       | NULL | Description                                                                                                                                                      |
|----------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NETWORK_NAME   | VARCHAR2 (512) |      | Network name                                                                                                                                                     |
| SHARDED        | VARCHAR2 (5)   |      | TRUE if queue is sharded, FALSE otherwise                                                                                                                        |
| QUEUE_CATEGORY | VARCHAR2 (25)  |      | Queue category. Possible values: <ul style="list-style-type: none"> <li>• Classic Queue</li> <li>• Sharded Queue</li> <li>• Transactional Event Queue</li> </ul> |
| RECIPIENTS     | VARCHAR2 (8)   |      | SINGLE or MULTIPLE recipients                                                                                                                                    |



#### See Also:

- ["DBA\\_QUEUES"](#)
- ["USER\\_QUEUES"](#)
- *Oracle Database Advanced Queuing User's Guide* for more information  
Advanced Queuing

## 4.32 ALL\_REFRESH

ALL\_REFRESH describes all the refresh groups accessible to the current user.

#### Related Views

- DBA\_REFRESH describes all refresh groups in the database.
- USER\_REFRESH describes all refresh groups owned by the current user.

| Column               | Datatype       | NULL     | Description                                                                                        |
|----------------------|----------------|----------|----------------------------------------------------------------------------------------------------|
| ROWNER               | VARCHAR2 (128) | NOT NULL | Owner of the refresh group                                                                         |
| RNAME                | VARCHAR2 (128) | NOT NULL | Name of the refresh group                                                                          |
| REFGROUP             | NUMBER         |          | Internal identifier of the refresh group                                                           |
| IMPLICIT_DESTROY     | VARCHAR2 (1)   |          | Indicates whether the refresh group is destroyed when its last item is subtracted (Y) or not (N)   |
| PUSH_DEFERRED_RPC    | VARCHAR2 (1)   |          | Indicates whether changes are pushed from the snapshot to the master before refresh (Y) or not (N) |
| REFRESH_AFTER_ERRORS | VARCHAR2 (1)   |          | Indicates whether to proceed with refresh despite errors when pushing deferred RPCs (Y) or not (N) |
| ROLLBACK_SEG         | VARCHAR2 (128) |          | Name of the rollback segment to use while refreshing                                               |
| JOB                  | NUMBER         |          | Identifier of the job used to refresh the group automatically                                      |
| NEXT_DATE            | DATE           |          | Date that this job will next be refreshed automatically, if not broken                             |
| INTERVAL             | VARCHAR2 (200) |          | A date function used to compute the next NEXT_DATE                                                 |
| BROKEN               | VARCHAR2 (1)   |          | Indicates whether the job is broken and will never be run (Y) or not (N)                           |

| Column       | Datatype       | NULL | Description                                                                                                                 |
|--------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------|
| PURGE_OPTION | NUMBER (38)    |      | Method for purging the transaction queue after each push (1 indicates quick purge option; 2 indicates precise purge option) |
| PARALLELISM  | NUMBER (38)    |      | Level of parallelism for transaction propagation                                                                            |
| HEAP_SIZE    | NUMBER (38)    |      | Size of the heap                                                                                                            |
| JOB_NAME     | VARCHAR2 (128) |      | The name of the job used to automatically refresh the group                                                                 |



#### See Also:

- "DBA\_REFRESH"
- "USER\_REFRESH"

## 4.33 ALL\_REFRESH\_CHILDREN

ALL\_REFRESH\_CHILDREN describes all the objects in refresh groups that are accessible to the current user.

#### Related Views

- DBA\_REFRESH\_CHILDREN describes the objects in all refresh groups in the database.
- USER\_REFRESH\_CHILDREN describes the objects in all refresh groups owned by the current user.

| Column               | Datatype       | NULL     | Description                                                                                        |
|----------------------|----------------|----------|----------------------------------------------------------------------------------------------------|
| OWNER                | VARCHAR2 (128) | NOT NULL | Owner of the object in the refresh group                                                           |
| NAME                 | VARCHAR2 (128) | NOT NULL | Name of the object in the refresh group                                                            |
| TYPE                 | VARCHAR2 (128) |          | Type of the object in the refresh group                                                            |
| ROWNER               | VARCHAR2 (128) | NOT NULL | Owner of the refresh group                                                                         |
| RNAME                | VARCHAR2 (128) | NOT NULL | Name of the refresh group                                                                          |
| REFGROUP             | NUMBER         |          | Internal identifier of the refresh group                                                           |
| IMPLICIT_DESTROY     | VARCHAR2 (1)   |          | Indicates whether the refresh group is destroyed when its last item is subtracted (Y) or not (N)   |
| PUSH_DEFERRED_RPC    | VARCHAR2 (1)   |          | Indicates whether changes are pushed from the snapshot to the master before refresh (Y) or not (N) |
| REFRESH_AFTER_ERRORS | VARCHAR2 (1)   |          | Indicates whether to proceed with refresh despite errors when pushing deferred RPCs (Y) or not (N) |
| ROLLBACK_SEG         | VARCHAR2 (128) |          | Name of the rollback segment to use while refreshing                                               |
| JOB                  | NUMBER         |          | Identifier of the job used to refresh the group automatically                                      |
| NEXT_DATE            | DATE           |          | Date that this job will next be refreshed automatically, if not broken                             |
| INTERVAL             | VARCHAR2 (200) |          | A date function used to compute the next NEXT_DATE                                                 |

| Column       | Datatype       | NULL | Description                                                                                                                |
|--------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------|
| BROKEN       | VARCHAR2 (1)   |      | Indicates whether the job is broken and will never be run (Y) or not (N)                                                   |
| PURGE_OPTION | NUMBER (38)    |      | Method for purging the transaction queue after each push. 1 indicates quick purge option; 2 indicates precise purge option |
| PARALLELISM  | NUMBER (38)    |      | Level of parallelism for transaction propagation                                                                           |
| HEAP_SIZE    | NUMBER (38)    |      | Size of the heap                                                                                                           |
| JOB_NAME     | VARCHAR2 (128) |      | The name of the job used to automatically refresh the group                                                                |

**See Also:**

- "DBA\_REFRESH\_CHILDREN"
- "USER\_REFRESH\_CHILDREN"

## 4.34 ALL\_REFRESH\_DEPENDENCIES

ALL\_REFRESH\_DEPENDENCIES displays the names of the dependent detail or container tables of all the materialized views in the current schema.

| Column              | Datatype       | NULL     | Description                                                                           |
|---------------------|----------------|----------|---------------------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128) | NOT NULL | Owner of the table                                                                    |
| TABLE_NAME          | VARCHAR2 (128) | NOT NULL | Table name, unique within this schema                                                 |
| PARENT_OBJECT_TYPE  | CHAR (17)      |          | MATERIALIZED VIEW                                                                     |
| OLDEST_REFRESH_SCN  | NUMBER         |          | Minimum SCN of any summary or materialized view that has TABLE_NAME as a detail table |
| OLDEST_REFRESH_DATE | DATE           |          | SYSDATE when last refreshed                                                           |

## 4.35 ALL\_REFS

ALL\_REFS describes the REF columns and REF attributes in object type columns accessible to the current user.

**Related Views**

- DBA\_REFS describes all REF columns and REF attributes in the database.
- USER\_REFS describes the REF columns and REF attributes in object type columns owned by the current user. This view does not display the OWNER column.

| Column     | Datatype       | NULL     | Description        |
|------------|----------------|----------|--------------------|
| OWNER      | VARCHAR2 (128) | NOT NULL | Owner of the table |
| TABLE_NAME | VARCHAR2 (128) | NOT NULL | Name of the table  |

| Column            | Datatype        | NULL | Description                                                                                                                                            |
|-------------------|-----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| COLUMN_NAME       | VARCHAR2 (4000) |      | Name of the REF column or attribute. If it is not a top-level attribute, the value of COLUMN_NAME should be a path name starting with the column name. |
| WITH_ROWID        | VARCHAR2 (3)    |      | Indicates whether the REF value is stored with ROWID (YES) or not (NO)                                                                                 |
| IS_SCOPED         | VARCHAR2 (3)    |      | Indicates whether the REF column is scoped (YES) or not (NO)                                                                                           |
| SCOPE_TABLE_OWNER | VARCHAR2 (128)  |      | Owner of the scope table, if it exists and is accessible by the user                                                                                   |
| SCOPE_TABLE_NAME  | VARCHAR2 (128)  |      | Name of the scope table, if it exists and is accessible by the user                                                                                    |
| OBJECT_ID_TYPE    | VARCHAR2 (33)   |      | Indicates whether the object ID (OID) is USER-DEFINED or SYSTEM GENERATED                                                                              |



#### See Also:

- "DBA\_REFS"
- "USER\_REFS"

## 4.36 ALL\_REGISTERED\_MVIEWS

ALL\_REGISTERED\_MVIEWS describes all registered materialized views (registered at a master site or a master materialized view site) accessible to the current user.

A materialized view created with the BUILD DEFERRED option of the CREATE MATERIALIZED VIEW statement is only registered with ALL\_REGISTERED\_MVIEWS if that materialized view has been completely refreshed at least once.

#### Related Views

- DBA\_REGISTERED\_MVIEWS describes all registered materialized views in the database.
- USER\_REGISTERED\_MVIEWS describes all registered materialized views owned by the current user.

| Column      | Datatype       | NULL     | Description                                                                                                                             |
|-------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------|
| OWNER       | VARCHAR2 (128) | NOT NULL | Owner of the materialized view                                                                                                          |
| NAME        | VARCHAR2 (128) | NOT NULL | Name of the materialized view                                                                                                           |
| MVIEW_SITE  | VARCHAR2 (128) | NOT NULL | Global name of the materialized view site                                                                                               |
| CAN_USE_LOG | VARCHAR2 (3)   |          | Indicates whether the materialized view can use a materialized view log (YES) or the materialized view is too complex to use a log (NO) |
| UPDATABLE   | VARCHAR2 (3)   |          | Indicates whether the materialized view is updatable (YES) or not and the materialized view is read only (NO)                           |

| Column         | Datatype      | NULL | Description                                                                                                                                |
|----------------|---------------|------|--------------------------------------------------------------------------------------------------------------------------------------------|
| REFRESH_METHOD | VARCHAR2 (11) |      | Indicates whether the materialized view uses primary key (PRIMARY KEY), rowids (ROWID), or object identifiers (OBJECT ID) for fast refresh |
| MVIEW_ID       | NUMBER (38)   |      | Identifier for the materialized view used by the masters for fast refresh                                                                  |
| VERSION        | VARCHAR2 (26) |      | Oracle version of the materialized view<br><b>Note:</b> Oracle Database materialized views show ORACLE 8 MATERIALIZED VIEW.                |
| QUERY_TXT      | LONG          |      | Query that defines the materialized view                                                                                                   |

**See Also:**

- "DBA\_REGISTERED\_MVIEWS"
- "USER\_REGISTERED\_MVIEWS"

## 4.37 ALL\_REGISTRY\_BANNERS

ALL\_REGISTRY\_BANNERS displays the valid components loaded into the database.

| Column      | Datatype      | NULL | Description                                |
|-------------|---------------|------|--------------------------------------------|
| BANNER      | VARCHAR2 (80) |      | Component display banner                   |
| BANNER_FULL | VARCHAR2 (80) |      | Component display banner with full version |

## 4.38 ALL\_REPL\_DBNAME\_MAPPING

ALL\_REPL\_DBNAME\_MAPPING provides details about the database name mapping in replication for the current user.

**Related View**

DBA\_REPL\_DBNAME\_MAPPING provides details about the database name mapping in replication.

| Column                | Datatype       | NULL | Description                                                                                                        |
|-----------------------|----------------|------|--------------------------------------------------------------------------------------------------------------------|
| SOURCE_ROOT_NAME      | VARCHAR2 (128) |      | The fully qualified global name of the root in a multitenant container database (CDB) where the changes originated |
| SOURCE_DATABASE_NAME  | VARCHAR2 (128) |      | The fully qualified global name of the pluggable database (PDB) where the changes originated                       |
| SOURCE_CONTAINER_NAME | VARCHAR2 (128) |      | The container name of the database where the changes originated                                                    |

**See Also:**["DBA\\_REPL\\_DBNAME\\_MAPPING"](#)

## 4.39 ALL\_REPLICATION\_PROCESS\_EVENTS

ALL\_REPLICATION\_PROCESS\_EVENTS provides information about the replication processes events accessible to the current user.

### Related View

DBA\_REPLICATION\_PROCESS\_EVENTS provides information about the replication processes events in the database.

| Column        | Datatype        | NULL     | Description                                                                                                                                                                                                                                     |
|---------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STREAMS_TYPE  | VARCHAR2 (10)   |          | Streams type: <ul style="list-style-type: none"> <li>• XStream</li> <li>• GoldenGate</li> </ul>                                                                                                                                                 |
| PROCESS_TYPE  | VARCHAR2 (27)   |          | Process type: <ul style="list-style-type: none"> <li>• Capture</li> <li>• Capture server</li> <li>• Apply Coordinator</li> <li>• Apply Server</li> <li>• Apply Network Receiver</li> <li>• Apply Reader</li> <li>• Apply Hash server</li> </ul> |
| STREAMS_NAME  | VARCHAR2 (128)  | NOT NULL | Streams name                                                                                                                                                                                                                                    |
| EVENT_NAME    | VARCHAR2 (128)  |          | Event name: <ul style="list-style-type: none"> <li>• START</li> <li>• STOP</li> <li>• ABORT</li> <li>• CREATE</li> <li>• DROP</li> <li>• PARAMETER CHANGE</li> <li>• HANDLER CREATE</li> <li>• HANDLER REMOVE</li> <li>• ALTER</li> </ul>       |
| DESCRIPTION   | VARCHAR2 (2000) |          | Event description                                                                                                                                                                                                                               |
| EVENT_TIME    | TIMESTAMP (6)   |          | Time when the event occurred                                                                                                                                                                                                                    |
| ERROR_NUMBER  | NUMBER          |          | Error number (valid when event is Error)                                                                                                                                                                                                        |
| ERROR_MESSAGE | VARCHAR2 (2000) |          | Error Message (valid when event is an error)                                                                                                                                                                                                    |

**See Also:**["DBA\\_REPLICATION\\_PROCESS\\_EVENTS"](#)



## 4.40 ALL\_REWRITE\_EQUIVALENCES

ALL\_REWRITE\_EQUIVALENCES describes the rewrite equivalences accessible to the current user.

### Related Views

- DBA\_REWRITE\_EQUIVALENCES describes all rewrite equivalences in the database.
- USER\_REWRITE\_EQUIVALENCES describes the rewrite equivalences owned by the current user.

| Column           | Datatype       | NULL     | Description                                                                                                                                                    |
|------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128) | NOT NULL | Owner of the rewrite equivalence                                                                                                                               |
| NAME             | VARCHAR2 (128) | NOT NULL | Name of the rewrite equivalence                                                                                                                                |
| SOURCE_STMT      | CLOB           |          | Source statement of the rewrite equivalence                                                                                                                    |
| DESTINATION_STMT | CLOB           |          | Destination of the rewrite equivalence                                                                                                                         |
| REWRITE_MODE     | VARCHAR2 (10)  |          | Rewrite mode of the rewrite equivalence: <ul style="list-style-type: none"><li>• DISABLED</li><li>• TEXT_MATCH</li><li>• GENERAL</li><li>• RECURSIVE</li></ul> |



### See Also:

- "DBA\_REWRITE\_EQUIVALENCES"
- "USER\_REWRITE\_EQUIVALENCES"

## 4.41 ALL\_RULE\_SET\_RULES

ALL\_RULE\_SET\_RULES describes the rules in the rule sets accessible to the current user.

### Related Views

- DBA\_RULE\_SET\_RULES describes the rules in all rule sets in the database.
- USER\_RULE\_SET\_RULES describes the rules in the rule sets owned by the current user. This view does not display the RULE\_SET\_OWNER column.

| Column                | Datatype       | NULL     | Description                                                                       |
|-----------------------|----------------|----------|-----------------------------------------------------------------------------------|
| RULE_SET_OWNER        | VARCHAR2 (128) | NOT NULL | Owner of the rule set                                                             |
| RULE_SET_NAME         | VARCHAR2 (128) | NOT NULL | Name of the rule set                                                              |
| RULE_OWNER            | VARCHAR2 (128) | NOT NULL | Owner of the rule                                                                 |
| RULE_NAME             | VARCHAR2 (128) | NOT NULL | Name of the rule                                                                  |
| RULE_SET_RULE_ENABLED | VARCHAR2 (8)   |          | Indicates whether the rule is enabled in the rule set (ENABLED) or not (DISABLED) |

| Column                       | Datatype        | NULL | Description                                                                               |
|------------------------------|-----------------|------|-------------------------------------------------------------------------------------------|
| RULE_SET_RULE_EVAL_CTX_OWNER | VARCHAR2 (128)  |      | Owner of the evaluation context specified when the rule was added to the rule set, if any |
| RULE_SET_RULE_EVAL_CTX_NAME  | VARCHAR2 (128)  |      | Name of the evaluation context specified when the rule was added to the rule set, if any  |
| RULE_SET_RULE_COMMENT        | VARCHAR2 (4000) |      | Comment specified when the rule was added to the rule set, if any                         |

**See Also:**

- ["DBA\\_RULE\\_SET\\_RULES"](#)
- ["USER\\_RULE\\_SET\\_RULES"](#)

## 4.42 ALL\_RULE\_SETS

ALL\_RULE\_SETS describes the rule sets accessible to the current user.

**Related Views**

- DBA\_RULE\_SETS describes all rule sets in the database.
- USER\_RULE\_SETS describes the rule sets owned by the current user. This view does not display the RULE\_SET\_OWNER column.

| Column                      | Datatype        | NULL     | Description                                                          |
|-----------------------------|-----------------|----------|----------------------------------------------------------------------|
| RULE_SET_OWNER              | VARCHAR2 (128)  | NOT NULL | Owner of the rule set                                                |
| RULE_SET_NAME               | VARCHAR2 (128)  | NOT NULL | Name of the rule set                                                 |
| RULE_SET_EVAL_CONTEXT_OWNER | VARCHAR2 (128)  |          | Owner of the evaluation context associated with the rule set, if any |
| RULE_SET_EVAL_CONTEXT_NAME  | VARCHAR2 (128)  |          | Name of the evaluation context associated with the rule set, if any  |
| RULE_SET_COMMENT            | VARCHAR2 (4000) |          | Comment specified with the rule set, if any                          |

**See Also:**

- ["DBA\\_RULE\\_SETS"](#)
- ["USER\\_RULE\\_SETS"](#)

## 4.43 ALL\_RULES

ALL\_RULES describes the rules accessible to the current user.

### Related Views

- DBA\_RULES describes all rules in the database.
- USER\_RULES describes the rules owned by the current user. This view does not display the RULE\_OWNER column.

| Column                        | Datatype        | NULL     | Description                                                      |
|-------------------------------|-----------------|----------|------------------------------------------------------------------|
| RULE_OWNER                    | VARCHAR2 (128)  | NOT NULL | Owner of the rule                                                |
| RULE_NAME                     | VARCHAR2 (128)  | NOT NULL | Name of the rule                                                 |
| RULE_CONDITION                | CLOB            |          | Expressions and operators that constitute the rule condition     |
| RULE_EVALUATION_CONTEXT_OWNER | VARCHAR2 (128)  |          | Owner of the evaluation context associated with the rule, if any |
| RULE_EVALUATION_CONTEXT_NAME  | VARCHAR2 (128)  |          | Name of the evaluation context associated with the rule, if any  |
| RULE_ACTION_CONTEXT           | RE\$NV_LIST     |          | Action context associated with the rule, if any                  |
| RULE_COMMENT                  | VARCHAR2 (4000) |          | Comment specified with the rule, if any                          |



### See Also:

- "DBA\_RULES"
- "USER\_RULES"

## 4.44 ALL\_SAGA\_BROKERS

ALL\_SAGA\_BROKERS displays the saga brokers accessible to the current user.

### Related Views

- DBA\_SAGA\_BROKERS displays all saga brokers in the database.
- USER\_SAGA\_BROKERS displays the saga brokers owned by the current user.

| Column       | Datatype       | NULL     | Description                                                       |
|--------------|----------------|----------|-------------------------------------------------------------------|
| ID           | RAW (16)       | NOT NULL | ID of the saga broker                                             |
| NAME         | VARCHAR2 (128) | NOT NULL | Name of the saga broker                                           |
| OWNER        | VARCHAR2 (128) | NOT NULL | Owner of the saga broker                                          |
| BROKER_TOPIC | VARCHAR2 (128) |          | Name of the queue used by the broker                              |
| REMOTE       | VARCHAR2 (50)  |          | Indicates whether the saga broker is remote (TRUE) or not (FALSE) |
| VERSION      | NUMBER         | NOT NULL | Saga broker version                                               |

| Column           | Datatype      | NULL     | Description                                                                                                                                                                                                                                  |
|------------------|---------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUE_PARTITIONS | NUMBER        | NOT NULL | Controls the degree of parallelism of the broker <ul style="list-style-type: none"> <li>For Classic Queue based brokers, the number of queues created</li> <li>For TxEvent Queue based brokers, the number of internal partitions</li> </ul> |
| QUEUE_TYPE       | VARCHAR2 (13) |          | Saga topic type: <ul style="list-style-type: none"> <li>Classic Queue</li> <li>TxEvent Queue</li> </ul>                                                                                                                                      |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- "DBA\_SAGA\_BROKERS"
- "USER\_SAGA\_BROKERS"

## 4.45 ALL\_SAGA\_DETAILS

ALL\_SAGA\_DETAILS displays details for sagas accessible to the current user.

### Related Views

- DBA\_SAGA\_DETAILS displays details for all sagas in the database.
- USER\_SAGA\_DETAILS displays details for sagas owned by the current user.

| Column       | Datatype                     | NULL     | Description                                                   |
|--------------|------------------------------|----------|---------------------------------------------------------------|
| ID           | RAW (16)                     | NOT NULL | Saga ID                                                       |
| PARTICIPANT  | VARCHAR2 (128)               | NOT NULL | Name of the saga participant                                  |
| SOURCE       | VARCHAR2 (128)               |          | Name of the saga participant responsible for the event        |
| TARGET       | VARCHAR2 (128)               |          | Name of the saga participant that is the target for the event |
| MESSAGE      | VARCHAR2 (2048)              |          | Short description of the event                                |
| TYPE         | NUMBER                       |          | Type of event                                                 |
| QUEUE_TYPE   | NUMBER                       | NOT NULL | Type of saga queue                                            |
| CREATED_TIME | TIMESTAMP (6) WITH TIME ZONE |          | Time at which the event was processed                         |
| MESSAGE_ID   | RAW (16)                     |          | Internal identifier of the message                            |
| CORRELATION  | VARCHAR2 (128)               |          | Correlation identifier                                        |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_SAGA\\_DETAILS"](#)
- ["USER\\_SAGA\\_DETAILS"](#)

## 4.46 ALL\_SAGA\_ERRORS

ALL\_SAGA\_ERRORS describes errors generated by the sagas accessible to the current user.

This view displays sagas that were either initiated in the current PDB or joined by participants in the current PDB.

**Related Views**

- [DBA\\_INCOMPLETE\\_SAGAS](#) describes errors generated by all sagas in the database.
- [USER\\_SAGA\\_ERRORS](#) describes errors generated by the sagas owned by the current user.

| Column      | Datatype       | NULL | Description                      |
|-------------|----------------|------|----------------------------------|
| SAGA_ID     | RAW (16)       |      | Saga ID                          |
| PARTICIPANT | VARCHAR2 (128) |      | Name of the saga participant     |
| SQL_ERROR   | VARCHAR2 (200) |      | SQL error                        |
| SQL_CODE    | VARCHAR2 (7)   |      | SQL error code                   |
| ERROR_TIME  | VARCHAR2 (19)  |      | Time at which the error occurred |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_SAGA\\_ERRORS"](#)
- ["USER\\_SAGA\\_ERRORS"](#)

## 4.47 ALL\_SAGA\_FINALIZATION

ALL\_SAGA\_FINALIZATION displays information about pending finalization actions for sagas accessible to the current user.

This view displays one row for each unique reservable table updated as part of a participant transaction for sagas that were either initiated in the current PDB or joined by participants in the current PDB.

### Related Views

- DBA\_SAGA\_FINALIZATION displays information about pending finalization actions for all sagas in the database.
- USER\_SAGA\_FINALIZATION displays information about pending finalization actions for sagas owned by the current user.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                            |
|--------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SAGA_ID            | RAW (16)       | NOT NULL | Saga ID                                                                                                                                                                                                                                                                                                                                                |
| PARTICIPANT        | VARCHAR2 (128) |          | Name of the saga participant                                                                                                                                                                                                                                                                                                                           |
| TXN_ID             | VARCHAR2 (32)  |          | ID of the reservable column transaction in the saga                                                                                                                                                                                                                                                                                                    |
| RESERVABLE_SCHEMA  | VARCHAR2 (128) | NOT NULL | Schema of the reservable column table involved in the transaction                                                                                                                                                                                                                                                                                      |
| RESERVABLE_TABLE   | VARCHAR2 (128) | NOT NULL | Name of the reservable column table involved in the transaction                                                                                                                                                                                                                                                                                        |
| RESERVABLE_JOURNAL | VARCHAR2 (55)  |          | Name of the reservable journal table involved in the transaction                                                                                                                                                                                                                                                                                       |
| STATUS             | VARCHAR2 (15)  |          | Status of the transaction: <ul style="list-style-type: none"><li>• Initiated - Participant transactions committed; saga not finalized</li><li>• Committed - Saga branch committed</li><li>• Rolledback - Saga branch rolled back</li><li>• Commit Failed - Saga branch commit failed</li><li>• Rollback Failed - Saga branch rollback failed</li></ul> |



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

- "DBA\_SAGA\_FINALIZATION"
- "USER\_SAGA\_FINALIZATION"

## 4.48 ALL\_SAGA\_PARTICIPANT\_SET

ALL\_SAGA\_PARTICIPANT\_SET displays information about saga participants for sagas accessible to the current user.

### Related Views

- `DBA_INCOMPLETE_SAGAS` displays information about saga participants for all sagas in the database.
- `USER_SAGA_PARTICIPANT_SET` displays information about saga participants for sagas owned by the current user.

| Column          | Datatype                     | NULL     | Description                                                                                                                                                                                                                            |
|-----------------|------------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ID              | RAW (16)                     | NOT NULL | Saga ID                                                                                                                                                                                                                                |
| COORDINATOR     | VARCHAR2 (128)               | NOT NULL | Name of the saga coordinator                                                                                                                                                                                                           |
| PARTICIPANT     | VARCHAR2 (128)               | NOT NULL | Name of the saga participant                                                                                                                                                                                                           |
| STATUS          | VARCHAR2 (57)                |          | Saga status: <ul style="list-style-type: none"><li>• Joined</li><li>• Committed</li><li>• Rolledback</li><li>• Commit Failed</li><li>• Rollback Failed</li><li>• Rejected</li><li>• Auto Committed</li><li>• Auto Rolledback</li></ul> |
| JOIN_TIME       | TIMESTAMP (6) WITH TIME ZONE |          | Join time of the saga participant                                                                                                                                                                                                      |
| COMPLETION_TIME | TIMESTAMP (6) WITH TIME ZONE |          | Completion time of the saga participant                                                                                                                                                                                                |



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

- `"DBA_SAGA_PARTICIPANT_SET"`
- `"USER_SAGA_PARTICIPANT_SET"`

## 4.49 ALL\_SAGA\_PARTICIPANTS

ALL\_SAGA\_PARTICIPANTS describes the saga participants accessible to the current user.

This view displays sagas that were either initiated in the current PDB or joined by participants or coordinators in the current PDB.

### Related Views

- `DBA_SAGA_PARTICIPANTS` describes all saga participants in the database.
- `USER_SAGA_PARTICIPANTS` describes the saga participants owned by the current user. This view does not display the `OWNER` column.

| Column           | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ID               | RAW (16)       | NOT NULL | ID of the saga participant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| NAME             | VARCHAR2 (128) | NOT NULL | Name of the saga participant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| OWNER            | VARCHAR2 (128) | NOT NULL | Owner of the saga participant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| BROKER_NAME      | VARCHAR2 (128) | NOT NULL | Name of the saga broker                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TYPE             | VARCHAR2 (50)  |          | Participant type: <ul style="list-style-type: none"><li>• Coordinator</li><li>• Participant</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| COORDINATOR      | VARCHAR2 (128) |          | Name of the saga coordinator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| INCOMING_TOPIC   | VARCHAR2 (128) | NOT NULL | Saga incoming topic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| OUTGOING_TOPIC   | VARCHAR2 (128) | NOT NULL | Saga outgoing topic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| QUEUE_PARTITIONS | NUMBER         | NOT NULL | Number of saga topic partitions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| QUEUE_TYPE       | VARCHAR2 (13)  |          | Saga topic type: <ul style="list-style-type: none"><li>• Classic Queue</li><li>• TxEvent Queue</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LISTENER_COUNT   | VARCHAR2 (40)  |          | Possible values: <ul style="list-style-type: none"><li>• AQ - The saga coordinator processes messages using the Advanced Queuing (AQ) notification mechanism.</li><li>• AUTO - The saga coordinator processes messages using job queue processes that dequeue from the coordinator queue. This mechanism spawns a monitoring job that automatically adds and removes dequeuer jobs depending on the queue depth.</li><li>• If this column displays a number value, then the value represents the number of fixed jobs that are created to process messages for the saga coordinator.</li></ul> |
| VERSION          | NUMBER         | NOT NULL | Saga participant version                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |



#### Note:

This view is available starting with Oracle Database 23ai.



#### See Also:

- ["DBA\\_SAGA\\_PARTICIPANTS"](#)
- ["USER\\_SAGA\\_PARTICIPANTS"](#)



## 4.50 ALL\_SAGA\_PENDING

ALL\_SAGA\_PENDING describes the pending sagas accessible to the current user.

This view displays sagas that were initiated in the current PDB.

### Related Views

- DBA\_SAGA\_PENDING describes all pending sagas in the database.
- USER\_SAGA\_PENDING describes the pending sagas owned by the current user.

| Column                        | Datatype       | NULL     | Description                                                                                        |
|-------------------------------|----------------|----------|----------------------------------------------------------------------------------------------------|
| SAGA_ID                       | RAW (16)       | NOT NULL | Saga ID                                                                                            |
| PARTICIPANT                   | VARCHAR2 (128) |          | Name of the saga participant                                                                       |
| TXN_ID                        | VARCHAR2 (16)  |          | ID of the reservable column transaction in the saga                                                |
| SCHEMA                        | VARCHAR2 (128) | NOT NULL | Schema of the reservable column table involved in the transaction                                  |
| RESERVABLE_TABLE              | VARCHAR2 (128) | NOT NULL | Name of the reservable column table involved in the transaction                                    |
| RESERVABLE_JOURNAL_STATU<br>S | VARCHAR2 (12)  |          | Status of the transaction in the reservable journal table                                          |
| STATEMENT_TYPE                | VARCHAR2 (16)  |          | SQL statement type (for example, UPDATE or MERGE)                                                  |
| OPERATION_TYPE                | VARCHAR2 (16)  | NOT NULL | Type of saga operation (for example, commit, rollback, or timeout)                                 |
| PRIMARYKEY_INFO               | CLOB           | NOT NULL | Primary key and its value in the row whose reservable column value was updated in this transaction |
| RESERVABLE_COL_INFO           | CLOB           | NOT NULL | Reservable column value update information in this transaction                                     |



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

- "DBA\_SAGA\_PENDING"
- "USER\_SAGA\_PENDING"

## 4.51 ALL\_SAGAS

ALL\_SAGAS describes the active sagas accessible to the current user.

This view displays sagas that were either initiated in the current PDB or joined by participants in the current PDB.

### Related Views

- `DBA_SAGAS` describes all active sagas in the database.
- `USER_SAGAS` describes the active sagas owned by the current user. This view does not display the `OWNER` column.

| Column           | Datatype                     | NULL     | Description                                                                                                               |
|------------------|------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------|
| ID               | RAW (16)                     | NOT NULL | Saga ID                                                                                                                   |
| INITIATOR        | VARCHAR2 (128)               |          | Name of the saga initiator                                                                                                |
| IS_INITIATOR     | VARCHAR2 (3)                 |          | Indicates whether this participant is the saga initiator (YES) or not (NO)                                                |
| COORDINATOR      | VARCHAR2 (128)               |          | Name of the saga coordinator                                                                                              |
| COORDINATOR_TYPE | VARCHAR2 (50)                |          | Type of the saga coordinator: <ul style="list-style-type: none"><li>• Internal</li><li>• External</li></ul>               |
| OWNER            | VARCHAR2 (128)               | NOT NULL | Owner of the saga participant                                                                                             |
| PARTICIPANT      | VARCHAR2 (128)               | NOT NULL | Name of the saga participant                                                                                              |
| STATUS           | VARCHAR2 (14)                |          | Saga status: <ul style="list-style-type: none"><li>• New</li><li>• Joining</li><li>• Initiated</li><li>• Joined</li></ul> |
| VERSION          | NUMBER                       | NOT NULL | Saga version                                                                                                              |
| DURATION         | NUMBER                       |          | Time limit for the saga (in seconds)                                                                                      |
| START_TIME       | TIMESTAMP (6) WITH TIME ZONE |          | Saga start time                                                                                                           |



#### Note:

This view displays active sagas. Completed sagas are displayed in the [ALL\\_HIST\\_SAGAS](#) view.



#### Note:

This view is available starting with Oracle Database 23ai.



#### See Also:

- ["DBA\\_SAGAS"](#)
- ["USER\\_SAGAS"](#)

## 4.52 ALL\_SCHEDULER\_CHAIN\_RULES

ALL\_SCHEDULER\_CHAIN\_RULES displays information about the rules for the chains accessible to the current user (that is, those chains that the user has ALTER or EXECUTE privileges for).

### Related Views

- DBA\_SCHEDULER\_CHAIN\_RULES displays information about the rules for all chains in the database.
- USER\_SCHEDULER\_CHAIN\_RULES displays information about the rules for the chains owned by the current user. This view does not display the OWNER column.

| Column     | Datatype        | NULL     | Description                                       |
|------------|-----------------|----------|---------------------------------------------------|
| OWNER      | VARCHAR2 (128)  | NOT NULL | Owner of the Scheduler chain that the rule is in  |
| CHAIN_NAME | VARCHAR2 (128)  | NOT NULL | Name of the Scheduler chain that the rule is in   |
| RULE_OWNER | VARCHAR2 (128)  | NOT NULL | Owner of the rule                                 |
| RULE_NAME  | VARCHAR2 (128)  |          | Name of the rule                                  |
| CONDITION  | VARCHAR2 (4000) |          | Boolean condition triggering the rule             |
| ACTION     | VARCHAR2 (4000) |          | Action to be performed when the rule is triggered |
| COMMENTS   | VARCHAR2 (4000) |          | User-specified comments about the rule            |



### See Also:

- "DBA\_SCHEDULER\_CHAIN\_RULES"
- "USER\_SCHEDULER\_CHAIN\_RULES"

## 4.53 ALL\_SCHEDULER\_CHAIN\_STEPS

ALL\_SCHEDULER\_CHAIN\_STEPS displays information about the defined steps of the chains accessible to the current user (that is, those chains that the user has ALTER or EXECUTE privileges for).

### Related Views

- DBA\_SCHEDULER\_CHAIN\_STEPS displays information about the defined steps of all chains in the database.
- USER\_SCHEDULER\_CHAIN\_STEPS displays information about the defined steps of the chains owned by the current user. This view does not display the OWNER column.

| Column        | Datatype       | NULL     | Description                                    |
|---------------|----------------|----------|------------------------------------------------|
| OWNER         | VARCHAR2 (128) | NOT NULL | Owner of the Scheduler chain the step is in    |
| CHAIN_NAME    | VARCHAR2 (128) | NOT NULL | Name of the Scheduler chain the step is in     |
| STEP_NAME     | VARCHAR2 (128) | NOT NULL | Name of the chain step                         |
| PROGRAM_OWNER | VARCHAR2 (392) |          | Owner of the program that runs during the step |

| Column               | Datatype                          | NULL | Description                                                                                                                                         |
|----------------------|-----------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| PROGRAM_NAME         | VARCHAR2 (392)                    |      | Name of the program that runs during the step                                                                                                       |
| EVENT_SCHEDULE_OWNER | VARCHAR2 (392)                    |      | Owner of the event schedule that this step waits for                                                                                                |
| EVENT_SCHEDULE_NAME  | VARCHAR2 (392)                    |      | Name of the event schedule that this step waits for                                                                                                 |
| EVENT_QUEUE_OWNER    | VARCHAR2 (128)                    |      | Owner of the source queue into which the event will be raised                                                                                       |
| EVENT_QUEUE_NAME     | VARCHAR2 (128)                    |      | Name of the source queue into which the event will be raised                                                                                        |
| EVENT_QUEUE_AGENT    | VARCHAR2 (523)                    |      | Name of the AQ agent used by the user on the event source queue (for a secure queue)                                                                |
| EVENT_CONDITION      | VARCHAR2 (4000)                   |      | Boolean expression used as the subscription rule for an event on the source queue                                                                   |
| CREDENTIAL_OWNER     | VARCHAR2 (128)                    |      | Owner of the credential to be used for an external step job                                                                                         |
| CREDENTIAL_NAME      | VARCHAR2 (128)                    |      | Name of the credential to be used for an external step job                                                                                          |
| DESTINATION          | VARCHAR2 (261)                    |      | Destination host on which a remote step job will run                                                                                                |
| SKIP                 | VARCHAR2 (5)                      |      | Indicates whether the step should be skipped (TRUE) or not (FALSE)                                                                                  |
| PAUSE                | VARCHAR2 (5)                      |      | Indicates whether the step should be paused after running (TRUE) or not (FALSE)                                                                     |
| PAUSE_BEFORE         | VARCHAR2 (5)                      |      | Indicates whether the step should be paused before running (TRUE) or not (FALSE)                                                                    |
| RESTART_ON_RECOVERY  | VARCHAR2 (5)                      |      | Indicates whether the step should be restarted on database recovery (TRUE) or not (FALSE)                                                           |
| RESTART_ON_FAILURE   | VARCHAR2 (5)                      |      | Indicates whether the step should be restarted on application failure (TRUE) or not (FALSE)                                                         |
| STEP_TYPE            | VARCHAR2 (21)                     |      | Type of the step: <ul style="list-style-type: none"> <li>• EVENT_SCHEDULE</li> <li>• INLINE_EVENT</li> <li>• SUBCHAIN</li> <li>• PROGRAM</li> </ul> |
| TIMEOUT              | INTERVAL DAY (3)<br>TO SECOND (0) |      | Timeout for waiting on an event schedule                                                                                                            |



#### See Also:

- "DBA\_SCHEDULER\_CHAIN\_STEPS"
- "USER\_SCHEDULER\_CHAIN\_STEPS"

## 4.54 ALL\_SCHEDULER\_CHAINS

ALL\_SCHEDULER\_CHAINS displays information about the chains accessible to the current user (that is, those chains that the user has ALTER or EXECUTE privileges for).

### Related Views

- DBA\_SCHEDULER\_CHAINS displays information about all chains in the database.
- USER\_SCHEDULER\_CHAINS displays information about the chains owned by the current user. This view does not display the OWNER column.

| Column              | Datatype                          | NULL     | Description                                                                      |
|---------------------|-----------------------------------|----------|----------------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128)                    | NOT NULL | Owner of the Scheduler chain                                                     |
| CHAIN_NAME          | VARCHAR2 (128)                    | NOT NULL | Name of the Scheduler chain                                                      |
| RULE_SET_OWNER      | VARCHAR2 (128)                    |          | Owner of the rule set describing the dependencies                                |
| RULE_SET_NAME       | VARCHAR2 (128)                    |          | Name of the rule set describing the dependencies                                 |
| NUMBER_OF_RULES     | NUMBER                            |          | Number of rules in the chain                                                     |
| NUMBER_OF_STEPS     | NUMBER                            |          | Number of defined steps in the chain                                             |
| ENABLED             | VARCHAR2 (5)                      |          | Indicates whether the chain is enabled (TRUE) or disabled (FALSE)                |
| EVALUATION_INTERVAL | INTERVAL DAY (3)<br>TO SECOND (0) |          | Periodic interval at which to reevaluate rules for the chain                     |
| USER_RULE_SET       | VARCHAR2 (5)                      |          | Indicates whether the chain uses a user-specified rule set (TRUE) or not (FALSE) |
| COMMENTS            | VARCHAR2 (4000)                   |          | Comments on the chain                                                            |

### See Also:

- "DBA\_SCHEDULER\_CHAINS"
- "USER\_SCHEDULER\_CHAINS"

## 4.55 ALL\_SCHEDULER\_CREDENTIALS

ALL\_SCHEDULER\_CREDENTIALS displays information about the credentials accessible to the current user (that is, those credentials that the user has ALTER or EXECUTE privileges for).

### Note:

This view is deprecated in favor of the ALL\_CREDENTIALS view. Oracle recommends that you use ALL\_CREDENTIALS instead. ALL\_SCHEDULER\_CREDENTIALS is retained for backward compatibility only.

### Related Views

- `DBA_SCHEDULER_CREDENTIALS` displays information about all credentials in the database.
- `USER_SCHEDULER_CREDENTIALS` displays information about the credentials owned by the current user. This view does not display the `OWNER` column.

| Column          | Datatype        | NULL     | Description                                                                                                                                 |
|-----------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128)  | NOT NULL | Owner of the Scheduler credential                                                                                                           |
| CREDENTIAL_NAME | VARCHAR2 (128)  | NOT NULL | Name of the Scheduler credential                                                                                                            |
| USERNAME        | VARCHAR2 (128)  |          | Name of the user that will be used to log in to the remote database or operating system                                                     |
| DATABASE_ROLE   | VARCHAR2 (9)    |          | For a database target, the database role to use when logging in: <ul style="list-style-type: none"><li>• SYSDBA</li><li>• SYSOPER</li></ul> |
| WINDOWS_DOMAIN  | VARCHAR2 (30)   |          | For a Windows target, the Windows domain to use when logging in                                                                             |
| COMMENTS        | VARCHAR2 (4000) |          | Comments on the credential                                                                                                                  |



### See Also:

- ["ALL\\_CREDENTIALS"](#)
- ["DBA\\_SCHEDULER\\_CREDENTIALS"](#)
- ["USER\\_SCHEDULER\\_CREDENTIALS"](#)

## 4.56 ALL\_SCHEDULER\_DB\_DESTS

`ALL_SCHEDULER_DB_DESTS` displays information about the destination objects accessible to the current user pointing to remote databases.

### Related Views

- `DBA_SCHEDULER_DB_DESTS` displays information about all destination objects in the database pointing to remote databases.
- `USER_SCHEDULER_DB_DESTS` displays information about the destination objects owned by the current user pointing to remote databases. This view does not display the `OWNER` column.

| Column           | Datatype        | NULL     | Description                                                                         |
|------------------|-----------------|----------|-------------------------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128)  | NOT NULL | Owner of this destination object                                                    |
| DESTINATION_NAME | VARCHAR2 (128)  | NOT NULL | Name of this destination object                                                     |
| CONNECT_INFO     | VARCHAR2 (4000) |          | Connect string to connect to the remote database                                    |
| AGENT            | VARCHAR2 (128)  |          | Name of the agent through which the connection to the remote database is being made |
| ENABLED          | VARCHAR2 (5)    |          | Indicates whether this destination object is enabled (TRUE) or disabled (FALSE)     |

| Column       | Datatype        | NULL | Description                                                                     |
|--------------|-----------------|------|---------------------------------------------------------------------------------|
| REFS_ENABLED | VARCHAR2 (5)    |      | Indicates whether all referenced objects are enabled (TRUE) or disabled (FALSE) |
| COMMENTS     | VARCHAR2 (4000) |      | Optional comment                                                                |

**See Also:**

- "DBA\_SCHEDULER\_DB\_DESTS"
- "USER\_SCHEDULER\_DB\_DESTS"

## 4.57 ALL\_SCHEDULER\_DESTS

ALL\_SCHEDULER\_DESTS displays information about the destination objects for jobs accessible to the current user.

**Related Views**

- DBA\_SCHEDULER\_DESTS displays information about all destination objects for jobs in the database.
- USER\_SCHEDULER\_DESTS displays information about the destination objects for jobs owned by the current user. This view does not display the OWNER column.

| Column           | Datatype        | NULL     | Description                                                                                                    |
|------------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128)  | NOT NULL | Owner of this destination object                                                                               |
| DESTINATION_NAME | VARCHAR2 (128)  | NOT NULL | Name of this destination object                                                                                |
| DESTINATION_TYPE | VARCHAR2 (8)    |          | Type of this destination object: <ul style="list-style-type: none"><li>• EXTERNAL</li><li>• DATABASE</li></ul> |
| ENABLED          | VARCHAR2 (5)    |          | Indicates whether this destination object is enabled (TRUE) or disabled (FALSE)                                |
| COMMENTS         | VARCHAR2 (4000) |          | Optional comment                                                                                               |

**See Also:**

- "DBA\_SCHEDULER\_DESTS"
- "USER\_SCHEDULER\_DESTS"

## 4.58 ALL\_SCHEDULER\_EXTERNAL\_DESTS

ALL\_SCHEDULER\_EXTERNAL\_DESTS displays information about the destination objects accessible to the current user pointing to remote agents.

### Related View

DBA\_SCHEDULER\_EXTERNAL\_DESTS displays information about all destination objects in the database pointing to remote agents.

| Column           | Datatype        | NULL     | Description                                                                     |
|------------------|-----------------|----------|---------------------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128)  | NOT NULL | Owner of this destination object                                                |
| DESTINATION_NAME | VARCHAR2 (128)  | NOT NULL | Name of this destination object                                                 |
| HOSTNAME         | VARCHAR2 (256)  |          | Name or IP address of the host on which the agent is located                    |
| PORT             | NUMBER          |          | Port that the agent is listening on                                             |
| IP_ADDRESS       | VARCHAR2 (64)   |          | IP address of the host on which the agent is located                            |
| ENABLED          | VARCHAR2 (5)    |          | Indicates whether this destination object is enabled (TRUE) or disabled (FALSE) |
| COMMENTS         | VARCHAR2 (4000) |          | Optional comment                                                                |



### See Also:

"DBA\_SCHEDULER\_EXTERNAL\_DESTS"

## 4.59 ALL\_SCHEDULER\_FILE\_WATCHERS

ALL\_SCHEDULER\_FILE\_WATCHERS displays information about the Scheduler file watch requests accessible to the current user.

### Related Views

- DBA\_SCHEDULER\_FILE\_WATCHERS displays information about all Scheduler file watch requests in the database.
- USER\_SCHEDULER\_FILE\_WATCHERS displays information about the Scheduler file watch requests owned by the current user. This view does not display the OWNER column.

| Column            | Datatype        | NULL     | Description                                                                     |
|-------------------|-----------------|----------|---------------------------------------------------------------------------------|
| OWNER             | VARCHAR2 (128)  | NOT NULL | Owner of the file watch request                                                 |
| FILE_WATCHER_NAME | VARCHAR2 (128)  | NOT NULL | Name of the file watch request                                                  |
| ENABLED           | VARCHAR2 (5)    |          | Indicates whether this file watch request is enabled (TRUE) or disabled (FALSE) |
| DESTINATION_OWNER | VARCHAR2 (261)  |          | Owner of the named destination object                                           |
| DESTINATION       | VARCHAR2 (261)  |          | Name of the destination object                                                  |
| DIRECTORY_PATH    | VARCHAR2 (4000) | NOT NULL | Name of the directory path where the file will arrive                           |



| Column                | Datatype                          | NULL     | Description                                                             |
|-----------------------|-----------------------------------|----------|-------------------------------------------------------------------------|
| FILE_NAME             | VARCHAR2 (512)                    | NOT NULL | Name or pattern specifying the files that need to be monitored          |
| CREDENTIAL_OWNER      | VARCHAR2 (128)                    |          | Owner of the credential that should be used to authorize the file watch |
| CREDENTIAL_NAME       | VARCHAR2 (128)                    |          | Name of the credential that should be used to authorize the file watch  |
| MIN_FILE_SIZE         | NUMBER                            | NOT NULL | Minimum size of the file being monitored                                |
| STEADY_STATE_DURATION | INTERVAL DAY (3)<br>TO SECOND (0) |          | Time to wait before concluding that the file has stopped growing        |
| LAST_MODIFIED_TIME    | TIMESTAMP (6) WITH<br>TIME ZONE   |          | Time at which this file watcher was last modified                       |
| COMMENTS              | VARCHAR2 (4000)                   |          | Comments on the file watch request                                      |

 **See Also:**

- ["DBA\\_SCHEDULER\\_FILE\\_WATCHERS"](#)
- ["USER\\_SCHEDULER\\_FILE\\_WATCHERS"](#)

## 4.60 ALL\_SCHEDULER\_GLOBAL\_ATTRIBUTE

ALL\_SCHEDULER\_GLOBAL\_ATTRIBUTE displays the values of all scheduler attributes (for example, DEFAULT\_TIMEZONE and CURRENT\_OPEN\_WINDOW).

### Related View

DBA\_SCHEDULER\_GLOBAL\_ATTRIBUTE displays the values of all scheduler attributes in the database.

| Column         | Datatype       | NULL     | Description                      |
|----------------|----------------|----------|----------------------------------|
| ATTRIBUTE_NAME | VARCHAR2 (128) | NOT NULL | Name of the Scheduler attribute  |
| VALUE          | VARCHAR2 (128) |          | Value of the Scheduler attribute |

 **See Also:**

- ["DBA\\_SCHEDULER\\_GLOBAL\\_ATTRIBUTE"](#)

## 4.61 ALL\_SCHEDULER\_GROUP\_MEMBERS

ALL\_SCHEDULER\_GROUP\_MEMBERS displays information about the members of the Scheduler object groups accessible to the current user.

### Related Views

- DBA\_SCHEDULER\_GROUP\_MEMBERS displays information about the members of all Scheduler object groups in the database.
- USER\_SCHEDULER\_GROUP\_MEMBERS displays information about the members of the Scheduler object groups owned by the current user. This view does not display the OWNER column.

| Column      | Datatype       | NULL     | Description                      |
|-------------|----------------|----------|----------------------------------|
| OWNER       | VARCHAR2 (128) | NOT NULL | Owner of the group               |
| GROUP_NAME  | VARCHAR2 (128) | NOT NULL | Name of the group                |
| MEMBER_NAME | VARCHAR2 (523) |          | Name of the member of this group |



### See Also:

- "DBA\_SCHEDULER\_GROUP\_MEMBERS"
- "USER\_SCHEDULER\_GROUP\_MEMBERS"

## 4.62 ALL\_SCHEDULER\_GROUPS

ALL\_SCHEDULER\_GROUPS displays information about the Scheduler object groups accessible to the current user.

### Related Views

- DBA\_SCHEDULER\_GROUPS displays information about all Scheduler object groups in the database.
- USER\_SCHEDULER\_GROUPS displays information about the Scheduler object groups owned by the current user. This view does not display the OWNER column.

| Column            | Datatype       | NULL     | Description                                                                                                                                             |
|-------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER             | VARCHAR2 (128) | NOT NULL | Owner of the group                                                                                                                                      |
| GROUP_NAME        | VARCHAR2 (128) | NOT NULL | Name of the group                                                                                                                                       |
| GROUP_TYPE        | VARCHAR2 (13)  |          | Type of object contained in the group: <ul style="list-style-type: none"><li>• WINDOW</li><li>• JOB</li><li>• DB_DEST</li><li>• EXTERNAL_DEST</li></ul> |
| ENABLED           | VARCHAR2 (5)   |          | Indicates whether the group is enabled (TRUE) or disabled (FALSE)                                                                                       |
| NUMBER_OF_MEMBERS | NUMBER         |          | Number of members in this group                                                                                                                         |

| Column   | Datatype        | NULL | Description                          |
|----------|-----------------|------|--------------------------------------|
| COMMENTS | VARCHAR2 (4000) |      | An optional comment about this group |

 **See Also:**

- "DBA\_SCHEDULER\_GROUPS"
- "USER\_SCHEDULER\_GROUPS"

## 4.63 ALL\_SCHEDULER\_INCOMPAT\_MEMBER

ALL\_SCHEDULER\_INCOMPAT\_MEMBER displays all Scheduler incompatibility resource objects members accessible to the current user.

### Related Views

- DBA\_SCHEDULER\_INCOMPAT\_MEMBER displays all Scheduler incompatibility resource objects members in the database.
- USER\_SCHEDULER\_INCOMPAT\_MEMBER displays all Scheduler incompatibility resource objects members owned by the current user.

| Column                | Datatype       | NULL     | Description                                                         |
|-----------------------|----------------|----------|---------------------------------------------------------------------|
| INCOMPATIBILITY_OWNER | VARCHAR2 (128) | NOT NULL | Owner of the incompatibility resource object containing this member |
| INCOMPATIBILITY_NAME  | VARCHAR2 (128) | NOT NULL | Name of the incompatibility resource object containing this member  |
| OBJECT_OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the incompatibility resource member                        |
| OBJECT_NAME           | VARCHAR2 (128) | NOT NULL | Name of the incompatibility resource member                         |

 **See Also:**

- "DBA\_SCHEDULER\_INCOMPAT\_MEMBER"
- "USER\_SCHEDULER\_INCOMPAT\_MEMBER"

## 4.64 ALL\_SCHEDULER\_INCOMPATS

ALL\_SCHEDULER\_INCOMPATS displays all Scheduler incompatibility resource objects accessible to the current user.

### Related Views

- DBA\_SCHEDULER\_INCOMPATS displays all Scheduler incompatibility resource objects in the database.

- **USER\_SCHEDULER\_INCOMPATS** displays all Scheduler incompatibility resource objects owned by the current user. This view does not display the **OWNER** column.

| Column               | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                | VARCHAR2 (128) | NOT NULL | Owner of the incompatibility resource object                                                                                                                                                                                                                                                                                                                                                                              |
| INCOMPATIBILITY_NAME | VARCHAR2 (128) | NOT NULL | Name of the incompatibility resource object                                                                                                                                                                                                                                                                                                                                                                               |
| CONSTRAINT_LEVEL     | VARCHAR2 (13)  |          | JOB_LEVEL or PROGRAM_LEVEL<br>The default value <b>JOB_LEVEL</b> indicates that only a single job that is based on the program (or programs) mentioned in the <b>object_name</b> argument of the <b>DBMS_SCHEDULER.CREATE_INCOMPATIBILITY</b> procedure can run at one time.<br>The value <b>PROGRAM_LEVEL</b> indicates that the programs are incompatible, but the jobs based on the same program are not incompatible. |
| ENABLED              | VARCHAR2 (5)   |          | Indicates whether the incompatibility is enabled ( <b>TRUE</b> ) or not ( <b>FALSE</b> )                                                                                                                                                                                                                                                                                                                                  |
| JOBS_RUNNING_COUNT   | NUMBER         |          | Current number of running jobs using the incompatibility resource object                                                                                                                                                                                                                                                                                                                                                  |
| COMMENTS             | VARCHAR2 (256) |          | Comments for the resource incompatibility object                                                                                                                                                                                                                                                                                                                                                                          |



#### See Also:

- "DBA\_SCHEDULER\_INCOMPATS"
- "USER\_SCHEDULER\_INCOMPATS"

## 4.65 ALL\_SCHEDULER\_JOB\_ARGS

**ALL\_SCHEDULER\_JOB\_ARGS** displays information about the arguments of the Scheduler jobs accessible to the current user.

#### Related Views

- **DBA\_SCHEDULER\_JOB\_ARGS** displays information about the arguments of all Scheduler jobs in the database.
- **USER\_SCHEDULER\_JOB\_ARGS** displays information about the arguments of the Scheduler jobs owned by the current user. This view does not display the **OWNER** column.

| Column            | Datatype        | NULL | Description                                                          |
|-------------------|-----------------|------|----------------------------------------------------------------------|
| OWNER             | VARCHAR2 (128)  |      | Owner of the job to which the argument belongs                       |
| JOB_NAME          | VARCHAR2 (128)  |      | Name of the job to which the argument belongs                        |
| ARGUMENT_NAME     | VARCHAR2 (128)  |      | Optional name of the argument                                        |
| ARGUMENT_POSITION | NUMBER          |      | Position of the argument in the argument list                        |
| ARGUMENT_TYPE     | VARCHAR2 (257)  |      | Data type of the argument                                            |
| VALUE             | VARCHAR2 (4000) |      | Value of the argument (in string format) if the argument is a string |

| Column        | Datatype     | NULL | Description                               |
|---------------|--------------|------|-------------------------------------------|
| ANYDATA_VALUE | ANYDATA      |      | Value of the argument (in AnyData format) |
| OUT_ARGUMENT  | VARCHAR2 (5) |      | Reserved for future use                   |

**See Also:**

- ["DBA\\_SCHEDULER\\_JOB\\_ARGS"](#)
- ["USER\\_SCHEDULER\\_JOB\\_ARGS"](#)

## 4.66 ALL\_SCHEDULER\_JOB\_CLASSES

ALL\_SCHEDULER\_JOB\_CLASSES displays information about the Scheduler job classes accessible to the current user.

**Related View**

DBA\_SCHEDULER\_JOB\_CLASSES displays information about all Scheduler job classes in the database.

| Column                  | Datatype        | NULL     | Description                                                                                                                                                            |
|-------------------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                   | VARCHAR2 (128)  | NOT NULL | Owner of the Scheduler job class                                                                                                                                       |
| JOB_CLASS_NAME          | VARCHAR2 (128)  | NOT NULL | Name of the Scheduler job class                                                                                                                                        |
| RESOURCE_CONSUMER_GROUP | VARCHAR2 (128)  |          | Resource consumer group associated with the class                                                                                                                      |
| SERVICE                 | VARCHAR2 (64)   |          | Name of the service the class is associated with                                                                                                                       |
| LOGGING_LEVEL           | VARCHAR2 (11)   |          | Amount of logging that will be done pertaining to the class: <ul style="list-style-type: none"><li>• OFF</li><li>• RUNS</li><li>• FAILED RUNS</li><li>• FULL</li></ul> |
| LOG_HISTORY             | NUMBER          |          | History (in days) to maintain in the job log for the class                                                                                                             |
| COMMENTS                | VARCHAR2 (4000) |          | Comments on the class                                                                                                                                                  |

**See Also:**

- ["DBA\\_SCHEDULER\\_JOB\\_CLASSES"](#)

## 4.67 ALL\_SCHEDULER\_JOB\_DESTS

ALL\_SCHEDULER\_JOB\_DESTS displays information about the state of the jobs accessible to the current user at each of their destinations.

### Related Views

- DBA\_SCHEDULER\_JOB\_DESTS displays information about the state of all jobs in the database at each of their destinations.
- USER\_SCHEDULER\_JOB\_DESTS displays information about the state of the jobs owned by the current user at each of their destinations. This view does not display the OWNER column.

| Column            | Datatype                     | NULL | Description                                                                                                                                                                                                                                                                                                                                |
|-------------------|------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER             | VARCHAR2 (128)               |      | Owner of the Scheduler job                                                                                                                                                                                                                                                                                                                 |
| JOB_NAME          | VARCHAR2 (128)               |      | Name of the Scheduler job                                                                                                                                                                                                                                                                                                                  |
| JOB_SUBNAME       | VARCHAR2 (128)               |      | Subname of the Scheduler job                                                                                                                                                                                                                                                                                                               |
| CREDENTIAL_OWNER  | VARCHAR2 (128)               |      | Owner of the credential used for the remote destination                                                                                                                                                                                                                                                                                    |
| CREDENTIAL_NAME   | VARCHAR2 (128)               |      | Name of the credential used for the remote destination                                                                                                                                                                                                                                                                                     |
| DESTINATION_OWNER | VARCHAR2 (261)               |      | Owner of the destination object that points to the destination                                                                                                                                                                                                                                                                             |
| DESTINATION       | VARCHAR2 (261)               |      | Name of the destination object or the name of the destination itself                                                                                                                                                                                                                                                                       |
| JOB_DEST_ID       | NUMBER                       |      | Numerical ID assigned to the job at this destination                                                                                                                                                                                                                                                                                       |
| ENABLED           | VARCHAR2 (5)                 |      | Indicates whether the parent job is enabled (TRUE) or disabled (FALSE)                                                                                                                                                                                                                                                                     |
| REFS_ENABLED      | VARCHAR2 (5)                 |      | Indicates whether this destination and its agent are enabled (TRUE) or disabled (FALSE)                                                                                                                                                                                                                                                    |
| STATE             | VARCHAR2 (15)                |      | State of this job at this destination: <ul style="list-style-type: none"> <li>• DISABLED</li> <li>• RUNNING</li> <li>• CHAIN_STALLED</li> <li>• SCHEDULED</li> <li>• RETRY SCHEDULED</li> <li>• READY TO RUN</li> <li>• COMPLETED</li> <li>• BROKEN</li> <li>• FAILED</li> <li>• SUCCEEDED</li> <li>• REMOTE</li> <li>• STOPPED</li> </ul> |
| NEXT_START_DATE   | TIMESTAMP (6) WITH TIME ZONE |      | Next start time of this job at this destination                                                                                                                                                                                                                                                                                            |
| RUN_COUNT         | NUMBER                       |      | Number of times this job has run at this destination                                                                                                                                                                                                                                                                                       |
| RETRY_COUNT       | NUMBER                       |      | Number of times this job has been retried at this destination                                                                                                                                                                                                                                                                              |
| FAILURE_COUNT     | NUMBER                       |      | Number of times this job has failed at this destination                                                                                                                                                                                                                                                                                    |
| LAST_START_DATE   | TIMESTAMP (6) WITH TIME ZONE |      | Last time this job started at this destination                                                                                                                                                                                                                                                                                             |

| Column        | Datatype                        | NULL | Description                                  |
|---------------|---------------------------------|------|----------------------------------------------|
| LAST_END_DATE | TIMESTAMP (6) WITH<br>TIME ZONE |      | Last time this job ended at this destination |

**See Also:**

- "DBA\_SCHEDULER\_JOB\_DESTS"
- "USER\_SCHEDULER\_JOB\_DESTS"

## 4.68 ALL\_SCHEDULER\_JOB\_LOG

ALL\_SCHEDULER\_JOB\_LOG displays log information for the Scheduler jobs accessible to the current user.

**Related Views**

- DBA\_SCHEDULER\_JOB\_LOG displays log information for all Scheduler jobs in the database.
- USER\_SCHEDULER\_JOB\_LOG displays log information for the Scheduler jobs owned by the current user.

| Column      | Datatype                        | NULL     | Description                                         |
|-------------|---------------------------------|----------|-----------------------------------------------------|
| LOG_ID      | NUMBER                          | NOT NULL | Unique identifier that identifies a row             |
| LOG_DATE    | TIMESTAMP (6) WITH<br>TIME ZONE |          | Date of the log entry                               |
| OWNER       | VARCHAR2 (128)                  |          | Owner of the Scheduler job                          |
| JOB_NAME    | VARCHAR2 (261)                  |          | Name of the Scheduler job                           |
| JOB_SUBNAME | VARCHAR2 (261)                  |          | Subname of the Scheduler job (for a chain step job) |
| JOB_CLASS   | VARCHAR2 (128)                  |          | Class that the job belonged to at the time of entry |
| OPERATION   | VARCHAR2 (30)                   |          | Operation corresponding to the log entry            |

| Column            | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS            | VARCHAR2 (30)  |      | <p>Status of the operation, if applicable. Possible values for this column are dependent on the value in the OPERATION column. In most cases, STATUS will be NULL. Only for job run operations will it have a value. STATUS will be NULL when OPERATION is one of the following:</p> <ul style="list-style-type: none"> <li>CREATE - Job was created</li> <li>UPDATE - One or more job attributes have been modified</li> <li>ENABLE - Job has been enabled</li> <li>DISABLE - Job has been disabled</li> <li>COMPLETED - For repeating jobs only, job has reached its end date or maximum number of runs</li> <li>BROKEN - Job has reached its maximum number of failures</li> </ul> <p>STATUS can be SUCCEEDED (job run completed successfully), FAILED (job run failed), or STOPPED (job run was stopped) when OPERATION is one of the following:</p> <ul style="list-style-type: none"> <li>RUN - Regular job run</li> <li>RETRY_RUN - Job is being retried because the previous run resulted in an error and RESTARTABLE is set to TRUE</li> <li>RECOVERY_RUN - Job is being rerun because the database went down, or the job worker process crashed and RESTARTABLE is set to TRUE</li> </ul> |
| USER_NAME         | VARCHAR2 (128) |      | Name of the user who performed the operation, if applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CLIENT_ID         | VARCHAR2 (64)  |      | Client identifier of the user who performed the operation, if applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| GLOBAL_UID        | VARCHAR2 (32)  |      | Global user identifier of the user who performed the operation, if applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CREDENTIAL_OWNER  | VARCHAR2 (261) |      | Owner of the credential used for this remote job run                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CREDENTIAL_NAME   | VARCHAR2 (261) |      | Name of the credential used for this remote job run                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DESTINATION_OWNER | VARCHAR2 (261) |      | Owner of the destination object used in this remote job run; NULL if no object used                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DESTINATION       | VARCHAR2 (261) |      | Destination for a remote job operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ADDITIONAL_INFO   | CLOB           |      | Additional information on the entry, if applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |



#### See Also:

- "DBA\_SCHEDULER\_JOB\_LOG"
- "USER\_SCHEDULER\_JOB\_LOG"



## 4.69 ALL\_SCHEDULER\_JOB\_RUN\_DETAILS

ALL\_SCHEDULER\_JOB\_RUN\_DETAILS displays log run details for the Scheduler jobs accessible to the current user.

### Related Views

- DBA\_SCHEDULER\_JOB\_RUN\_DETAILS displays log run details for all Scheduler jobs in the database.
- USER\_SCHEDULER\_JOB\_RUN\_DETAILS displays log run details for the Scheduler jobs owned by the current user.

| Column            | Datatype                     | NULL     | Description                                                                         |
|-------------------|------------------------------|----------|-------------------------------------------------------------------------------------|
| LOG_ID            | NUMBER                       | NOT NULL | Unique identifier of the log entry (foreign key of the *_SCHEDULER_JOB_LOG views)   |
| LOG_DATE          | TIMESTAMP(6) WITH TIME ZONE  |          | Date of the log entry                                                               |
| OWNER             | VARCHAR2(128)                |          | Owner of the Scheduler job                                                          |
| JOB_NAME          | VARCHAR2(261)                |          | Name of the Scheduler job                                                           |
| JOB_SUBNAME       | VARCHAR2(261)                |          | Subname of the Scheduler job (for a chain step job)                                 |
| STATUS            | VARCHAR2(30)                 |          | Status of the job run                                                               |
| ERROR#            | NUMBER                       |          | Error number in the case of an error                                                |
| REQ_START_DATE    | TIMESTAMP(6) WITH TIME ZONE  |          | Requested start date of the job run                                                 |
| ACTUAL_START_DATE | TIMESTAMP(6) WITH TIME ZONE  |          | Actual date on which the job was run                                                |
| RUN_DURATION      | INTERVAL DAY(3) TO SECOND(0) |          | Duration of the job run                                                             |
| INSTANCE_ID       | NUMBER                       |          | Identifier of the instance on which the job was run                                 |
| SESSION_ID        | VARCHAR2(128)                |          | Session identifier of the job run                                                   |
| SLAVE_PID         | VARCHAR2(30)                 |          | Process identifier of the worker on which the job was run                           |
| CPU_USED          | INTERVAL DAY(3) TO SECOND(2) |          | Amount of CPU used for the job run                                                  |
| CREDENTIAL_OWNER  | VARCHAR2(261)                |          | Owner of the credential used for this remote job run                                |
| CREDENTIAL_NAME   | VARCHAR2(261)                |          | Name of the credential used for this remote job run                                 |
| DESTINATION_OWNER | VARCHAR2(261)                |          | Owner of the destination object used in this remote job run; NULL if no object used |
| DESTINATION       | VARCHAR2(261)                |          | Destination for a remote job operation                                              |
| ADDITIONAL_INFO   | VARCHAR2(4000)               |          | Additional information on the job run, if applicable                                |
| ERRORS            | VARCHAR2(4000)               |          | Error messages generated by this job run                                            |
| OUTPUT            | VARCHAR2(4000)               |          | Output messages generated by this job run                                           |
| BINARY_ERRORS     | BLOB                         |          | Error messages generated by this job run in a binary format                         |
| BINARY_OUTPUT     | BLOB                         |          | Binary output messages generated by this job run                                    |

**See Also:**

- ["DBA\\_SCHEDULER\\_JOB\\_RUN\\_DETAILS"](#)
- ["USER\\_SCHEDULER\\_JOB\\_RUN\\_DETAILS"](#)

## 4.70 ALL\_SCHEDULER\_JOBS

ALL\_SCHEDULER\_JOBS displays information about the Scheduler jobs accessible to the current user.

**Related Views**

- DBA\_SCHEDULER\_JOBS displays information about all Scheduler jobs in the database.
- USER\_SCHEDULER\_JOBS displays information about the Scheduler jobs owned by the current user. This view does not display the OWNER column.

| Column              | Datatype        | NULL | Description                                                                                                                                                                                                                          |
|---------------------|-----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128)  |      | Owner of the Scheduler job                                                                                                                                                                                                           |
| JOB_NAME            | VARCHAR2 (128)  |      | Name of the Scheduler job                                                                                                                                                                                                            |
| JOB_SUBNAME         | VARCHAR2 (128)  |      | Subname of the Scheduler job (for a job running a chain step)                                                                                                                                                                        |
| JOB_STYLE           | VARCHAR2 (17)   |      | Job style: <ul style="list-style-type: none"> <li>• REGULAR</li> <li>• LIGHTWEIGHT</li> <li>• IN_MEMORY_RUNTIME</li> <li>• IN_MEMORY_FULL</li> </ul>                                                                                 |
| JOB_CREATOR         | VARCHAR2 (128)  |      | Original creator of the job                                                                                                                                                                                                          |
| CLIENT_ID           | VARCHAR2 (65)   |      | Client identifier of the user creating the job                                                                                                                                                                                       |
| GLOBAL_UID          | VARCHAR2 (33)   |      | Global user identifier of the user creating the job                                                                                                                                                                                  |
| PROGRAM_OWNER       | VARCHAR2 (4000) |      | Owner of the program associated with the job                                                                                                                                                                                         |
| PROGRAM_NAME        | VARCHAR2 (4000) |      | Name of the program associated with the job                                                                                                                                                                                          |
| JOB_TYPE            | VARCHAR2 (16)   |      | Inline job action type: <ul style="list-style-type: none"> <li>• PLSQL_BLOCK</li> <li>• STORED_PROCEDURE</li> <li>• EXECUTABLE</li> <li>• CHAIN</li> <li>• SQL_SCRIPT</li> <li>• BACKUP_SCRIPT</li> <li>• EXTERNAL_SCRIPT</li> </ul> |
| JOB_ACTION          | VARCHAR2 (4000) |      | Inline job action                                                                                                                                                                                                                    |
| NUMBER_OF_ARGUMENTS | NUMBER          |      | Inline number of job arguments                                                                                                                                                                                                       |
| SCHEDULE_OWNER      | VARCHAR2 (4000) |      | Owner of the schedule that the job uses (can be a window or a window group)                                                                                                                                                          |
| SCHEDULE_NAME       | VARCHAR2 (4000) |      | Name of the schedule that the job uses (can be a window or a window group)                                                                                                                                                           |

| Column              | Datatype                     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------|------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCHEDULE_TYPE       | VARCHAR2 (12)                |      | Type of the schedule that the job uses: <ul style="list-style-type: none"> <li>• IMMEDIATE - Start date and repeat interval are NULL</li> <li>• ONCE - Repeat interval is NULL</li> <li>• PLSQL - PL/SQL expression used as schedule</li> <li>• CALENDAR - Oracle calendaring expression used as schedule</li> <li>• EVENT - Event schedule</li> <li>• NAMED - Named schedule</li> <li>• WINDOW - Window used as schedule</li> <li>• WINDOW_GROUP - Window group used as schedule</li> </ul> |
| START_DATE          | TIMESTAMP (6) WITH TIME ZONE |      | Original scheduled start date of the job (for an inline schedule)                                                                                                                                                                                                                                                                                                                                                                                                                            |
| REPEAT_INTERVAL     | VARCHAR2 (4000)              |      | Inline schedule PL/SQL expression or calendar string                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EVENT_QUEUE_OWNER   | VARCHAR2 (128)               |      | Owner of the source queue into which the event will be raised                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EVENT_QUEUE_NAME    | VARCHAR2 (128)               |      | Name of the source queue into which the event will be raised                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EVENT_QUEUE_AGENT   | VARCHAR2 (523)               |      | Name of the AQ agent used by the user on the event source queue (if it is a secure queue)                                                                                                                                                                                                                                                                                                                                                                                                    |
| EVENT_CONDITION     | VARCHAR2 (4000)              |      | Boolean expression used as the subscription rule for the event on the source queue                                                                                                                                                                                                                                                                                                                                                                                                           |
| EVENT_RULE          | VARCHAR2 (261)               |      | Name of the rule used by the coordinator to trigger the event-based job                                                                                                                                                                                                                                                                                                                                                                                                                      |
| FILE_WATCHER_OWNER  | VARCHAR2 (261)               |      | Owner of the file watcher on which this job is based                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| FILE_WATCHER_NAME   | VARCHAR2 (261)               |      | Name of the file watcher on which this job is based                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| END_DATE            | TIMESTAMP (6) WITH TIME ZONE |      | Date after which the job will no longer run (for an inline schedule)                                                                                                                                                                                                                                                                                                                                                                                                                         |
| JOB_CLASS           | VARCHAR2 (128)               |      | Name of the job class associated with the job                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| ENABLED             | VARCHAR2 (5)                 |      | Indicates whether the job is enabled (TRUE) or disabled (FALSE)                                                                                                                                                                                                                                                                                                                                                                                                                              |
| AUTO_DROP           | VARCHAR2 (5)                 |      | Indicates whether the job will be dropped when it has completed (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                                                                        |
| RESTART_ON_RECOVERY | VARCHAR2 (5)                 |      | Indicates whether the step should be restarted on database recovery (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                                                                    |
| RESTART_ON_FAILURE  | VARCHAR2 (5)                 |      | Indicates whether the step should be restarted on application failure (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                                                                  |

| Column               | Datatype                       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------|--------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATE                | VARCHAR2 (20)                  |      | <p>Current state of the job:</p> <ul style="list-style-type: none"> <li>BLOCKED</li> <li>BROKEN</li> <li>CHAIN_STALLED</li> <li>COMPLETED</li> <li>DISABLED</li> <li>FAILED</li> <li>READY TO RUN</li> <li>REMOTE</li> <li>RESOURCE_UNAVAILABLE</li> <li>RETRY SCHEDULED</li> <li>RUNNING</li> <li>SCHEDULED</li> <li>SOME FAILED</li> <li>STOPPED</li> <li>SUCCEEDED</li> </ul> |
| JOB_PRIORITY         | NUMBER                         |      | Priority of the job relative to other jobs in the same class                                                                                                                                                                                                                                                                                                                     |
| RUN_COUNT            | NUMBER                         |      | Number of times the job has run                                                                                                                                                                                                                                                                                                                                                  |
| UPTIME_RUN_COUNT     | NUMBER                         |      | <p>Number of runs since the database last restarted. For in-memory jobs, this column is populated, but the RUN_COUNT column is not populated.</p> <p>For all other jobs, this column is NULL.</p>                                                                                                                                                                                |
| MAX_RUNS             | NUMBER                         |      | Maximum number of times the job is scheduled to run                                                                                                                                                                                                                                                                                                                              |
| FAILURE_COUNT        | NUMBER                         |      | Number of times the job has failed to run                                                                                                                                                                                                                                                                                                                                        |
| UPTIME_FAILURE_COUNT | NUMBER                         |      | <p>Number of failures since the database last restarted. For in-memory jobs, this column is populated, but the FAILURE_COUNT column is not populated.</p> <p>For all other jobs, this column is NULL.</p>                                                                                                                                                                        |
| MAX_FAILURES         | NUMBER                         |      | Number of times the job will be allowed to fail before being marked broken                                                                                                                                                                                                                                                                                                       |
| RETRY_COUNT          | NUMBER                         |      | Number of times the job has retried, if it is retrying                                                                                                                                                                                                                                                                                                                           |
| LAST_START_DATE      | TIMESTAMP (6) WITH TIME ZONE   |      | Last date on which the job started running                                                                                                                                                                                                                                                                                                                                       |
| LAST_RUN_DURATION    | INTERVAL DAY (9) TO SECOND (6) |      | Amount of time the job took to complete during the last run                                                                                                                                                                                                                                                                                                                      |
| NEXT_RUN_DATE        | TIMESTAMP (6) WITH TIME ZONE   |      | Next date on which the job is scheduled to run                                                                                                                                                                                                                                                                                                                                   |
| SCHEDULE_LIMIT       | INTERVAL DAY (3) TO SECOND (0) |      | Time after which a job which has not run yet will be rescheduled                                                                                                                                                                                                                                                                                                                 |
| MAX_RUN_DURATION     | INTERVAL DAY (3) TO SECOND (0) |      | Maximum amount of time for which the job will be allowed to run                                                                                                                                                                                                                                                                                                                  |
| LOGGING_LEVEL        | VARCHAR2 (11)                  |      | <p>Amount of logging that will be done pertaining to the job:</p> <ul style="list-style-type: none"> <li>OFF</li> <li>RUNS</li> <li>FAILED RUNS</li> <li>FULL</li> </ul>                                                                                                                                                                                                         |

| Column                        | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------|-----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STORE_OUTPUT                  | VARCHAR2 (5)    |      | Indicates whether all job output messages for the job are stored in the <code>OUTPUT</code> column of the <code>*_JOB_RUN_DETAILS</code> views for job runs that are logged.<br>Possible values: <ul style="list-style-type: none"> <li><code>TRUE</code>: All job output messages for the job are stored in the <code>OUTPUT</code> column of the <code>*_JOB_RUN_DETAILS</code> views for job runs that are logged. This is the default for new jobs. A new job is a job created using Oracle Database 12c software.</li> <li><code>FALSE</code>: Job output messages for the job are not stored in the <code>OUTPUT</code> column of the <code>*_JOB_RUN_DETAILS</code> views. This is the default for existing jobs. An existing job is a job created using pre-Oracle Database 12c software.</li> </ul> |
| STOP_ON_WINDOW_CLOSE          | VARCHAR2 (5)    |      | Indicates whether the job will stop if a window associated with the job closes ( <code>TRUE</code> ) or not ( <code>FALSE</code> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| INSTANCE_STICKINESS           | VARCHAR2 (5)    |      | Indicates whether the job is sticky ( <code>TRUE</code> ) or not ( <code>FALSE</code> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| RAISE_EVENTS                  | VARCHAR2 (4000) |      | List of job events to raise for the job: <ul style="list-style-type: none"> <li><code>JOB_STARTED</code></li> <li><code>JOB_SUCCEEDED</code></li> <li><code>JOB_FAILED</code></li> <li><code>JOB_BROKEN</code></li> <li><code>JOB_COMPLETED</code></li> <li><code>JOB_STOPPED</code></li> <li><code>JOB_SCH_LIM_REACHED</code></li> <li><code>JOB_DISABLED</code></li> <li><code>JOB_CHAIN_STALLED</code></li> <li><code>JOB_OVER_MAX_DUR</code></li> </ul>                                                                                                                                                                                                                                                                                                                                                  |
| SYSTEM                        | VARCHAR2 (5)    |      | Indicates whether the job is a system job ( <code>TRUE</code> ) or not ( <code>FALSE</code> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| JOB_WEIGHT                    | NUMBER          |      | Weight of the job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| NLS_ENV                       | VARCHAR2 (4000) |      | NLS environment of the job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SOURCE                        | VARCHAR2 (128)  |      | Source global database identifier                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| NUMBER_OF_DESTINATIONS        | NUMBER          |      | Number of destinations associated with this job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| DESTINATION_OWNER             | VARCHAR2 (261)  |      | Owner of the destination object (if used), else NULL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| DESTINATION                   | VARCHAR2 (261)  |      | Destination that this job will run on                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CREDENTIAL_OWNER              | VARCHAR2 (128)  |      | Owner of the credential to be used for an external job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CREDENTIAL_NAME               | VARCHAR2 (128)  |      | Name of the credential to be used for an external job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| INSTANCE_ID                   | NUMBER          |      | Instance on which the user requests the job to run                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DEFERRED_DROP                 | VARCHAR2 (5)    |      | Indicates whether the job will be dropped when completed due to user request ( <code>TRUE</code> ) or not ( <code>FALSE</code> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ALLOW_RUNS_IN_RESTRICTED_MODE | VARCHAR2 (5)    |      | Indicates whether the job is allowed to run in restricted session mode ( <code>TRUE</code> ) or not ( <code>FALSE</code> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| COMMENTS                      | VARCHAR2 (4000) |      | Comments on the job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| FLAGS                         | NUMBER          |      | This column is for internal use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| RESTARTABLE                   | VARCHAR2 (5)    |      | Indicates whether the job can be restarted ( <code>TRUE</code> ) or not ( <code>FALSE</code> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Column                   | Datatype       | NULL | Description                                                                                                                                                              |
|--------------------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HAS_CONSTRAINTS          | VARCHAR2 (5)   |      | Indicates whether the job (not including the program of the job) is part of a resource constraint or incompatibility ( <code>TRUE</code> ) or not ( <code>FALSE</code> ) |
| CONNECT_CREDENTIAL_OWNER | VARCHAR2 (128) |      | Owner of connect credential                                                                                                                                              |
| CONNECT_CREDENTIAL_NAME  | VARCHAR2 (128) |      | Name of connect credential                                                                                                                                               |
| FAIL_ON_SCRIPT_ERROR     | VARCHAR2 (5)   |      | Indicates whether this job fails on script error ( <code>TRUE</code> ) or not ( <code>FALSE</code> )                                                                     |



#### See Also:

- ["DBA\\_SCHEDULER\\_JOBS"](#)
- ["USER\\_SCHEDULER\\_JOBS"](#)

## 4.71 ALL\_SCHEDULER\_NOTIFICATIONS

`ALL_SCHEDULER_NOTIFICATIONS` displays information about the E-mail notifications for the jobs accessible to the current user.

#### Related Views

- `DBA_SCHEDULER_NOTIFICATIONS` displays information about the E-mail notifications for all jobs in the database.
- `USER_SCHEDULER_NOTIFICATIONS` displays information about the E-mail notifications for the jobs owned by the current user. This view does not display the `OWNER` column.

| Column             | Datatype        | NULL     | Description                                                  |
|--------------------|-----------------|----------|--------------------------------------------------------------|
| NOTIFICATION_OWNER | VARCHAR2 (128)  | NOT NULL | Owner of this notification                                   |
| OWNER              | VARCHAR2 (128)  | NOT NULL | Owner of the job this notification is for                    |
| JOB_NAME           | VARCHAR2 (128)  | NOT NULL | Name of the job this notification is for                     |
| JOB_SUBNAME        | VARCHAR2 (128)  |          | Subname of the job this notification is for                  |
| RECIPIENT          | VARCHAR2 (4000) | NOT NULL | E-mail address to send this E-mail notification to           |
| SENDER             | VARCHAR2 (4000) |          | E-mail address to send this E-mail notification from         |
| SUBJECT            | VARCHAR2 (4000) |          | Subject of the notification E-mail                           |
| BODY               | VARCHAR2 (4000) |          | Body of the notification E-mail                              |
| FILTER_CONDITION   | VARCHAR2 (4000) |          | Filter specifying which job events to send notifications for |

| Column     | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                           |
|------------|---------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EVENT      | VARCHAR2 (19) |          | Job event to send notifications for: <ul style="list-style-type: none"> <li>JOB_STARTED</li> <li>JOB_SUCCEEDED</li> <li>JOB_FAILED</li> <li>JOB_BROKEN</li> <li>JOB_COMPLETED</li> <li>JOB_STOPPED</li> <li>JOB_SCH_LIM_REACHED</li> <li>JOB_DISABLED</li> <li>JOB_CHAIN_STALLED</li> <li>JOB_OVER_MAX_DUR</li> </ul> |
| EVENT_FLAG | NUMBER        | NOT NULL | Event number of the job event to send notifications for                                                                                                                                                                                                                                                               |



#### See Also:

- "DBA\_SCHEDULER\_NOTIFICATIONS"
- "USER\_SCHEDULER\_NOTIFICATIONS"

## 4.72 ALL\_SCHEDULER\_PROGRAM\_ARGS

ALL\_SCHEDULER\_PROGRAM\_ARGS displays information about the arguments of the Scheduler programs accessible to the current user.

#### Related Views

- DBA\_SCHEDULER\_PROGRAM\_ARGS displays information about the arguments of all Scheduler programs in the database.
- USER\_SCHEDULER\_PROGRAM\_ARGS displays information about the arguments of the Scheduler programs owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                             |
|--------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the program to which the argument belongs                                                                                                                                                                                      |
| PROGRAM_NAME       | VARCHAR2 (128) | NOT NULL | Name of the program to which the argument belongs                                                                                                                                                                                       |
| ARGUMENT_NAME      | VARCHAR2 (128) |          | Optional name of the argument                                                                                                                                                                                                           |
| ARGUMENT_POSITION  | NUMBER         | NOT NULL | Position of the argument in the argument list                                                                                                                                                                                           |
| ARGUMENT_TYPE      | VARCHAR2 (257) |          | Data type of the argument                                                                                                                                                                                                               |
| METADATA_ATTRIBUTE | VARCHAR2 (19)  |          | Metadata attribute: <ul style="list-style-type: none"> <li>JOB_NAME</li> <li>JOB_OWNER</li> <li>JOB_START</li> <li>WINDOW_START</li> <li>WINDOW_END</li> <li>JOB_SUBNAME</li> <li>EVENT_MESSAGE</li> <li>JOB_SCHEDULED_START</li> </ul> |

| Column                | Datatype        | NULL | Description                                                                        |
|-----------------------|-----------------|------|------------------------------------------------------------------------------------|
| DEFAULT_VALUE         | VARCHAR2 (4000) |      | Default value taken by the argument (in string format) if the argument is a string |
| DEFAULT_ANYDATA_VALUE | ANYDATA         |      | Default value taken by the argument (in AnyData format)                            |
| OUT_ARGUMENT          | VARCHAR2 (5)    |      | Reserved for future use                                                            |



#### See Also:

- "DBA\_SCHEDULER\_PROGRAM\_ARGS"
- "USER\_SCHEDULER\_PROGRAM\_ARGS"

## 4.73 ALL\_SCHEDULER\_PROGRAMS

ALL\_SCHEDULER\_PROGRAMS displays information about the Scheduler programs accessible to the current user.

#### Related Views

- DBA\_SCHEDULER\_PROGRAMS displays information about all Scheduler programs in the database.
- USER\_SCHEDULER\_PROGRAMS displays information about the Scheduler programs owned by the current user. This view does not display the OWNER column.

| Column              | Datatype                          | NULL     | Description                                                                                                                                   |
|---------------------|-----------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128)                    | NOT NULL | Owner of the Scheduler program                                                                                                                |
| PROGRAM_NAME        | VARCHAR2 (128)                    | NOT NULL | Name of the Scheduler program                                                                                                                 |
| PROGRAM_TYPE        | VARCHAR2 (16)                     |          | Type of the program action: <ul style="list-style-type: none"> <li>• PLSQL_BLOCK</li> <li>• STORED_PROCEDURE</li> <li>• EXECUTABLE</li> </ul> |
| PROGRAM_ACTION      | VARCHAR2 (4000)                   |          | String specifying the program action                                                                                                          |
| NUMBER_OF_ARGUMENTS | NUMBER                            |          | Number of arguments accepted by the program                                                                                                   |
| ENABLED             | VARCHAR2 (5)                      |          | Indicates whether the program is enabled (TRUE) or disabled (FALSE)                                                                           |
| DETACHED            | VARCHAR2 (5)                      |          | This column is for internal use                                                                                                               |
| SCHEDULE_LIMIT      | INTERVAL DAY (3)<br>TO SECOND (0) |          | Maximum delay in running the program after the scheduled start                                                                                |
| PRIORITY            | NUMBER                            |          | Priority of the program                                                                                                                       |
| WEIGHT              | NUMBER                            |          | Weight of the program                                                                                                                         |
| MAX_RUNS            | NUMBER                            |          | Maximum number of runs of any job based on this program                                                                                       |
| MAX_FAILURES        | NUMBER                            |          | Maximum number of failures of any job based on this program                                                                                   |



| Column           | Datatype                        | NULL | Description                                                                                                                                                  |
|------------------|---------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAX_RUN_DURATION | INTERVAL DAY(3)<br>TO SECOND(0) |      | Maximum amount of time this program can run                                                                                                                  |
| HAS_CONSTRAINTS  | VARCHAR2(5)                     |      | Indicates whether the job (not including the program of the job) is part of a resource constraint or incompatibility ( <b>TRUE</b> ) or not ( <b>FALSE</b> ) |
| NLS_ENV          | VARCHAR2(4000)                  |      | NLS environment in which the program was created                                                                                                             |
| COMMENTS         | VARCHAR2(4000)                  |      | Comments on the program                                                                                                                                      |

**See Also:**

- ["DBA\\_SCHEDULER\\_PROGRAMS"](#)
- ["USER\\_SCHEDULER\\_PROGRAMS"](#)

## 4.74 ALL\_SCHEDULER\_REMOTE\_DATABASES

**ALL\_SCHEDULER\_REMOTE\_DATABASES** displays information about the remote databases accessible to the current user that have been registered as sources and destinations for remote database jobs.

### Related View

**DBA\_SCHEDULER\_REMOTE\_DATABASES** displays information about all remote databases that have been registered as sources and destinations for remote database jobs.

| Column        | Datatype      | NULL     | Description                                                                                                           |
|---------------|---------------|----------|-----------------------------------------------------------------------------------------------------------------------|
| DATABASE_NAME | VARCHAR2(512) | NOT NULL | Global name of the remote database                                                                                    |
| REGISTERED_AS | VARCHAR2(11)  |          | Indicates whether the database is registered as a source ( <b>SOURCE</b> ) or as a destination ( <b>DESTINATION</b> ) |
| DATABASE_LINK | VARCHAR2(512) | NOT NULL | Name of a valid database link to the remote database                                                                  |

**See Also:**

- ["DBA\\_SCHEDULER\\_REMOTE\\_DATABASES"](#)

## 4.75 ALL\_SCHEDULER\_REMOTE\_JOBSTATE

**ALL\_SCHEDULER\_REMOTE\_JOBSTATE** displays information about the state of the jobs accessible to the current user at remote databases.

### Related Views

- **DBA\_SCHEDULER\_REMOTE\_JOBSTATE** displays information about the state of all jobs at remote databases.

- `USER_SCHEDULER_REMOTE_JOBSTATE` displays information about the state of the jobs owned by the current user at remote databases. This view does not display the `OWNER` column.

| Column          | Datatype                     | NULL     | Description                                                                                                                                                                                                                                                 |
|-----------------|------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128)               | NOT NULL | Owner of the Scheduler job                                                                                                                                                                                                                                  |
| JOB_NAME        | VARCHAR2 (128)               | NOT NULL | Name of the Scheduler job                                                                                                                                                                                                                                   |
| DESTINATION     | VARCHAR2 (512)               | NOT NULL | Name of the job destination                                                                                                                                                                                                                                 |
| STATE           | VARCHAR2 (15)                |          | State of the job at the destination: <ul style="list-style-type: none"><li>• DISABLED</li><li>• RETRY SCHEDULED</li><li>• SCHEDULED</li><li>• RUNNING</li><li>• COMPLETED</li><li>• BROKEN</li><li>• FAILED</li><li>• SUCCEEDED</li><li>• STOPPED</li></ul> |
| NEXT_START_DATE | TIMESTAMP (6) WITH TIME ZONE |          | Next start date of the job at the destination                                                                                                                                                                                                               |
| RUN_COUNT       | NUMBER                       |          | Run count of the job at the destination                                                                                                                                                                                                                     |
| FAILURE_COUNT   | NUMBER                       |          | Failure count of the job at the destination                                                                                                                                                                                                                 |
| RETRY_COUNT     | NUMBER                       |          | Retry count of the job at the destination                                                                                                                                                                                                                   |
| LAST_START_DATE | TIMESTAMP (6) WITH TIME ZONE |          | Last start date of the job at the destination                                                                                                                                                                                                               |
| LAST_END_DATE   | TIMESTAMP (6) WITH TIME ZONE |          | Last end date of the job at the destination                                                                                                                                                                                                                 |

**See Also:**

- `"DBA_SCHEDULER_REMOTE_JOBSTATE"`
- `"USER_SCHEDULER_REMOTE_JOBSTATE"`

## 4.76 ALL\_SCHEDULER\_RESOURCES

`ALL_SCHEDULER_RESOURCES` displays all scheduler resource objects in the database that are accessible to the current user.

**Related Views**

- `DBA_SCHEDULER_RESOURCES` displays all scheduler resource objects in the database.
- `USER_SCHEDULER_RESOURCES` displays all scheduler resource objects in the database from the schema of the current user. This view does not display the `OWNER` column.

| Column        | Datatype       | NULL     | Description                  |
|---------------|----------------|----------|------------------------------|
| OWNER         | VARCHAR2 (128) | NOT NULL | Owner of the resource object |
| RESOURCE_NAME | VARCHAR2 (128) | NOT NULL | Name of the resource object  |

| Column             | Datatype       | NULL | Description                                                     |
|--------------------|----------------|------|-----------------------------------------------------------------|
| STATUS             | VARCHAR2 (19)  |      | Resource status for resource object.                            |
| RESOURCE_UNITS     | NUMBER         |      | Maximum number of available units for the resource object       |
| UNITS_USED         | NUMBER         |      | Current number of resource units in use for the resource object |
| JOBS_RUNNING_COUNT | NUMBER         |      | Current number of running jobs using the resource object        |
| COMMENTS           | VARCHAR2 (256) |      | Comments for the resource object                                |

 **See Also:**

- "DBA\_SCHEDULER\_RESOURCES"
- "USER\_SCHEDULER\_RESOURCES"

## 4.77 ALL\_SCHEDULER\_RSC\_CONSTRAINTS

ALL\_SCHEDULER\_RSC\_CONSTRAINTS lists all Oracle Scheduler resource constraint members accessible to the current user.

### Related Views

- DBA\_SCHEDULER\_RSC\_CONSTRAINTS lists all Oracle Scheduler resource constraint members in the database.
- USER\_SCHEDULER\_RSC\_CONSTRAINTS lists all Oracle Scheduler resource constraint members owned by the current user.

| Column         | Datatype       | NULL     | Description                                                             |
|----------------|----------------|----------|-------------------------------------------------------------------------|
| OBJECT_OWNER   | VARCHAR2 (128) | NOT NULL | Owner of the resource object the member is in                           |
| OBJECT_NAME    | VARCHAR2 (128) | NOT NULL | Name of the resource object the member is in                            |
| RESOURCE_OWNER | VARCHAR2 (128) | NOT NULL | Owner of the resource constraint resource member                        |
| RESOURCE_NAME  | VARCHAR2 (128) | NOT NULL | Name of the resource constraint resource member                         |
| UNITS_USED     | NUMBER         |          | Number of units used of the resource by this constraint resource member |

 **See Also:**

- "DBA\_SCHEDULER\_RSC\_CONSTRAINTS"
- "USER\_SCHEDULER\_RSC\_CONSTRAINTS"

## 4.78 ALL\_SCHEDULER\_RUNNING\_CHAINS

ALL\_SCHEDULER\_RUNNING\_CHAINS displays information about the chain steps of the running chains accessible to the current user (that is, those chains that the user has ALTER privileges for). In the case of nested chains, this view also enables you to traverse the hierarchy of the chain with a SQL statement that contains a CONNECT BY clause linking up the JOB\_SUBNAME and STEP\_JOB\_SUBNAME columns.

### Related Views

- DBA\_SCHEDULER\_RUNNING\_CHAINS displays information about the chain steps of all running chains in the database.
- USER\_SCHEDULER\_RUNNING\_CHAINS displays information about the chain steps of the running chains owned by the current user. This view does not display the OWNER column.

| Column       | Datatype                       | NULL     | Description                                                                                                                                                                                                                                                        |
|--------------|--------------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER        | VARCHAR2 (128)                 | NOT NULL | Owner of the job which is running the chain                                                                                                                                                                                                                        |
| JOB_NAME     | VARCHAR2 (128)                 | NOT NULL | Name of the job which is running the chain                                                                                                                                                                                                                         |
| JOB_SUBNAME  | VARCHAR2 (128)                 |          | Subname of the job which is running the chain (for a nested chain), else NULL                                                                                                                                                                                      |
| CHAIN_OWNER  | VARCHAR2 (128)                 | NOT NULL | Owner of the chain being run                                                                                                                                                                                                                                       |
| CHAIN_NAME   | VARCHAR2 (128)                 | NOT NULL | Name of the chain being run                                                                                                                                                                                                                                        |
| STEP_NAME    | VARCHAR2 (128)                 | NOT NULL | Name of the step of the running chain                                                                                                                                                                                                                              |
| STATE        | VARCHAR2 (15)                  |          | State of the running chain step: <ul style="list-style-type: none"> <li>• NOT_STARTED</li> <li>• RUNNING</li> <li>• SUCCEEDED</li> <li>• STOPPED</li> <li>• FAILED</li> <li>• SCHEDULED</li> <li>• RETRY SCHEDULED</li> <li>• PAUSED</li> <li>• STALLED</li> </ul> |
| ERROR_CODE   | NUMBER                         |          | Error code with which the step completed (if it has completed)                                                                                                                                                                                                     |
| COMPLETED    | VARCHAR2 (5)                   |          | Indicates whether the running chain step has completed (TRUE) or not (FALSE)                                                                                                                                                                                       |
| START_DATE   | TIMESTAMP (6) WITH TIME ZONE   |          | Date when the running chain step started (if it has started)                                                                                                                                                                                                       |
| END_DATE     | TIMESTAMP (6) WITH TIME ZONE   |          | Date when the running chain step stopped (if it has stopped)                                                                                                                                                                                                       |
| DURATION     | INTERVAL DAY (9) TO SECOND (6) |          | Amount of time it took the chain step to complete (if it has completed)                                                                                                                                                                                            |
| SKIP         | VARCHAR2 (5)                   |          | Indicates whether the chain step should be skipped (TRUE) or not (FALSE)                                                                                                                                                                                           |
| PAUSE        | VARCHAR2 (5)                   |          | Indicates whether the chain step should be paused after running (TRUE) or not (FALSE)                                                                                                                                                                              |
| PAUSE_BEFORE | VARCHAR2 (5)                   |          | Indicates whether the chain step should be paused before running (TRUE) or not (FALSE)                                                                                                                                                                             |

| Column              | Datatype       | NULL | Description                                                                                                       |
|---------------------|----------------|------|-------------------------------------------------------------------------------------------------------------------|
| RESTART_ON_RECOVERY | VARCHAR2 (5)   |      | Indicates whether the chain step will be restarted on database recovery ( <b>TRUE</b> ) or not ( <b>FALSE</b> )   |
| RESTART_ON_FAILURE  | VARCHAR2 (5)   |      | Indicates whether the chain step will be restarted on application failure ( <b>TRUE</b> ) or not ( <b>FALSE</b> ) |
| STEP_JOB_SUBNAME    | VARCHAR2 (128) |      | Subname of the job running the step                                                                               |
| STEP_JOB_LOG_ID     | NUMBER         |      | Log ID of the job running the step                                                                                |

**See Also:**

- ["DBA\\_SCHEDULER\\_RUNNING\\_CHAINS"](#)
- ["USER\\_SCHEDULER\\_RUNNING\\_CHAINS"](#)

## 4.79 ALL\_SCHEDULER\_RUNNING\_JOBS

**ALL\_SCHEDULER\_RUNNING\_JOBS** displays information about the running Scheduler jobs accessible to the current user.

### Related Views

- **DBA\_SCHEDULER\_RUNNING\_JOBS** displays information about all running Scheduler jobs in the database.
- **USER\_SCHEDULER\_RUNNING\_JOBS** displays information about the running Scheduler jobs owned by the current user. This view does not display the **OWNER** column.

| Column              | Datatype       | NULL | Description                                                                                                                                                                                                      |
|---------------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128) |      | Owner of the running Scheduler job                                                                                                                                                                               |
| JOB_NAME            | VARCHAR2 (128) |      | Name of the running Scheduler job                                                                                                                                                                                |
| JOB_SUBNAME         | VARCHAR2 (128) |      | Subname of the running Scheduler job (for a job running a chain step)                                                                                                                                            |
| JOB_STYLE           | VARCHAR2 (17)  |      | Job style: <ul style="list-style-type: none"><li>• <b>REGULAR</b></li><li>• <b>LIGHTWEIGHT</b></li><li>• <b>IN_MEMORY_RUNTIME</b></li><li>• <b>IN_MEMORY_FULL</b></li></ul>                                      |
| DETACHED            | VARCHAR2 (5)   |      | Indicates whether the detached attribute is set for the job ( <b>TRUE</b> ) or not ( <b>FALSE</b> ). If the detached attribute is set, then the job will remain running even after the job action has completed. |
| SESSION_ID          | NUMBER         |      | Identifier of the session running the Scheduler job                                                                                                                                                              |
| SLAVE_PROCESS_ID    | NUMBER         |      | Process number of the worker process running the Scheduler job                                                                                                                                                   |
| SLAVE_OS_PROCESS_ID | VARCHAR2 (12)  |      | Process number of the operating system worker process running the scheduler job                                                                                                                                  |

| Column                  | Datatype                          | NULL | Description                                                                                                                               |
|-------------------------|-----------------------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------|
| RUNNING_INSTANCE        | NUMBER                            |      | Database instance number of the worker process running the Scheduler job                                                                  |
| RESOURCE_CONSUMER_GROUP | VARCHAR2 (32)                     |      | Resource consumer group of the session in which the Scheduler job is running                                                              |
| ELAPSED_TIME            | INTERVAL DAY (3)<br>TO SECOND (2) |      | Elapsed time since the Scheduler job was started                                                                                          |
| CPU_USED                | INTERVAL DAY (3)<br>TO SECOND (2) |      | CPU time consumed by the running Scheduler job, if available                                                                              |
| DESTINATION_OWNER       | VARCHAR2 (261)                    |      | Owner of the destination object (if used), else NULL                                                                                      |
| DESTINATION             | VARCHAR2 (261)                    |      | Destination that this job is running on                                                                                                   |
| CREDENTIAL_OWNER        | VARCHAR2 (128)                    |      | Owner of the login credential used for this running job, if any                                                                           |
| CREDENTIAL_NAME         | VARCHAR2 (128)                    |      | Name of the login credential used for this running job, if any                                                                            |
| LOG_ID                  | NUMBER                            |      | Log ID used for this running job. This column maps to the LOG_ID column of the *_SCHEDULER_JOB_LOG and *_SCHEDULER_JOB_RUN_DETAILS views. |



#### See Also:

- ["DBA\\_SCHEDULER\\_RUNNING\\_JOBS"](#)
- ["USER\\_SCHEDULER\\_RUNNING\\_JOBS"](#)

## 4.80 ALL\_SCHEDULER\_SCHEDULES

ALL\_SCHEDULER\_SCHEDULES displays information about the Scheduler schedules accessible to the current user.

#### Related Views

- DBA\_SCHEDULER\_SCHEDULES displays information about all Scheduler schedules in the database.
- USER\_SCHEDULER\_SCHEDULES displays information about the Scheduler schedules owned by the current user. This view does not display the OWNER column.

| Column        | Datatype       | NULL     | Description                                                                                                                                                                                                     |
|---------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER         | VARCHAR2 (128) | NOT NULL | Owner of the schedule                                                                                                                                                                                           |
| SCHEDULE_NAME | VARCHAR2 (128) | NOT NULL | Name of the schedule                                                                                                                                                                                            |
| SCHEDULE_TYPE | VARCHAR2 (12)  |          | Type of the schedule: <ul style="list-style-type: none"> <li>• ONCE - Repeat interval is NULL</li> <li>• CALENDAR - Oracle calendaring expression used as schedule</li> <li>• EVENT - Event schedule</li> </ul> |

| Column             | Datatype                     | NULL | Description                                                                               |
|--------------------|------------------------------|------|-------------------------------------------------------------------------------------------|
| START_DATE         | TIMESTAMP (6) WITH TIME ZONE |      | Start date for the repeat interval                                                        |
| REPEAT_INTERVAL    | VARCHAR2 (4000)              |      | Calendar syntax expression for the schedule                                               |
| EVENT_QUEUE_OWNER  | VARCHAR2 (128)               |      | Owner of the source queue into which the event will be raised                             |
| EVENT_QUEUE_NAME   | VARCHAR2 (128)               |      | Name of the source queue into which the event will be raised                              |
| EVENT_QUEUE_AGENT  | VARCHAR2 (523)               |      | Name of the AQ agent used by the user on the event source queue (if it is a secure queue) |
| EVENT_CONDITION    | VARCHAR2 (4000)              |      | Boolean expression used as the subscription rule for the event on the source queue        |
| FILE_WATCHER_OWNER | VARCHAR2 (261)               |      | Owner of the file watcher on which this schedule is based                                 |
| FILE_WATCHER_NAME  | VARCHAR2 (261)               |      | Name of the file watcher on which this schedule is based                                  |
| END_DATE           | TIMESTAMP (6) WITH TIME ZONE |      | Cutoff date after which the schedule will not specify any dates                           |
| COMMENTS           | VARCHAR2 (4000)              |      | Comments on the schedule                                                                  |



#### See Also:

- "DBA\_SCHEDULER\_SCHEDULES"
- "USER\_SCHEDULER\_SCHEDULES"

## 4.81 ALL\_SCHEDULER\_WINDOW\_DETAILS

ALL\_SCHEDULER\_WINDOW\_DETAILS displays log details for the Scheduler windows accessible to the current user.

### Related View

DBA\_SCHEDULER\_WINDOW\_DETAILS displays log details for all Scheduler windows in the database.

| Column            | Datatype                     | NULL | Description                                                                          |
|-------------------|------------------------------|------|--------------------------------------------------------------------------------------|
| LOG_ID            | NUMBER                       |      | Unique identifier of the log entry (foreign key of the *_SCHEDULER_WINDOW_LOG views) |
| LOG_DATE          | TIMESTAMP (6) WITH TIME ZONE |      | Date of the log entry                                                                |
| OWNER             | VARCHAR2 (128)               |      | Owner of the Scheduler window                                                        |
| WINDOW_NAME       | VARCHAR2 (261)               |      | Name of the Scheduler window                                                         |
| REQ_START_DATE    | TIMESTAMP (6) WITH TIME ZONE |      | Requested start date for the Scheduler window                                        |
| ACTUAL_START_DATE | TIMESTAMP (6) WITH TIME ZONE |      | Actual start date of the Scheduler window                                            |

| Column          | Datatype                          | NULL | Description                                            |
|-----------------|-----------------------------------|------|--------------------------------------------------------|
| WINDOW_DURATION | INTERVAL DAY (3)<br>TO SECOND (0) |      | Requested duration of the Scheduler window             |
| ACTUAL_DURATION | INTERVAL DAY (3)<br>TO SECOND (0) |      | Actual duration for which the Scheduler window lasted  |
| INSTANCE_ID     | NUMBER                            |      | Identifier of the instance on which the window was run |
| ADDITIONAL_INFO | VARCHAR2 (4000)                   |      | Additional information on the entry, if applicable     |

**See Also:**["DBA\\_SCHEDULER\\_WINDOW\\_DETAILS"](#)

## 4.82 ALL\_SCHEDULER\_WINDOW\_GROUPS

ALL\_SCHEDULER\_WINDOW\_GROUPS displays information about the Scheduler window groups accessible to the current user.

### Related View

DBA\_SCHEDULER\_WINDOW\_GROUPS displays information about all Scheduler window groups in the database.

| Column            | Datatype        | NULL     | Description                                                                                                                                                    |
|-------------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WINDOW_GROUP_NAME | VARCHAR2 (128)  | NOT NULL | Name of the window group                                                                                                                                       |
| ENABLED           | VARCHAR2 (5)    |          | Indicates whether the window group is enabled (TRUE) or disabled (FALSE)                                                                                       |
| NUMBER_OF_WINDOWS | NUMBER          |          | Number of members in the window group                                                                                                                          |
| NEXT_START_DATE   | VARCHAR2 (64)   |          | If a window group is disabled, then this column will be NULL. Otherwise, it will be set to the earliest NEXT_START_DATE from the enabled windows in the group. |
| COMMENTS          | VARCHAR2 (4000) |          | Optional comment about the window group                                                                                                                        |

**See Also:**["DBA\\_SCHEDULER\\_WINDOW\\_GROUPS"](#)



## 4.83 ALL\_SCHEDULER\_WINDOW\_LOG

ALL\_SCHEDULER\_WINDOW\_LOG displays log information for the Scheduler windows accessible to the current user.

### Related View

DBA\_SCHEDULER\_WINDOW\_LOG displays log information for all Scheduler windows in the database.

| Column          | Datatype                    | NULL     | Description                                                                   |
|-----------------|-----------------------------|----------|-------------------------------------------------------------------------------|
| LOG_ID          | NUMBER                      | NOT NULL | Unique identifier of the log entry                                            |
| LOG_DATE        | TIMESTAMP(6) WITH TIME ZONE |          | Date of the log entry                                                         |
| OWNER           | VARCHAR2(128)               |          | Owner of the Scheduler window                                                 |
| WINDOW_NAME     | VARCHAR2(261)               |          | Name of the Scheduler window                                                  |
| OPERATION       | VARCHAR2(30)                |          | Operation corresponding to the log entry                                      |
| STATUS          | VARCHAR2(30)                |          | Status of the operation, if applicable                                        |
| USER_NAME       | VARCHAR2(128)               |          | Name of the user who performed the operation, if applicable                   |
| CLIENT_ID       | VARCHAR2(64)                |          | Client identifier of the user who performed the operation, if applicable      |
| GLOBAL_UID      | VARCHAR2(32)                |          | Global user identifier of the user who performed the operation, if applicable |
| ADDITIONAL_INFO | CLOB                        |          | Additional information on the entry, if applicable                            |



**See Also:**

["DBA\\_SCHEDULER\\_WINDOW\\_LOG"](#)

## 4.84 ALL\_SCHEDULER\_WINDOWS

ALL\_SCHEDULER\_WINDOWS displays information about the Scheduler windows accessible to the current user.

### Related View

DBA\_SCHEDULER\_WINDOWS displays information about all Scheduler windows in the database.

| Column         | Datatype       | NULL     | Description                              |
|----------------|----------------|----------|------------------------------------------|
| OWNER          | VARCHAR2(128)  | NOT NULL | Owner of the Scheduler window            |
| WINDOW_NAME    | VARCHAR2(128)  | NOT NULL | Name of the Scheduler window             |
| RESOURCE_PLAN  | VARCHAR2(128)  |          | Resource plan associated with the window |
| SCHEDULE_OWNER | VARCHAR2(4000) |          | Owner of the schedule of the window      |
| SCHEDULE_NAME  | VARCHAR2(4000) |          | Name of the schedule of the window       |

| Column           | Datatype                       | NULL | Description                                                                                                                                                                                                                   |
|------------------|--------------------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCHEDULE_TYPE    | VARCHAR2 (8)                   |      | Type of the schedule of the window: <ul style="list-style-type: none"> <li>• ONCE - Repeat interval is NULL</li> <li>• NAMED - Named schedule</li> <li>• CALENDAR - Oracle calendaring expression used as schedule</li> </ul> |
| START_DATE       | TIMESTAMP (6) WITH TIME ZONE   |      | Start date of the window (for an inline schedule)                                                                                                                                                                             |
| REPEAT_INTERVAL  | VARCHAR2 (4000)                |      | Calendar string for the window (for an inline schedule)                                                                                                                                                                       |
| END_DATE         | TIMESTAMP (6) WITH TIME ZONE   |      | Date after which the window will no longer open (for an inline schedule)                                                                                                                                                      |
| DURATION         | INTERVAL DAY (3) TO SECOND (0) |      | Duration of the window                                                                                                                                                                                                        |
| WINDOW_PRIORITY  | VARCHAR2 (4)                   |      | Priority of the job relative to other windows: <ul style="list-style-type: none"> <li>• HIGH</li> <li>• LOW</li> </ul>                                                                                                        |
| NEXT_START_DATE  | TIMESTAMP (6) WITH TIME ZONE   |      | Next date on which the window is scheduled to start                                                                                                                                                                           |
| LAST_START_DATE  | TIMESTAMP (6) WITH TIME ZONE   |      | Last date on which the window opened                                                                                                                                                                                          |
| ENABLED          | VARCHAR2 (5)                   |      | Indicates whether the window is enabled (TRUE) or disabled (FALSE)                                                                                                                                                            |
| ACTIVE           | VARCHAR2 (5)                   |      | Indicates whether the window is open (TRUE) or not (FALSE)                                                                                                                                                                    |
| MANUAL_OPEN_TIME | TIMESTAMP (6) WITH TIME ZONE   |      | Open time of the window if it was manually opened, else NULL                                                                                                                                                                  |
| MANUAL_DURATION  | INTERVAL DAY (3) TO SECOND (0) |      | Duration of the window if it was manually opened, else NULL                                                                                                                                                                   |
| COMMENTS         | VARCHAR2 (4000)                |      | Comments on the window                                                                                                                                                                                                        |



**See Also:**

["DBA\\_SCHEDULER\\_WINDOWS"](#)

## 4.85 ALL\_SCHEDULER\_WINGROUP\_MEMBERS

ALL\_SCHEDULER\_WINGROUP\_MEMBERS displays the members of the Scheduler window groups accessible to the current user.

### Related View

DBA\_SCHEDULER\_WINGROUP\_MEMBERS displays the members of all Scheduler window groups in the database.

| Column            | Datatype       | NULL     | Description              |
|-------------------|----------------|----------|--------------------------|
| WINDOW_GROUP_NAME | VARCHAR2 (128) | NOT NULL | Name of the window group |

| Column      | Datatype       | NULL     | Description                                   |
|-------------|----------------|----------|-----------------------------------------------|
| WINDOW_NAME | VARCHAR2 (128) | NOT NULL | Name of the window member of the window group |

**See Also:**

"DBA\_SCHEDULER\_WINGROUP\_MEMBERS"

## 4.86 ALL\_SEC\_RELEVANT\_COLS

ALL\_SEC\_RELEVANT\_COLS describes the security relevant columns of the security policies for the tables and views accessible to the current user.

### Related Views

- DBA\_SEC\_RELEVANT\_COLS describes the security relevant columns of all security policies in the database.
- USER\_SEC\_RELEVANT\_COLS describes the security relevant columns of the security policies for the tables and views owned by the current user. This view does not display the OBJECT\_OWNER column.

| Column         | Datatype       | NULL | Description                                                                                                                               |
|----------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_OWNER   | VARCHAR2 (128) |      | Owner of the table or view                                                                                                                |
| OBJECT_NAME    | VARCHAR2 (128) |      | Name of the table or view                                                                                                                 |
| POLICY_GROUP   | VARCHAR2 (128) |      | Name of the policy group                                                                                                                  |
| POLICY_NAME    | VARCHAR2 (128) |      | Name of the policy                                                                                                                        |
| SEC_REL_COLUMN | VARCHAR2 (128) |      | Name of the security relevant column                                                                                                      |
| COLUMN_OPTION  | VARCHAR2 (8)   |      | Option of the security relevant column: <ul style="list-style-type: none"><li>• NONE</li><li>• ALL_ROWS</li></ul>                         |
| COMMON         | VARCHAR2 (3)   |      | Indicates whether the policy security relevant column is applied and enforced in all application PDBs (YES) or only in the local PDB (NO) |
| INHERITED      | VARCHAR2 (3)   |      | Indicates whether the policy security relevant column is inherited from the root (YES) or not (NO)                                        |

**See Also:**

- "DBA\_SEC\_RELEVANT\_COLS"
- "USER\_SEC\_RELEVANT\_COLS"

## 4.87 ALL\_SECONDARY\_OBJECTS

ALL\_SECONDARY\_OBJECTS provides information about secondary objects associated with domain indexes accessible to the user.

This view is only relevant for domain indexes. And currently, the secondary objects can only be tables.

### Related Views

- DBA\_SECONDARY\_OBJECTS provides information about all secondary objects that are associated with domain indexes in the database.
- USER\_SECONDARY\_OBJECTS provides information about secondary objects associated with domain indexes owned by the current user.

| Column                 | Datatype       | NULL     | Description                                               |
|------------------------|----------------|----------|-----------------------------------------------------------|
| INDEX_OWNER            | VARCHAR2 (128) | NOT NULL | Owner of the domain index                                 |
| INDEX_NAME             | VARCHAR2 (128) | NOT NULL | Name of the domain index                                  |
| SECONDARY_OBJECT_OWNER | VARCHAR2 (128) | NOT NULL | Owner of the secondary object created by the domain index |
| SECONDARY_OBJECT_NAME  | VARCHAR2 (128) | NOT NULL | Name of the secondary object created by the domain index  |
| SECONDARY_OBJDATA_TYPE | VARCHAR2 (20)  |          | Type of the secondary object created by the domain index  |



### See Also:

- "DBA\_SECONDARY\_OBJECTS"
- "USER\_SECONDARY\_OBJECTS"

## 4.88 ALL\_SEQUENCES

ALL\_SEQUENCES describes all sequences accessible to the current user.

### Related Views

- DBA\_SEQUENCES describes all sequences in the database.
- USER\_SEQUENCES describes all sequences owned by the current user. This view does not display the SEQUENCE\_OWNER column.

| Column         | Datatype       | NULL     | Description                   |
|----------------|----------------|----------|-------------------------------|
| SEQUENCE_OWNER | VARCHAR2 (128) | NOT NULL | Owner of the sequence         |
| SEQUENCE_NAME  | VARCHAR2 (128) | NOT NULL | Sequence name                 |
| MIN_VALUE      | NUMBER         |          | Minimum value of the sequence |
| MAX_VALUE      | NUMBER         |          | Maximum value of the sequence |

| Column       | Datatype     | NULL     | Description                                                                                                                                                                                                                                                                                              |
|--------------|--------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INCREMENT_BY | NUMBER       | NOT NULL | Value by which sequence is incremented                                                                                                                                                                                                                                                                   |
| CYCLE_FLAG   | VARCHAR2 (1) |          | Indicates whether the sequence wraps around on reaching the limit (Y) or not (N)                                                                                                                                                                                                                         |
| ORDER_FLAG   | VARCHAR2 (1) |          | Indicates whether sequence numbers are generated in order (Y) or not (N)                                                                                                                                                                                                                                 |
| CACHE_SIZE   | NUMBER       | NOT NULL | Number of sequence numbers to cache                                                                                                                                                                                                                                                                      |
| LAST_NUMBER  | NUMBER       | NOT NULL | Last sequence number written to disk. If a sequence uses caching, the number written to disk is the last number placed in the sequence cache. This number is likely to be greater than the last sequence number that was used.<br><br>For session sequences, the value in this column should be ignored. |
| SCALE_FLAG   | VARCHAR2 (1) |          | Indicates whether this is a scalable sequence (Y) or not (N)                                                                                                                                                                                                                                             |
| EXTEND_FLAG  | VARCHAR2 (1) |          | Indicates whether this scalable sequence's generated values extend beyond MAX_VALUE or MIN_VALUE (Y) or not (N)                                                                                                                                                                                          |
| SHARDED_FLAG | VARCHAR2 (1) |          | Indicates whether this is a sharded sequence (Y) or not (N)                                                                                                                                                                                                                                              |
| SESSION_FLAG | VARCHAR2 (1) |          | Indicates whether sequence values are session private (Y) or not (N)                                                                                                                                                                                                                                     |
| KEEP_VALUE   | VARCHAR2 (1) |          | Indicates whether sequence values are kept during replay after a failure (Y) or not (N)                                                                                                                                                                                                                  |



#### See Also:

- ["DBA\\_SEQUENCES"](#)
- ["USER\\_SEQUENCES"](#)

## 4.89 ALL\_SERVICES

ALL\_SERVICES displays all services in the database. The view excludes rows marked for deletion.

#### Related View

DBA\_SERVICES displays all services in the database. The view excludes rows marked for deletion.

| Column       | Datatype       | NULL | Description                                 |
|--------------|----------------|------|---------------------------------------------|
| SERVICE_ID   | NUMBER         |      | Unique ID for the service                   |
| NAME         | VARCHAR2 (64)  |      | Name describing the workload                |
| NAME_HASH    | NUMBER         |      | Hash of the short name for the service      |
| NETWORK_NAME | VARCHAR2 (512) |      | Network name used to connect to the service |

| Column              | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                          |
|---------------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CREATION_DATE       | DATE           |      | Date the service was created                                                                                                                                                                                                                                                                         |
| CREATION_DATE_HASH  | NUMBER         |      | Hash of the creation date                                                                                                                                                                                                                                                                            |
| FAILOVER_METHOD     | VARCHAR2 (64)  |      | TAF only for compatibility - BASIC or NONE                                                                                                                                                                                                                                                           |
| FAILOVER_TYPE       | VARCHAR2 (64)  |      | For Application Continuity for Java, TRANSACTION. For TAF, SESSION or SELECT.                                                                                                                                                                                                                        |
| FAILOVER_RETRIES    | NUMBER(10)     |      | For Application Continuity and TAF, when reconnecting after a failure, number of attempts to re-connect per incident                                                                                                                                                                                 |
| FAILOVER_DELAY      | NUMBER(10)     |      | For Application Continuity and TAF, when reconnecting after a failure, delay between each connection retry (in seconds)                                                                                                                                                                              |
| MIN_CARDINALITY     | NUMBER         |      | Reserved for internal use                                                                                                                                                                                                                                                                            |
| MAX_CARDINALITY     | NUMBER         |      | Reserved for internal use                                                                                                                                                                                                                                                                            |
| GOAL                | VARCHAR2 (12)  |      | Runtime Load Balancing Goal being used to create run-time load balancing and connection load balancing advice: <ul style="list-style-type: none"> <li>NONE</li> <li>SERVICE_TIME - Connections are balanced by response time</li> <li>THROUGHPUT - Connections are balanced by throughput</li> </ul> |
| DTP                 | VARCHAR2 (1)   |      | DTP (distributed transaction processing) enforces all sessions for a service at one instance. This is a requirement for XA before 11g, and is a requirement if resuming and suspending the same XA branch.                                                                                           |
| ENABLED             | VARCHAR2 (3)   |      | Reserved for internal use                                                                                                                                                                                                                                                                            |
| AQ_HA_NOTIFICATIONS | VARCHAR2 (3)   |      | To enable FAN for OCI connections, set AQ HA Notifications to True. For Oracle Database 12c, FAN uses ONS (Oracle Notification Service)                                                                                                                                                              |
| CLB_GOAL            | VARCHAR2 (5)   |      | Connection load balancing goal. When using run-time load balancing, GOAL=SERVICE_TIME or THROUGHPUT, set to SHORT. For a session count per service only, use LONG.                                                                                                                                   |
| EDITION             | VARCHAR2 (128) |      | A non-NULL value specifies the initial session edition for subsequent database connections that use the service and do not specify an edition. A NULL value has no effect.                                                                                                                           |

| Column                    | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMMIT_OUTCOME            | VARCHAR2 (3)   |      | <p>For Transaction Guard and Database Native Transaction Guard, indicates whether the database service associated with the user session has the COMMIT_OUTCOME service attribute enabled (YES) or not (NO). This attribute applies on a per session basis and is set at connect time.</p> <p>When the value of this column is YES, the commit status is managed for all supported transaction types and the outcome of a COMMIT transaction is preserved after the COMMIT has executed. Refer to the COMMIT_OUTCOME_FASTPATH column to view the preferred method for preserving the commit outcome.</p> <p><b>See Also:</b> <i>Oracle Database Development Guide</i> for information about preserving the commit outcome</p> |
| RETENTION_TIMEOUT         | NUMBER         |      | <p>For Transaction Guard and Database Native Transaction Guard, when COMMIT_OUTCOME = YES, this value indicates the amount of time (in seconds) that the commit outcome is retained in the database.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| REPLAY_INITIATION_TIMEOUT | NUMBER         |      | <p>For Application Continuity, indicates a time period (in seconds) after which the request will not be replayed. The time period starts at the first request submission. The default value is 300 seconds, which is 5 minutes.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SESSION_STATE_CONSISTENCY | VARCHAR2 (128) |      | <p>Describes how non-transactional is changed during a request. This parameter is considered only if failover_type is set to TRANSACTION for Application Continuity. Examples of session state are NLS settings, optimizer preferences, event settings, PL/SQL global variables, temporary tables, advanced queues, LOBs and result cache. If non-transactional values change after the request starts, the default value of DYNAMIC should be set. Almost all applications should use DYNAMIC mode. If you are unsure, use DYNAMIC mode.</p>                                                                                                                                                                                |
| GLOBAL_SERVICE            | VARCHAR2 (3)   |      | <p>Indicates whether the service is global. A global service is managed by Global Data Services (GDS) and can be provided by multiple databases that contain replicated data. Possible values:</p> <ul style="list-style-type: none"> <li>• YES: Indicates the service is global</li> <li>• NO: Indicates the service is not global</li> </ul> <p>This attribute is set when using GDS. It cannot be set by a user.</p>                                                                                                                                                                                                                                                                                                      |
| PDB                       | VARCHAR2 (128) |      | <p>Name of a PDB associated with a given service. Will contain NULL for a non-CDB or if the service is not associated with a PDB (that is, connecting to a CDB using this service will cause a user to connect to the root.)</p> <p>When managing services for a PDB, use SRVCTL for Oracle RAC and Oracle RAC One Node databases, or connect to that PDB if it is a single instance (not RAC). The PDB attribute shows which PDB has the service. It cannot be set or modified explicitly.</p>                                                                                                                                                                                                                              |

| Column                  | Datatype       | NULL | Description                                                                                                                                                                                                                                                                           |
|-------------------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQL_TRANSLATION_PROFILE | VARCHAR2 (261) |      | A non-NULL value specifies the initial SQL translation profile for subsequent database connections that use the service and do not specify a SQL translation profile. A NULL value has no effect.                                                                                     |
| MAX_LAG_TIME            | VARCHAR2 (128) |      | The maximum replication lag (in seconds) that is acceptable for a data replica to be used for providing the database service. Can only be specified for global services using the Global Data Services (GDS) interfaces. It is not supported to change this value at local databases. |
| GSM_FLAGS               | NUMBER         |      | Flags specific to Global Data Services (GDS). Can only be specified for global services using the GDS interfaces. It is not supported to change these values at local databases.                                                                                                      |
| PQ_SVC                  | VARCHAR2 (64)  |      | Name of the associated parallel query rim service                                                                                                                                                                                                                                     |
| STOP_OPTION             | VARCHAR2 (13)  |      | Stop option for sessions of this service for planned maintenance                                                                                                                                                                                                                      |
| FAILOVER_RESTORE        | VARCHAR2 (6)   |      | Indicates whether sessions recover their commonly used session state (like NLS, schema) when they are failed over with TAF                                                                                                                                                            |
| DRAIN_TIMEOUT           | NUMBER         |      | Number of seconds to wait for sessions to be drained                                                                                                                                                                                                                                  |
| TABLE_FAMILY_ID         | NUMBER         |      | Sharded table family ID associated with the service                                                                                                                                                                                                                                   |
| PLACEMENT_POLICY        | NUMBER         |      | Placement policy for the service. Possible values: <ul style="list-style-type: none"> <li>0: PDB-NONE</li> <li>1: PDB-SINGLETON</li> <li>2: PDB-UNIFORM</li> </ul> <b>Note:</b> Values other than 0 are applicable only in the ATP-Dedicated Cloud in an Oracle RAC environment.      |
| RESET_STATE             | VARCHAR2 (6)   |      | Reset state for the service. Possible values: <ul style="list-style-type: none"> <li>LEVEL1</li> <li>NONE</li> </ul>                                                                                                                                                                  |
| PLACEMENT_TEMPLATE      | VARCHAR2 (64)  |      | Reserved for future use                                                                                                                                                                                                                                                               |



| Column                  | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------|-----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMMIT_OUTCOME_FASTPATH | VARCHAR2 (3)    |      | <p>For Transaction Guard and Database Native Transaction Guard, when <code>COMMIT_OUTCOME = YES</code>, the value of this column indicates the preferred method for preserving the commit outcome. Possible values:</p> <ul style="list-style-type: none"> <li>YES - Database Native Transaction Guard is used. Each transaction is assigned a unique transaction identifier (DB XID) in the database. The DB XID and status of the corresponding transaction are maintained persistently in a transaction table. Note that if <code>COMMIT_OUTCOME = YES</code>, then the value of <code>COMMIT_OUTCOME_FASTPATH</code> defaults to YES.</li> <li>NO - Transaction Guard is used. A logical transaction ID (LTXID) is set for each user session at login and at each successful commit. LTXIDs are used only when the commit is not in the same round-trip to the database as the start of the transaction. Moreover, some transaction types, such as commit on success transactions, DDL transactions, and PL/SQL transactions, will continue to use LTXIDs in the same round-trip. When Transaction Guard is used, the outcome of a <code>COMMIT</code> transaction is known. If there is an outage, the application can use <code>DBMS_APP_CONT.GET_LTXID_OUTCOME</code> to return a reliable status for the last in-flight work.</li> </ul> <p><b>See Also:</b> <i>Oracle Real Application Clusters Administration and Deployment Guide</i> for information about logical transaction IDs</p> |
| TRUE_CACHE_SERVICE      | VARCHAR2 (64)   |      | True Cache service associated with this database service                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| VCSPARE1                | VARCHAR2 (1024) |      | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NSPARE1                 | NUMBER          |      | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

 **See Also:**

- "DBA\_SERVICES"
- Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_APP_CONT.GET_LTXID_OUTCOME` procedure

## 4.90 ALL\_SOURCE

`ALL_SOURCE` describes the text source of the stored objects accessible to the current user.

### Related Views

- `DBA_SOURCE` describes the text source of all stored objects in the database.
- `USER_SOURCE` describes the text source of the stored objects owned by the current user. This view does not display the `OWNER` column.

| Column        | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                       |
|---------------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER         | VARCHAR2 (128)  | NOT NULL | Owner of the object                                                                                                                                                                                                                                                                                                                                                               |
| NAME          | VARCHAR2 (128)  | NOT NULL | Name of the object                                                                                                                                                                                                                                                                                                                                                                |
| TYPE          | VARCHAR2 (12)   |          | Type of object: FUNCTION, JAVA SOURCE, PACKAGE, PACKAGE BODY, PROCEDURE, TRIGGER, TYPE, TYPE BODY                                                                                                                                                                                                                                                                                 |
| LINE          | NUMBER          | NOT NULL | Line number of this line of source                                                                                                                                                                                                                                                                                                                                                |
| TEXT          | VARCHAR2 (4000) |          | Text source of the stored object                                                                                                                                                                                                                                                                                                                                                  |
| ORIGIN_CON_ID | VARCHAR2 (256)  |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root)</li> </ul> |



#### See Also:

- "DBA\_SOURCE"
- "USER\_SOURCE"

## 4.91 ALL\_SOURCE\_AE

ALL\_SOURCE\_AE describes the text source of the stored objects (across all editions) accessible to the current user.

#### Related Views

- DBA\_SOURCE\_AE describes the text source of all stored objects (across all editions) in the database.
- USER\_SOURCE\_AE describes the text source of the stored objects (across all editions) owned by the current user. This view does not display the OWNER column.

| Column | Datatype       | NULL | Description                                                                                                                                                                                                     |
|--------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER  | VARCHAR2 (128) |      | Owner of the object                                                                                                                                                                                             |
| NAME   | VARCHAR2 (128) |      | Name of the object                                                                                                                                                                                              |
| TYPE   | VARCHAR2 (12)  |      | Type of the object: <ul style="list-style-type: none"> <li>TYPE</li> <li>TYPE BODY</li> <li>PROCEDURE</li> <li>FUNCTION</li> <li>PACKAGE</li> <li>PACKAGE BODY</li> <li>LIBRARY</li> <li>JAVA SOURCE</li> </ul> |
| LINE   | NUMBER         |      | Line number of this line of source                                                                                                                                                                              |

| Column        | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                          |
|---------------|-----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TEXT          | VARCHAR2 (4000) |      | Source text                                                                                                                                                                                                                                                                                                                                                                          |
| EDITION_NAME  | VARCHAR2 (128)  |      | Name of the Edition                                                                                                                                                                                                                                                                                                                                                                  |
| ORIGIN_CON_ID | NUMBER          |      | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root)</li> </ul> |



#### See Also:

- "DBA\_SOURCE\_AE"
- "USER\_SOURCE\_AE"

## 4.92 ALL\_SQL\_TRANSLATION\_PROFILES

ALL\_SQL\_TRANSLATION\_PROFILES describes all SQL translation profiles accessible to the user.

#### Related Views

- DBA\_SQL\_TRANSLATION\_PROFILES describes all SQL translation profiles in the database.
- USER\_SQL\_TRANSLATION\_PROFILES describes all SQL translation profiles owned by the user. This view does not display the OWNER column.

| Column                  | Datatype       | NULL     | Description                                                                                                                                                                  |
|-------------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                   | VARCHAR2 (128) | NOT NULL | Owner of the SQL translation profile                                                                                                                                         |
| PROFILE_NAME            | VARCHAR2 (128) | NOT NULL | Name of the SQL translation profile                                                                                                                                          |
| TRANSLATOR              | VARCHAR2 (261) |          | The translator package                                                                                                                                                       |
| FOREIGN_SQL_SYNTAX      | VARCHAR2 (5)   |          | Indicates whether the SQL syntax is foreign.<br>Possible values: <ul style="list-style-type: none"> <li>TRUE</li> <li>FALSE</li> </ul>                                       |
| TRANSLATE_NEW_SQL       | VARCHAR2 (5)   |          | Indicates whether to translate new SQL statements and errors using the translator.<br>Possible values: <ul style="list-style-type: none"> <li>TRUE</li> <li>FALSE</li> </ul> |
| RAISE_TRANSLATION_ERROR | VARCHAR2 (5)   |          | Indicates whether to raise translation error.<br>Possible values: <ul style="list-style-type: none"> <li>TRUE</li> <li>FALSE</li> </ul>                                      |

| Column                | Datatype     | NULL | Description                                                                                                                               |
|-----------------------|--------------|------|-------------------------------------------------------------------------------------------------------------------------------------------|
| LOG_TRANSLATION_ERROR | VARCHAR2 (5) |      | Indicates whether to log translation error.<br>Possible values: <ul style="list-style-type: none"> <li>• TRUE</li> <li>• FALSE</li> </ul> |
| TRACE_TRANSLATION     | VARCHAR2 (5) |      | Indicates whether to trace translation.<br>Possible values: <ul style="list-style-type: none"> <li>• TRUE</li> <li>• FALSE</li> </ul>     |
| LOG_ERRORS            | VARCHAR2 (5) |      | Indicates whether there are log errors (TRUE) or not (FALSE)                                                                              |



#### See Also:

- "DBA\_SQL\_TRANSLATION\_PROFILES"
- "USER\_SQL\_TRANSLATION\_PROFILES"

## 4.93 ALL\_SQL\_TRANSLATIONS

ALL\_SQL\_TRANSLATIONS describes all SQL translations accessible to the user.

#### Related Views

- DBA\_SQL\_TRANSLATIONS describes all SQL translations in the database.
- USER\_SQL\_TRANSLATIONS describes all SQL translations owned by the user. This view does not display the OWNER column.

| Column            | Datatype       | NULL     | Description                                                                                                                             |
|-------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------|
| OWNER             | VARCHAR2 (128) | NOT NULL | Owner of the SQL translation profile                                                                                                    |
| PROFILE_NAME      | VARCHAR2 (128) | NOT NULL | Name of the SQL translation profile                                                                                                     |
| SQL_TEXT          | CLOB           | NOT NULL | The SQL statement                                                                                                                       |
| TRANSLATED_TEXT   | CLOB           |          | The translated SQL statement                                                                                                            |
| SQL_ID            | VARCHAR2 (13)  | NOT NULL | SQL identifier of the SQL statement                                                                                                     |
| HASH_VALUE        | NUMBER         | NOT NULL | Hash value of the SQL statement                                                                                                         |
| ENABLED           | VARCHAR2 (5)   |          | Displays whether the translation is enabled. Possible values: <ul style="list-style-type: none"> <li>• TRUE</li> <li>• FALSE</li> </ul> |
| REGISTRATION_TIME | TIMESTAMP (6)  |          | Time the translation was registered                                                                                                     |
| CLIENT_INFO       | VARCHAR2 (64)  |          | Client information when the SQL was parsed and the translation was registered                                                           |
| MODULE            | VARCHAR2 (64)  |          | Module when the SQL was parsed and the translation was registered                                                                       |

| Column             | Datatype        | NULL | Description                                                                                                  |
|--------------------|-----------------|------|--------------------------------------------------------------------------------------------------------------|
| ACTION             | VARCHAR2 (64)   |      | Action when the SQL was parsed and the translation was registered                                            |
| PARSING_USER_ID    | NUMBER          |      | Current user ID when the SQL was parsed and the translation was registered                                   |
| PARSING_SCHEMA_ID  | NUMBER          |      | Current schema ID when the SQL was parsed and the translation was registered                                 |
| COMMENTS           | VARCHAR2 (4000) |      | Comment on the translation                                                                                   |
| ERROR_CODE         | NUMBER          |      | Last error code when the SQL was run                                                                         |
| ERROR_SOURCE       | VARCHAR2 (9)    |      | Source of the last error                                                                                     |
| TRANSLATION_METHOD | VARCHAR2 (10)   |      | Method used to translate the SQL during the last error                                                       |
| DICTIONARY_SQL_ID  | VARCHAR2 (13)   |      | SQL identifier of the SQL text in the translation dictionary used to translate the SQL during the last error |



#### See Also:

- ["DBA\\_SQL\\_TRANSLATIONS"](#)
- ["USER\\_SQL\\_TRANSLATIONS"](#)

## 4.94 ALL\_SQLJ\_TYPE\_ATTRS

ALL\_SQLJ\_TYPE\_ATTRS describes the attributes of the SQLJ object types accessible to the current user.

#### Related Views

- DBA\_SQLJ\_TYPE\_ATTRS describes the attributes of all SQLJ object types in the database.
- USER\_SQLJ\_TYPE\_ATTRS describes the attributes of the object types owned by the current user. This view does not display the OWNER column.

| Column             | Datatype        | NULL     | Description                                                                                                |
|--------------------|-----------------|----------|------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128)  |          | Owner of the type                                                                                          |
| TYPE_NAME          | VARCHAR2 (128)  | NOT NULL | Name of the type                                                                                           |
| ATTR_NAME          | VARCHAR2 (128)  | NOT NULL | Name of the attribute                                                                                      |
| EXTERNAL_ATTR_NAME | VARCHAR2 (4000) |          | External name of the attribute                                                                             |
| ATTR_TYPE_MOD      | VARCHAR2 (7)    |          | Type modifier of the attribute: <ul style="list-style-type: none"> <li>• REF</li> <li>• POINTER</li> </ul> |
| ATTR_TYPE_OWNER    | VARCHAR2 (128)  |          | Owner of the type of the attribute                                                                         |
| ATTR_TYPE_NAME     | VARCHAR2 (128)  |          | Name of the type of the attribute                                                                          |
| LENGTH             | NUMBER          |          | Length of the CHAR attribute, or maximum length of the VARCHAR or VARCHAR2 attribute.                      |

| Column             | Datatype      | NULL     | Description                                                                                                                                                         |
|--------------------|---------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRECISION          | NUMBER        |          | Decimal precision of the <code>NUMBER</code> or <code>DECIMAL</code> attribute, or binary precision of the <code>FLOAT</code> attribute.                            |
| SCALE              | NUMBER        |          | Scale of the <code>NUMBER</code> or <code>DECIMAL</code> attribute                                                                                                  |
| CHARACTER_SET_NAME | VARCHAR2 (44) |          | Character set name of the attribute ( <code>CHAR_CS</code> or <code>NCHAR_CS</code> )                                                                               |
| ATTR_NO            | NUMBER        | NOT NULL | Syntactical order number or position of the attribute as specified in the type specification or <code>CREATE TYPE</code> statement (not to be used as an ID number) |
| INHERITED          | VARCHAR2 (3)  |          | Indicates whether the attribute is inherited from a supertype ( <code>YES</code> ) or not ( <code>NO</code> )                                                       |



#### See Also:

- `"DBA_SQLJ_TYPE_ATTRS"`
- `"USER_SQLJ_TYPE_ATTRS"`

## 4.95 ALL\_SQLJ\_TYPE\_METHODS

`ALL_SQLJ_TYPE_METHODS` describes the methods of the SQLJ object types accessible to the current user.

#### Related Views

- `DBA_SQLJ_TYPE_METHODS` describes the methods of all SQLJ object types in the database.
- `USER_SQLJ_TYPE_METHODS` describes the methods of the SQLJ object types owned by the current user. This view does not display the `OWNER` column.

| Column            | Datatype        | NULL     | Description                                                                                                                                           |
|-------------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER             | VARCHAR2 (128)  | NOT NULL | Owner of the type                                                                                                                                     |
| TYPE_NAME         | VARCHAR2 (128)  | NOT NULL | Name of the type                                                                                                                                      |
| METHOD_NAME       | VARCHAR2 (128)  | NOT NULL | Name of the method                                                                                                                                    |
| EXTERNAL_VAR_NAME | VARCHAR2 (4000) |          | Name of the external variable                                                                                                                         |
| METHOD_NO         | NUMBER          | NOT NULL | Method number that distinguishes overloaded methods (not to be used as an ID number)                                                                  |
| METHOD_TYPE       | VARCHAR2 (6)    |          | Type of the method: <ul style="list-style-type: none"> <li>• <code>MAP</code></li> <li>• <code>ORDER</code></li> <li>• <code>PUBLIC</code></li> </ul> |
| PARAMETERS        | NUMBER          | NOT NULL | Number of parameters to the method                                                                                                                    |
| RESULTS           | NUMBER          | NOT NULL | Number of results returned by the method                                                                                                              |
| FINAL             | VARCHAR2 (3)    |          | Indicates whether the method is final ( <code>YES</code> ) or not ( <code>NO</code> )                                                                 |
| INSTANTIABLE      | VARCHAR2 (3)    |          | Indicates whether the method is instantiable ( <code>YES</code> ) or not ( <code>NO</code> )                                                          |

| Column     | Datatype     | NULL | Description                                                                     |
|------------|--------------|------|---------------------------------------------------------------------------------|
| OVERRIDING | VARCHAR2 (3) |      | Indicates whether the method is overriding a supertype method (YES) or not (NO) |
| INHERITED  | VARCHAR2 (3) |      | Indicates whether the method is inherited from a supertype (YES) or not (NO)    |



#### See Also:

- "DBA\_SQLJ\_TYPE\_METHODS"
- "USER\_SQLJ\_TYPE\_METHODS"

## 4.96 ALL\_SQLJ\_TYPES

ALL\_SQLJ\_TYPES describes the SQLJ object types accessible to the current user.

#### Related Views

- DBA\_SQLJ\_TYPES describes all SQLJ object types in the database.
- USER\_SQLJ\_TYPES describes the SQLJ object types owned by the current user. This view does not display the OWNER column.

| Column          | Datatype        | NULL     | Description                                                                                                                                                                                 |
|-----------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128)  |          | Owner of the type                                                                                                                                                                           |
| TYPE_NAME       | VARCHAR2 (128)  | NOT NULL | Name of the type                                                                                                                                                                            |
| TYPE_OID        | RAW (16)        | NOT NULL | Object identifier (OID) of the type                                                                                                                                                         |
| EXTERNAL_NAME   | VARCHAR2 (4000) |          | External class name of the type                                                                                                                                                             |
| USING           | VARCHAR2 (21)   |          | Representation of the type: <ul style="list-style-type: none"> <li>• SQLData</li> <li>• CustomDatum</li> <li>• Serializable</li> <li>• Serializable Internal</li> <li>• ORADData</li> </ul> |
| TYPECODE        | VARCHAR2 (128)  |          | Typecode of the type                                                                                                                                                                        |
| ATTRIBUTES      | NUMBER          |          | Number of attributes (if any) in the type                                                                                                                                                   |
| METHODS         | NUMBER          |          | Number of methods (if any) in the type                                                                                                                                                      |
| PREDEFINED      | VARCHAR2 (3)    |          | Indicates whether the type is a predefined type (YES) or not (NO)                                                                                                                           |
| INCOMPLETE      | VARCHAR2 (3)    |          | Indicates whether the type is an incomplete type (YES) or not (NO)                                                                                                                          |
| FINAL           | VARCHAR2 (3)    |          | Indicates whether the type is a final type (YES) or not (NO)                                                                                                                                |
| INSTANTIABLE    | VARCHAR2 (3)    |          | Indicates whether the type is an instantiable type (YES) or not (NO)                                                                                                                        |
| SUPERTYPE_OWNER | VARCHAR2 (128)  |          | Owner of the supertype (NULL if type is not a subtype)                                                                                                                                      |

| Column           | Datatype       | NULL | Description                                                        |
|------------------|----------------|------|--------------------------------------------------------------------|
| SUPERTYPE_NAME   | VARCHAR2 (128) |      | Name of the supertype (NULL if type is not a subtype)              |
| LOCAL_ATTRIBUTES | NUMBER         |      | Number of local (not inherited) attributes (if any) in the subtype |
| LOCAL_METHODS    | NUMBER         |      | Number of local (not inherited) methods (if any) in the subtype    |



#### See Also:

- "DBA\_SQLJ\_TYPES"
- "USER\_SQLJ\_TYPES"

## 4.97 ALL\_SQLSET

ALL\_SQLSET displays information about all SQL tuning sets accessible to the current user.

#### Related Views

- DBA\_SQLSET displays information about all SQL tuning sets in the database.
- USER\_SQLSET displays information about the SQL tuning sets owned by the current user. This view does not display the OWNER column.

| Column          | Datatype       | NULL     | Description                                |
|-----------------|----------------|----------|--------------------------------------------|
| NAME            | VARCHAR2 (128) | NOT NULL | Name of the SQL tuning set                 |
| ID              | NUMBER         | NOT NULL | SQL tuning set identifier                  |
| CON_DBID        | NUMBER         | NOT NULL | The database ID of the PDB                 |
| OWNER           | VARCHAR2 (128) |          | Owner of the SQL tuning set                |
| DESCRIPTION     | VARCHAR2 (256) |          | Description of the SQL tuning set          |
| CREATED         | DATE           |          | Date the SQL tuning set was created        |
| LAST_MODIFIED   | DATE           |          | Date the SQL tuning set was last modified  |
| STATEMENT_COUNT | NUMBER         |          | Number of statements in the SQL tuning set |



#### See Also:

- "DBA\_SQLSET"
- "USER\_SQLSET"



## 4.98 ALL\_SQLSET\_BINDS

ALL\_SQLSET\_BINDS displays the bind values associated with all SQL tuning sets accessible to the current user.

### Related Views

- DBA\_SQLSET\_BINDS displays the bind values associated with all SQL tuning sets in the database.
- USER\_SQLSET\_BINDS displays the bind values associated with the SQL tuning sets owned by the current user. This view does not display the SQLSET\_OWNER column.

| Column                   | Datatype       | NULL | Description                                                                                                                                                                                                   |
|--------------------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQLSET_NAME              | VARCHAR2 (128) |      | Name of the SQL tuning set for the statement                                                                                                                                                                  |
| SQLSET_OWNER             | VARCHAR2 (128) |      | User name of the SQL tuning set owner                                                                                                                                                                         |
| SQLSET_ID                | NUMBER         |      | ID of the SQL tuning set for the statement                                                                                                                                                                    |
| CON_DBID                 | NUMBER         |      | The database ID of the PDB                                                                                                                                                                                    |
| SQL_ID                   | VARCHAR2 (13)  |      | SQL identifier of the parent cursor in the library cache                                                                                                                                                      |
| FORCE_MATCHING_SIGNATURE | NUMBER         |      | The signature used when the CURSOR_SHARING parameter is set to FORCE                                                                                                                                          |
| PLAN_HASH_VALUE          | NUMBER         |      | Numerical representation of the SQL plan for the cursor. Comparing one PLAN_HASH_VALUE to another easily identifies whether or not two plans are the same (rather than comparing the two plans line-by-line). |
| POSITION                 | NUMBER         |      | Bind position                                                                                                                                                                                                 |
| VALUE                    | ANYDATA        |      | Bind value. This column is NULL for PL/SQL bind types.                                                                                                                                                        |
| CAPTURED                 | CHAR (1)       |      | Binds captured                                                                                                                                                                                                |
| SQL_SEQ                  | NUMBER         |      | SQL sequence                                                                                                                                                                                                  |



### See Also:

- "DBA\_SQLSET\_BINDS"
- "USER\_SQLSET\_BINDS"

## 4.99 ALL\_SQLSET\_PLANS

ALL\_SQLSET\_PLANS describes captured plans for statements in the SQL tuning sets accessible to the current user.

### Related Views

- DBA\_SQLSET\_PLANS describes captured plans in the SQL tuning sets in the database.
- USER\_SQLSET\_PLANS describes captured plans for statements in the SQL tuning sets owned by the current user. This view does not display the SQLSET\_OWNER column.

| Column                   | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                 |
|--------------------------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQLSET_NAME              | VARCHAR2 (128)  | NOT NULL | Name of SQL tuning set for the statement                                                                                                                                                                                                                                    |
| SQLSET_OWNER             | VARCHAR2 (128)  |          | User name of SQL tuning set owner                                                                                                                                                                                                                                           |
| SQLSET_ID                | NUMBER          | NOT NULL | ID of SQL tuning set for the statement                                                                                                                                                                                                                                      |
| CON_DBID                 | NUMBER          | NOT NULL | The database ID of the PDB                                                                                                                                                                                                                                                  |
| SQL_ID                   | VARCHAR2 (13)   | NOT NULL | SQL identifier of the parent cursor in the library cache                                                                                                                                                                                                                    |
| FORCE_MATCHING_SIGNATURE | NUMBER          | NOT NULL | The signature used when the <code>CURSOR_SHARING</code> parameter is set to <code>FORCE</code>                                                                                                                                                                              |
| PLAN_HASH_VALUE          | NUMBER          | NOT NULL | Numerical representation of the SQL plan for the cursor. Comparing one <code>PLAN_HASH_VALUE</code> to another easily identifies whether or not two plans are the same (rather than comparing the two plans line-by-line).                                                  |
| SQL_SEQ                  | NUMBER          | NOT NULL | SQL sequence                                                                                                                                                                                                                                                                |
| STATEMENT_ID             | VARCHAR2 (128)  |          | Statement ID                                                                                                                                                                                                                                                                |
| PLAN_ID                  | NUMBER          |          | Plan ID                                                                                                                                                                                                                                                                     |
| TIMESTAMP                | DATE            |          | Date and time timestamp                                                                                                                                                                                                                                                     |
| REMARKS                  | VARCHAR2 (4000) |          | Remarks                                                                                                                                                                                                                                                                     |
| OPERATION                | VARCHAR2 (128)  |          | Name of the internal operation performed in this step (for example, <code>TABLE ACCESS</code> )                                                                                                                                                                             |
| OPTIONS                  | VARCHAR2 (255)  |          | A variation on the operation described in the <code>OPERATION</code> column (for example, <code>FULL</code> )                                                                                                                                                               |
| OBJECT_NODE              | VARCHAR2 (128)  |          | Name of the database link used to reference the object (a table name or view name). For local queries that use parallel execution, this column describes the order in which output from operations is consumed.                                                             |
| OBJECT_OWNER             | VARCHAR2 (128)  |          | Name of the user who owns the schema containing the table or index                                                                                                                                                                                                          |
| OBJECT_NAME              | VARCHAR2 (128)  |          | Name of the table or index                                                                                                                                                                                                                                                  |
| OBJECT_ALIAS             | VARCHAR2 (261)  |          | Alias for the object                                                                                                                                                                                                                                                        |
| OBJECT_INSTANCE          | NUMBER (38)     |          | Instance number for the object                                                                                                                                                                                                                                              |
| OBJECT_TYPE              | VARCHAR2 (128)  |          | Type of the object                                                                                                                                                                                                                                                          |
| OPTIMIZER                | VARCHAR2 (255)  |          | Current mode of the optimizer for the first row in the plan (statement line), for example, <code>CHOOSE</code> . When the operation is a database access (for example, <code>TABLE ACCESS</code> ), this column indicates whether or not the object is analyzed.            |
| SEARCH_COLUMNS           | NUMBER          |          | Number of index columns with start and stop keys (that is, the number of columns with matching predicates)                                                                                                                                                                  |
| ID                       | NUMBER (38)     | NOT NULL | A number assigned to each step in the execution plan                                                                                                                                                                                                                        |
| PARENT_ID                | NUMBER (38)     |          | ID of the next execution step that operates on the output of the current step                                                                                                                                                                                               |
| DEPTH                    | NUMBER (38)     |          | Depth (or level) of the operation in the tree. It is not necessary to issue a <code>CONNECT BY</code> statement to get the level information, which is generally used to indent the rows from the <code>PLAN_TABLE</code> table. The root operation (statement) is level 0. |

| Column            | Datatype        | NULL | Description                                                                                                                                                                           |
|-------------------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POSITION          | NUMBER (38)     |      | Order of processing for all operations that have the same PARENT_ID.                                                                                                                  |
| COST              | NUMBER (38)     |      | Cost of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is NULL.                                      |
| CARDINALITY       | NUMBER (38)     |      | Estimate, made by the cost-based optimizer, of the number of rows produced by the operation                                                                                           |
| BYTES             | NUMBER (38)     |      | Estimate, made by the cost-based optimizer, of the number of bytes produced by the operation                                                                                          |
| OTHER_TAG         | VARCHAR2 (255)  |      | Describes the contents of the OTHER column. For information about values, see <i>Oracle Database SQL Tuning Guide</i> .                                                               |
| PARTITION_START   | VARCHAR2 (255)  |      | Start partition of a range of accessed partitions                                                                                                                                     |
| PARTITION_STOP    | VARCHAR2 (255)  |      | Stop partition of a range of accessed partitions                                                                                                                                      |
| PARTITION_ID      | NUMBER (38)     |      | Step that computes the pair of values of the PARTITION_START and PARTITION_STOP columns                                                                                               |
| OTHER             | LONG            |      | Other information specific to the execution step that users may find useful. For information about values, see <i>Oracle Database SQL Tuning Guide</i> .                              |
| DISTRIBUTION      | VARCHAR2 (128)  |      | Stores the method used to distribute rows from producer query servers to consumer query servers                                                                                       |
| CPU_COST          | NUMBER (38)     |      | CPU cost of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is NULL.                                  |
| IO_COST           | NUMBER (38)     |      | I/O cost of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is NULL.                                  |
| TEMP_SPACE        | NUMBER (38)     |      | Temporary space usage of the operation (sort or hash join) as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is NULL. |
| ACCESS_PREDICATES | VARCHAR2 (4000) |      | Predicates used to locate rows in an access structure. For example, start or stop predicates for an index range scan.                                                                 |
| FILTER_PREDICATES | VARCHAR2 (4000) |      | Predicates used to filter rows before producing them                                                                                                                                  |
| PROJECTION        | VARCHAR2 (4000) |      | Expressions produced by the operation                                                                                                                                                 |
| TIME              | NUMBER (38)     |      | Elapsed time (in seconds) of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is NULL.                 |
| QBLOCK_NAME       | VARCHAR2 (128)  |      | Name of the query block                                                                                                                                                               |

| Column              | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------|----------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTHER_XML           | CLOB     |      | <p>Provides extra information specific to an execution step of the execution plan. The content of this column is structured using XML, which allows multiple pieces of information to be stored, including the following:</p> <ul style="list-style-type: none"> <li>• Name of the schema against which the query was parsed</li> <li>• Release number of the Oracle Database that produced the explain plan</li> <li>• Hash value associated with the execution plan</li> <li>• Name (if any) of the outline or the SQL profile used to build the execution plan</li> <li>• Indication of whether or not dynamic statistics were used to produce the plan</li> <li>• The outline data, a set of optimizer hints that can be used to regenerate the same plan</li> <li>• Additional data that describes the relationship between rows in the plan table and subplans of adaptive plans</li> </ul> |
| EXECUTIONS          | NUMBER   |      | Number of times the plan has been executed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| STARTS              | NUMBER   |      | Number of times this operation has been started, accumulated over the past executions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| OUTPUT_ROWS         | NUMBER   |      | Number of rows produced by the row source, accumulated over the past executions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CR_BUFFER_GETS      | NUMBER   |      | Number of buffers received in consistent mode, accumulated over the past executions. Buffers are usually retrieved in consistent mode for queries.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CU_BUFFER_GETS      | NUMBER   |      | Number of buffers retrieved in current mode, accumulated over the past executions. Buffers are retrieved in current mode for statements such as INSERT, UPDATE, and DELETE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| DISK_READS          | NUMBER   |      | Number of physical disk reads performed by the operation, accumulated over the past executions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DISK_WRITES         | NUMBER   |      | Number of physical disk writes performed by the operation, accumulated over the past executions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ELAPSED_TIME        | NUMBER   |      | Elapsed time (in microseconds) corresponding to this operation, accumulated over the past executions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| LAST_STARTS         | NUMBER   |      | Number of times this operation has been started, during the last execution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| LAST_OUTPUT_ROWS    | NUMBER   |      | Number of rows produced by the row source, during the last execution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| LAST_CR_BUFFER_GETS | NUMBER   |      | Number of buffers retrieved in consistent mode, during the last execution. Buffers are usually retrieved in consistent mode for queries.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| LAST_CU_BUFFER_GETS | NUMBER   |      | Number of buffers retrieved in current mode, during the last execution. Buffers are retrieved in current mode for statements such as INSERT, UPDATE, and DELETE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| LAST_DISK_READS     | NUMBER   |      | Number of physical disk reads performed by the operation, during the last execution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LAST_DISK_WRITES    | NUMBER   |      | Number of physical disk writes performed by the operation, during the last execution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Column                 | Datatype       | NULL | Description                                                                                                                                                                                        |
|------------------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LAST_ELAPSED_TIME      | NUMBER         |      | Elapsed time (in microseconds) corresponding to this operation, during the last execution                                                                                                          |
| POLICY                 | VARCHAR2 (10)  |      | Sizing policy for this work area: <ul style="list-style-type: none"> <li>• MANUAL</li> <li>• AUTO</li> </ul>                                                                                       |
| ESTIMATED_OPTIMAL_SIZE | NUMBER         |      | Estimated size (in KB) required by this work area to execute the operation completely in memory (optimal execution). This is either derived from optimizer statistics or from previous executions. |
| ESTIMATED_ONEPASS_SIZE | NUMBER         |      | Estimated size (in KB) required by this work area to execute the operation in a single pass. This is either derived from optimizer statistics or from previous executions.                         |
| LAST_MEMORY_USED       | NUMBER         |      | Memory size (in KB) used by this work area during the last execution of the cursor                                                                                                                 |
| LAST_EXECUTION         | VARCHAR2 (10)  |      | Indicates whether this work area ran using OPTIMAL, ONE PASS, or under ONE PASS memory requirement (MULTI-PASS), during the last execution of the cursor                                           |
| LAST_DEGREE            | NUMBER         |      | Degree of parallelism used, during the last execution of the cursor                                                                                                                                |
| TOTAL_EXECUTIONS       | NUMBER         |      | Number of times this work area was active                                                                                                                                                          |
| OPTIMAL_EXECUTIONS     | NUMBER         |      | Number of times this work area ran in optimal mode                                                                                                                                                 |
| ONEPASS_EXECUTIONS     | NUMBER         |      | Number of times this work area ran in one pass mode                                                                                                                                                |
| MULTIPASSES_EXECUTIONS | NUMBER         |      | Number of times this work area ran below the one pass memory requirement                                                                                                                           |
| ACTIVE_TIME            | NUMBER         |      | Average time this work area is active (in hundredths of a second)                                                                                                                                  |
| MAX_TEMPSEG_SIZE       | NUMBER         |      | Maximum temporary segment size (in bytes) created by an instantiation of this work area. This column is null if this work area has never spilled to disk.                                          |
| LAST_TEMPSEG_SIZE      | NUMBER         |      | Temporary segment size (in bytes) created in the last instantiation of this work area. This column is null if the last instantiation of this work area did not spill to disk.                      |
| PARSING_USER_NAME      | VARCHAR2 (128) |      | Name of the parsing user                                                                                                                                                                           |



#### See Also:

- "DBA\_SQLSET\_PLANS"
- "USER\_SQLSET\_PLANS"

## 4.100 ALL\_SQLSET\_REFERENCES

ALL\_SQLSET\_REFERENCES describes whether or not the SQL tuning sets accessible to the current user are active.

### Related Views

- DBA\_SQLSET\_REFERENCES describes whether or not all SQL tuning sets in the database are active. A SQL tuning set cannot be dropped if it is referenced.
- USER\_SQLSET\_REFERENCES describes whether or not the SQL tuning sets owned by the current user are active.

| Column       | Datatype       | NULL     | Description                                    |
|--------------|----------------|----------|------------------------------------------------|
| SQLSET_NAME  | VARCHAR2 (128) | NOT NULL | Name of the SQL tuning set                     |
| SQLSET_OWNER | VARCHAR2 (128) |          | User name of SQL tuning set owner              |
| SQLSET_ID    | NUMBER         | NOT NULL | Identifier of the SQL tuning set               |
| ID           | NUMBER         | NOT NULL | Reference identifier                           |
| OWNER        | VARCHAR2 (128) |          | User who registered to use the SQL tuning set  |
| DESCRIPTION  | VARCHAR2 (256) |          | Description of the usage of the SQL tuning set |
| CREATED      | DATE           |          | Date the reference was created                 |



### See Also:

- "DBA\_SQLSET\_REFERENCES"
- "USER\_SQLSET\_REFERENCES"

## 4.101 ALL\_SQLSET\_STATEMENTS

ALL\_SQLSET\_STATEMENTS displays information about the SQL statements, along with their statistics, that form all SQL tuning sets accessible to the current user.

### Related Views

- DBA\_SQLSET\_STATEMENTS displays information about the SQL statements, along with their statistics, that form all SQL tuning sets in the database.
- USER\_SQLSET\_STATEMENTS displays information about the SQL statements, along with their statistics, that form the SQL tuning sets owned by the current user. This view does not display the SQLSET\_OWNER column.

| Column       | Datatype       | NULL     | Description                                  |
|--------------|----------------|----------|----------------------------------------------|
| SQLSET_NAME  | VARCHAR2 (128) | NOT NULL | Name of the SQL tuning set for the statement |
| SQLSET_OWNER | VARCHAR2 (128) |          | User name of the SQL tuning set owner        |
| SQLSET_ID    | NUMBER         | NOT NULL | ID of the SQL tuning set for the statement   |
| CON_DBID     | NUMBER         | NOT NULL | The database ID of the PDB                   |

| Column                   | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQL_ID                   | VARCHAR2 (13)  | NOT NULL | SQL identifier of the parent cursor in the library cache                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| FORCE_MATCHING_SIGNATURE | NUMBER         | NOT NULL | The signature used when the <code>CURSOR_SHARING</code> parameter is set to <code>FORCE</code>                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SQL_TEXT                 | CLOB           |          | Full text for the SQL statement exposed as a CLOB column.                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PARSING_SCHEMA_NAME      | VARCHAR2 (128) |          | Name of the user in whose schema the statement was parsed                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PLAN_HASH_VALUE          | NUMBER         | NOT NULL | Hash value for the plan corresponding to statistics in this record                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| BIND_DATA                | RAW (2000)     |          | Bind data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| BINDS_CAPTURED           | CHAR (1)       |          | Binds captured                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| MODULE                   | VARCHAR2 (64)  |          | Contains the name of the module that was executing when the SQL statement was first parsed, which is set by calling <code>DBMS_APPLICATION_INFO.SET_MODULE</code>                                                                                                                                                                                                                                                                                                                                                    |
| ACTION                   | VARCHAR2 (64)  |          | Contains the name of the action that was executing when the SQL statement was first parsed, which is set by calling <code>DBMS_APPLICATION_INFO.SET_ACTION</code>                                                                                                                                                                                                                                                                                                                                                    |
| ELAPSED_TIME             | NUMBER         |          | Elapsed time (in microseconds) used by this cursor for parsing, executing, and fetching                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CPU_TIME                 | NUMBER         |          | CPU time (in microseconds) used by this cursor for parsing, executing, and fetching                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| BUFFER_GETS              | NUMBER         |          | Number of buffer gets for this child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DISK_READS               | NUMBER         |          | Number of disk reads for this child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DIRECT_WRITES            | NUMBER         |          | Number of direct writes for this child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ROWS_PROCESSED           | NUMBER         |          | Total number of rows that the parsed SQL statement returns                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| FETCHES                  | NUMBER         |          | Number of fetches associated with the SQL statement                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EXECUTIONS               | NUMBER         |          | Number of executions that took place on this object since it was brought into the library cache                                                                                                                                                                                                                                                                                                                                                                                                                      |
| END_OF_FETCH_COUNT       | NUMBER         |          | Number of times this cursor was fully executed since the cursor was brought into the library cache. The value of this statistic is not incremented when the cursor is partially executed, either because it failed during the execution or because only the first few rows produced by this cursor are fetched before the cursor is closed or re-executed. By definition, the value of the <code>END_OF_FETCH_COUNT</code> column should be less than, or equal to, the value of the <code>EXECUTIONS</code> column. |
| OPTIMIZER_COST           | NUMBER         |          | Cost of this query, given by the optimizer                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| OPTIMIZER_ENV            | RAW (2000)     |          | Optimizer environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| PRIORITY                 | NUMBER         |          | User-defined priority                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMMAND_TYPE             | NUMBER         |          | Oracle command type definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| FIRST_LOAD_TIME          | VARCHAR2 (19)  |          | Timestamp of the parent creation time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| STAT_PERIOD              | NUMBER         |          | Time (in seconds) during which the statistics of the SQL statement were collected                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ACTIVE_STAT_PERIOD       | NUMBER         |          | Effective time (in seconds) during which the SQL statement was active                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| Column                   | Datatype       | NULL     | Description                                                                                                                                            |
|--------------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTHER                    | CLOB           |          | Client data, specified by the user, for this statement                                                                                                 |
| PLAN_TIMESTAMP           | DATE           |          | Timestamp for the plan corresponding to the statistics in this record                                                                                  |
| SQL_SEQ                  | NUMBER         | NOT NULL | SQL sequence                                                                                                                                           |
| LAST_EXEC_START_TIME     | VARCHAR2 (19)  |          | For SQLs captured from the cursor cache, this is the time when the most recent execution of this SQL started                                           |
| SHARABLE_MEM             | NUMBER         |          | Amount of shared memory used by the child cursor (in bytes)                                                                                            |
| EXACT_MATCHING_SIGNATURE | NUMBER         |          | Signature calculated on the normalized SQL text. The normalization includes the removal of white space and the uppercasing of all non-literal strings. |
| RESULT_CACHE_EXECUTIONS  | NUMBER         |          | Number of result cache executions                                                                                                                      |
| SQL_PROFILE              | VARCHAR2 (128) |          | SQL profile used for this statement, if any                                                                                                            |
| SQL_PLAN_BASELINE        | VARCHAR2 (128) |          | SQL plan baseline used for this statement, if any                                                                                                      |
| SQL_PATCH                | VARCHAR2 (128) |          | SQL patch used for this statement, if any                                                                                                              |
| AVG_HARD_PARSE_TIME      | NUMBER         |          | Average hard parse time (in microseconds) used by this cursor                                                                                          |
| USER_IO_WAIT_TIME        | NUMBER         |          | User I/O Wait Time (in microseconds); updated as the statement executes                                                                                |
| IO_INTERCONNECT_BYTES    | NUMBER         |          | Number of I/O bytes exchanged between Oracle Database and the storage system                                                                           |
| PARSING_USER_NAME        | VARCHAR2 (128) |          | Name of the parsing user                                                                                                                               |

#### See Also:

- ["DBA\\_SQLSET\\_STATEMENTS"](#)
- ["USER\\_SQLSET\\_STATEMENTS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_APPLICATION_INFO.SET_MODULE` procedure
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_APPLICATION_INFO.SET_ACTION` procedure

## 4.102 ALL\_STAT\_EXTENSIONS

`ALL_STAT_EXTENSIONS` displays information about the optimizer statistics extensions accessible to the current user.

### Related Views

- `DBA_STAT_EXTENSIONS` displays information about all optimizer statistics extensions in the database.
- `USER_STAT_EXTENSIONS` displays information about the optimizer statistics extensions owned by the current user. This view does not display the `OWNER` column.



| Column         | Datatype       | NULL     | Description                                                                                         |
|----------------|----------------|----------|-----------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the extension                                                                              |
| TABLE_NAME     | VARCHAR2 (128) | NOT NULL | Name of the table to which the extension belongs                                                    |
| EXTENSION_NAME | VARCHAR2 (128) | NOT NULL | Name of the statistics extension                                                                    |
| EXTENSION      | CLOB           |          | Extension (the expression or column group)                                                          |
| CREATOR        | VARCHAR2 (6)   |          | Creator of the extension: <ul style="list-style-type: none"><li>• USER</li><li>• SYSTEM</li></ul>   |
| DROPPABLE      | VARCHAR2 (3)   |          | Indicates whether the extension is droppable using DBMS_STATS.DROP_EXTENDED_STATS (YES) or not (NO) |

**See Also:**

- ["DBA\\_STAT\\_EXTENSIONS"](#)
- ["USER\\_STAT\\_EXTENSIONS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_STATS.DROP\_EXTENDED\_STATS procedure

## 4.103 ALL\_STATEMENTS

ALL\_STATEMENTS describes all SQL statements in stored PL/SQL objects accessible to the user.

**Related Views**

- DBA\_STATEMENTS describes SQL statements in stored PL/SQL objects accessible to SYS.
- USER\_STATEMENTS describes SQL statements in stored PL/SQL objects accessible to the user. This view does not display the OWNER column.

| Column    | Datatype       | NULL     | Description                                                                                                                     |
|-----------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------|
| OWNER     | VARCHAR2 (128) | NOT NULL | Owner of the statement                                                                                                          |
| SIGNATURE | VARCHAR2 (32)  |          | Signature of the statement. Every statement type has a unique PL/Scope signature that identifies that instance of th statement. |

| Column             | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------|-----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE               | VARCHAR2 (17)   |          | Type of the statement. Statement types correspond to statements that can be used in PL/SQL to execute or otherwise interact with SQL: <ul style="list-style-type: none"> <li>• SELECT</li> <li>• UPDATE</li> <li>• INSERT</li> <li>• DELETE</li> <li>• MERGE</li> <li>• CLOSE</li> <li>• FETCH</li> <li>• OPEN</li> <li>• SAVEPOINT</li> <li>• COMMIT</li> <li>• SET_TRANSACTION</li> <li>• ROLLBACK</li> <li>• LOCK_TABLE</li> <li>• EXECUTE_IMMEDIATE</li> </ul> |
| OBJECT_NAME        | VARCHAR2 (128)  | NOT NULL | Name of the object where the statement usage occurred                                                                                                                                                                                                                                                                                                                                                                                                              |
| OBJECT_TYPE        | VARCHAR2 (12)   |          | Type of the object where the statement usage occurred                                                                                                                                                                                                                                                                                                                                                                                                              |
| USAGE_ID           | NUMBER          |          | Unique key for a statement usage within the object                                                                                                                                                                                                                                                                                                                                                                                                                 |
| LINE               | NUMBER          |          | Line number of the statement usage                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| COL                | NUMBER          |          | Column number of the statement usage                                                                                                                                                                                                                                                                                                                                                                                                                               |
| USAGE_CONTEXT_ID   | NUMBER          |          | Context USAGE_ID of an statement usage                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SQL_ID             | VARCHAR2 (13)   |          | SQL ID of the SQL statement. The value of this column is null for statements that do not have a SQL ID.                                                                                                                                                                                                                                                                                                                                                            |
| HAS_HINT           | VARCHAR2 (3)    |          | YES if the SQL statement contains a hint, NO otherwise.<br>If a hint appears inside of a subquery, then HAS_HINT will be YES for the containing statement or statements of the subquery as well as for the subquery itself.                                                                                                                                                                                                                                        |
| HAS_INTO_BULK      | VARCHAR2 (3)    |          | Indicates whether the statement contains a BULK_COLLECT clause (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                   |
| HAS_INTO_RETURNING | VARCHAR2 (3)    |          | Indicates whether the statement contains a RETURNING INTO clause (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                 |
| HAS_INTO_RECORD    | VARCHAR2 (3)    |          | Indicates whether the statement returns results into a PL/SQL record (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                             |
| HAS_CURRENT_OF     | VARCHAR2 (3)    |          | Indicates whether the statement contains a HAS_CURRENT_OF clause (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                 |
| HAS_FOR_UPDATE     | VARCHAR2 (3)    |          | Indicates whether the statement contains a HAS_FOR_UPDATE clause (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                 |
| HAS_IN_BINDS       | VARCHAR2 (3)    |          | Indicates whether the statement contains an IN_BINDS clause (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                      |
| TEXT               | VARCHAR2 (4000) |          | The normalized form of the statement, when the statement has a normalized form. These are typically the same statements that have a SQL ID.<br><br>The column value is null when the statement does not have a normalized form.                                                                                                                                                                                                                                    |

| Column        | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                       |
|---------------|----------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FULL_TEXT     | CLOB     |      | Clob text of the SQL statement                                                                                                                                                                                                                                                                                                                                                    |
| ORIGIN_CON_ID | NUMBER   |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root)</li> </ul> |



#### See Also:

- ["DBA\\_STATEMENTS"](#)
- ["USER\\_STATEMENTS"](#)

## 4.104 ALL\_STORED\_SETTINGS

ALL\_STORED\_SETTINGS provides information about the persistent parameter settings for stored PL/SQL units for which the current user has execute privileges.

#### Related Views

- DBA\_STORED\_SETTINGS lists information about the persistent parameter settings for stored PL/SQL units for which the current user has execute privileges. It also returns parameter information for all objects in the database and is accessible only to users with the SELECT\_CATALOG\_ROLE privilege.
- USER\_STORED\_SETTINGS lists information about the persistent parameter settings for stored PL/SQL units, but only shows information about PL/SQL units owned by the current user. This view does not display the OWNER column.

| Column      | Datatype        | NULL     | Description                                                                                                                                                                 |
|-------------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER       | VARCHAR2 (128)  | NOT NULL | Name of the database user owning the stored PL/SQL unit                                                                                                                     |
| OBJECT_NAME | VARCHAR2 (128)  | NOT NULL | Name of the PL/SQL unit                                                                                                                                                     |
| OBJECT_ID   | NUMBER          | NOT NULL | Object number of the PL/SQL unit                                                                                                                                            |
| OBJECT_TYPE | VARCHAR2 (12)   |          | The type of PL/SQL unit: PROCEDURE, FUNCTION, PACKAGE, PACKAGE BODY, TRIGGER, TYPE, or TYPE BODY                                                                            |
| PARAM_NAME  | VARCHAR2 (128)  | NOT NULL | The name of the parameter stored persistently with the PL/SQL unit                                                                                                          |
| PARAM_VALUE | VARCHAR2 (4000) |          | The TO_CHAR() representation of the value of the persistently stored parameter. The width of this column is operating system dependent; however, it is never less than 255. |

| Column        | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                    |
|---------------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGIN_CON_ID | NUMBER   |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li><li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root)</li></ul> |

**Note:**

This view is deprecated in favor of the `ALL_PLSQL_OBJECT_SETTINGS` view. Oracle recommends that you use `ALL_PLSQL_OBJECT_SETTINGS` instead. `ALL_STORED_SETTINGS` is retained for backward compatibility only.

**See Also:**

["ALL\\_PLSQL\\_OBJECT\\_SETTINGS"](#)

## 4.105 ALL\_STREAMS\_GLOBAL\_RULES

`ALL_STREAMS_GLOBAL_RULES` displays information about rules.

`ALL_STREAMS_GLOBAL_RULES` displays information about the following types of rules:

- Global rules created for the capture processes that enqueue the captured changes into queues accessible to the current user
- Global rules created for the propagations that have a source queue accessible to the current user
- Global rules created for the apply processes that dequeue events from queues accessible to the current user

This view does not contain information about rules created using the `DBMS_RULE_ADM` package.

**Related View**

`DBA_STREAMS_GLOBAL_RULES` displays information about the global rules created for all capture processes, propagations, and apply processes in the database.

| Column       | Datatype       | NULL | Description                                                                                                                               |
|--------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------|
| STREAMS_NAME | VARCHAR2 (128) |      | Name of the Replication process or propagation                                                                                            |
| STREAMS_TYPE | VARCHAR2 (11)  |      | Type of the Replication process or propagation: <ul style="list-style-type: none"><li>CAPTURE</li><li>PROPAGATION</li><li>APPLY</li></ul> |

| Column             | Datatype        | NULL     | Description                                                                                                                                                                                 |
|--------------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RULE_TYPE          | VARCHAR2 (9)    |          | Type of the rule: <ul style="list-style-type: none"> <li>DML</li> <li>DDL</li> </ul>                                                                                                        |
| INCLUDE_TAGGED_LCR | VARCHAR2 (3)    |          | Indicates whether a redo entry or logical change record (LCR) with a non-NULL tag is considered for capture, propagation, or apply (YES) or not (NO)                                        |
| SOURCE_DATABASE    | VARCHAR2 (128)  |          | Source database in the rule condition. The rule evaluates to <code>true</code> for a redo entry or logical change record (LCR) only if the redo entry or LCR contains this source database. |
| RULE_NAME          | VARCHAR2 (128)  | NOT NULL | Name of the rule                                                                                                                                                                            |
| RULE_OWNER         | VARCHAR2 (128)  | NOT NULL | Owner of the rule                                                                                                                                                                           |
| RULE_CONDITION     | VARCHAR2 (4000) |          | First 4000 bytes of the system-generated rule condition evaluated by the rules engine                                                                                                       |



#### See Also:

- "DBA\_STREAMS\_GLOBAL\_RULES"
- Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_RULE\_ADM package

## 4.106 ALL\_STREAMS\_MESSAGE\_CONSUMERS

ALL\_STREAMS\_MESSAGE\_CONSUMERS displays information about the Replication messaging clients accessible to the current user.

#### Related View

DBA\_STREAMS\_MESSAGE\_CONSUMERS displays information about all Replication messaging clients in the database.

| Column                  | Datatype       | NULL     | Description                                                                                                              |
|-------------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------|
| STREAMS_NAME            | VARCHAR2 (128) | NOT NULL | Name of the messaging client                                                                                             |
| QUEUE_NAME              | VARCHAR2 (128) | NOT NULL | Name of the queue                                                                                                        |
| QUEUE_OWNER             | VARCHAR2 (128) | NOT NULL | Owner of the queue                                                                                                       |
| RULE_SET_NAME           | VARCHAR2 (128) |          | Name of the positive rule set                                                                                            |
| RULE_SET_OWNER          | VARCHAR2 (128) |          | Owner of the positive rule set                                                                                           |
| NEGATIVE_RULE_SET_NAME  | VARCHAR2 (128) |          | Name of the negative rule set                                                                                            |
| NEGATIVE_RULE_SET_OWNER | VARCHAR2 (128) |          | Owner of the negative rule set                                                                                           |
| NOTIFICATION_TYPE       | VARCHAR2 (9)   |          | Type of the notification action: <ul style="list-style-type: none"> <li>PROCEDURE</li> <li>MAIL</li> <li>HTTP</li> </ul> |
| NOTIFICATION_ACTION     | VARCHAR2 (256) |          | Notification action                                                                                                      |

| Column               | Datatype | NULL | Description                         |
|----------------------|----------|------|-------------------------------------|
| NOTIFICATION_CONTEXT | ANYDATA  |      | Context for the notification action |

**See Also:**["DBA\\_STREAMS\\_MESSAGE\\_CONSUMERS"](#)

## 4.107 ALL\_STREAMS\_NEWLY\_SUPPORTED

ALL\_STREAMS\_NEWLY\_SUPPORTED displays information about the tables accessible to the current user that are newly supported by capture processes.

### Related View

DBA\_STREAMS\_NEWLY\_SUPPORTED displays information about all tables in the database that are newly supported by capture processes.

| Column     | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER      | VARCHAR2 (128) |      | Owner of the table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TABLE_NAME | VARCHAR2 (128) |      | Name of the table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| REASON     | VARCHAR2 (39)  |      | Reason why the table was not supported in a previous release: <ul style="list-style-type: none"><li>• IOT</li><li>• column with user-defined type</li><li>• unsupported column exists</li><li>• object table</li><li>• AQ queue table</li><li>• temporary table</li><li>• sub object</li><li>• external table</li><li>• materialized view</li><li>• FILE column exists</li><li>• materialized view log</li><li>• materialized view container table</li><li>• streams unsupported object</li><li>• domain index</li></ul> |
| COMPATIBLE | CHAR (4)       |      | Minimum database compatibility for capture processes to support the database object                                                                                                                                                                                                                                                                                                                                                                                                                                      |

**See Also:**["DBA\\_STREAMS\\_NEWLY\\_SUPPORTED"](#)

## 4.108 ALL\_STREAMS\_SCHEMA\_RULES

ALL\_STREAMS\_SCHEMA\_RULES displays information about several types of schema rules.

ALL\_STREAMS\_SCHEMA\_RULES displays information about these types of schema rules:

- Schema rules created for the capture processes that enqueue the captured changes into queues accessible to the current user
- Schema rules created for the propagations that have a source queue accessible to the current user
- Schema rules created for the apply processes that dequeue events from queues accessible to the current user

This view does not contain information about rules created using the DBMS\_RULE\_ADM package.

### Related View

DBA\_STREAMS\_SCHEMA\_RULES displays information about the schema rules created for all capture processes, propagations, and apply processes in the database.

| Column             | Datatype        | NULL     | Description                                                                                                                                                                                 |
|--------------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STREAMS_NAME       | VARCHAR2 (128)  |          | Name of the Replication process or propagation                                                                                                                                              |
| STREAMS_TYPE       | VARCHAR2 (11)   |          | Type of the Replication process or propagation: <ul style="list-style-type: none"> <li>• CAPTURE</li> <li>• PROPAGATION</li> <li>• APPLY</li> </ul>                                         |
| SCHEMA_NAME        | VARCHAR2 (128)  |          | Schema name in the rule condition. The rule evaluates to <code>true</code> for a redo entry or logical change record (LCR) only if the redo entry or LCR contains this schema name.         |
| RULE_TYPE          | VARCHAR2 (7)    |          | Type of the rule: <ul style="list-style-type: none"> <li>• DML</li> <li>• DDL</li> </ul>                                                                                                    |
| INCLUDE_TAGGED_LCR | VARCHAR2 (3)    |          | Indicates whether a redo entry or logical change record (LCR) with a non-NULL tag is considered for capture, propagation, or apply ( <code>YES</code> ) or not ( <code>NO</code> )          |
| SOURCE_DATABASE    | VARCHAR2 (128)  |          | Source database in the rule condition. The rule evaluates to <code>true</code> for a redo entry or logical change record (LCR) only if the redo entry or LCR contains this source database. |
| RULE_NAME          | VARCHAR2 (128)  | NOT NULL | Name of the rule                                                                                                                                                                            |
| RULE_OWNER         | VARCHAR2 (128)  | NOT NULL | Owner of the rule                                                                                                                                                                           |
| RULE_CONDITION     | VARCHAR2 (4000) |          | First 4000 bytes of the system-generated rule condition evaluated by the rules engine                                                                                                       |

 **See Also:**

- ["DBA\\_STREAMS\\_SCHEMA\\_RULES"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_RULE\_ADM package

## 4.109 ALL\_STREAMS\_TABLE\_RULES

ALL\_STREAMS\_TABLE\_RULES displays information about several types of rules.

ALL\_STREAMS\_TABLE\_RULES displays information about these types of table and subset rules:

- Table rules created for the capture processes that enqueue the captured changes into queues accessible to the current user
- Table rules created for the propagations that have a source queue accessible to the current user
- Table rules created for the apply processes that dequeue events from queues accessible to the current user
- Subset rules created for the apply processes that have a source queue accessible to the current user

This view does not contain information about rules created using the DBMS\_RULE\_ADM package.

### Related View

DBA\_STREAMS\_TABLE\_RULES displays information about the table rules created for all capture processes, propagations, and apply processes in the database.

| Column        | Datatype        | NULL | Description                                                                                                                                                                         |
|---------------|-----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STREAMS_NAME  | VARCHAR2 (128)  |      | Name of the Replication process or propagation                                                                                                                                      |
| STREAMS_TYPE  | VARCHAR2 (12)   |      | Type of the Replication process or propagation: <ul style="list-style-type: none"><li>• CAPTURE</li><li>• PROPAGATION</li><li>• APPLY</li><li>• DEQUEUE</li></ul>                   |
| TABLE_OWNER   | VARCHAR2 (128)  |      | Table owner in the rule condition. The rule evaluates to <code>true</code> for a redo entry or logical change record (LCR) only if the redo entry or LCR contains this table owner. |
| TABLE_NAME    | VARCHAR2 (128)  |      | Table name in the rule condition. The rule evaluates to <code>true</code> for a redo entry or logical change record (LCR) only if the redo entry or LCR contains this table name.   |
| RULE_TYPE     | VARCHAR2 (7)    |      | Type of the rule: <ul style="list-style-type: none"><li>• DML</li><li>• DDL</li></ul>                                                                                               |
| DML_CONDITION | VARCHAR2 (4000) |      | Row subsetting condition, if the rule is a subset rule                                                                                                                              |



| Column               | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                          |
|----------------------|-----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SUBSETTING_OPERATION | VARCHAR2 (6)    |          | DML operation for row subsetting in the rule condition, if the rule is a subset rule: <ul style="list-style-type: none"><li>• INSERT</li><li>• UPDATE</li><li>• DELETE</li></ul> The rule evaluates to <code>true</code> for a logical change record (LCR) only if the LCR contains this command type after internal transformation. |
| INCLUDE_TAGGED_LCR   | VARCHAR2 (3)    |          | Indicates whether a redo entry or logical change record (LCR) with a non-NULL tag is considered for capture, propagation, or apply (YES) or not (NO)                                                                                                                                                                                 |
| SOURCE_DATABASE      | VARCHAR2 (128)  |          | Source database in the rule condition. The rule evaluates to <code>true</code> for a redo entry or logical change record (LCR) only if the redo entry or LCR contains this source database.                                                                                                                                          |
| RULE_NAME            | VARCHAR2 (128)  | NOT NULL | Name of the rule                                                                                                                                                                                                                                                                                                                     |
| RULE_OWNER           | VARCHAR2 (128)  | NOT NULL | Owner of the rule                                                                                                                                                                                                                                                                                                                    |
| RULE_CONDITION       | VARCHAR2 (4000) |          | First 4000 bytes of the system-generated rule condition evaluated by the rules engine                                                                                                                                                                                                                                                |

**See Also:**

- ["DBA\\_STREAMS\\_TABLE\\_RULES"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_RULE_ADM` package

## 4.110 ALL\_STREAMS\_TRANSFORM\_FUNCTION

`ALL_STREAMS_TRANSFORM_FUNCTION` displays information about the rule-based transformation functions accessible to the current user.

### Related View

`DBA_STREAMS_TRANSFORM_FUNCTION` displays information about all rule-based transformation functions in the database.

| Column                  | Datatype        | NULL     | Description                                                                                                                         |
|-------------------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------|
| RULE_OWNER              | VARCHAR2 (128)  | NOT NULL | Owner of the rule associated with the transformation function                                                                       |
| RULE_NAME               | VARCHAR2 (128)  | NOT NULL | Name of the rule associated with the transformation function                                                                        |
| VALUE_TYPE              | VARCHAR2 (4000) |          | Type of the transformation function name. This type must be <code>VARCHAR2</code> for a rule-based transformation to work properly. |
| TRANSFORM_FUNCTION_NAME | VARCHAR2 (4000) |          | Name of the transformation function (NULL if <code>VALUE_TYPE</code> is not <code>VARCHAR2</code> )                                 |

| Column      | Datatype      | NULL | Description                                                                                                                                                                       |
|-------------|---------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CUSTOM_TYPE | VARCHAR2 (11) |      | Type of the transformation function: <ul style="list-style-type: none"> <li>ONE TO ONE - One-to-one transformations</li> <li>ONE TO MANY - One-to-many transformations</li> </ul> |



#### See Also:

"DBA\_STREAMS\_TRANSFORM\_FUNCTION"

## 4.111 ALL\_SUBPART\_COL\_STATISTICS

ALL\_SUBPART\_COL\_STATISTICS describes column statistics and histogram information for subpartitions of partitioned objects accessible to the current user.

#### Related Views

- DBA\_SUBPART\_COL\_STATISTICS provides this information for all subpartitions in the database.
- USER\_SUBPART\_COL\_STATISTICS provides this information for subpartitions of all partitioned objects owned by the current user. This view does not display the OWNER column.

| Column            | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                 |
|-------------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER             | VARCHAR2 (128)  | NOT NULL | Owner of the table                                                                                                                                                                                                                                                                                                                          |
| TABLE_NAME        | VARCHAR2 (128)  | NOT NULL | Name of the table                                                                                                                                                                                                                                                                                                                           |
| SUBPARTITION_NAME | VARCHAR2 (128)  |          | Table subpartition name                                                                                                                                                                                                                                                                                                                     |
| COLUMN_NAME       | VARCHAR2 (4000) |          | Column name                                                                                                                                                                                                                                                                                                                                 |
| NUM_DISTINCT      | NUMBER          |          | Number of distinct values in the column                                                                                                                                                                                                                                                                                                     |
| LOW_VALUE         | RAW (1000)      |          | Low value in the column                                                                                                                                                                                                                                                                                                                     |
| HIGH_VALUE        | RAW (1000)      |          | High value in the column                                                                                                                                                                                                                                                                                                                    |
| DENSITY           | NUMBER          |          | If a histogram is available on COLUMN_NAME, then this column displays the selectivity of a value that spans fewer than 2 endpoints in the histogram. It does not represent the selectivity of values that span 2 or more endpoints.<br><br>If a histogram is not available on COLUMN_NAME, then the value of this column is 1/NUM_DISTINCT. |
| NUM_NULLS         | NUMBER          |          | Number of NULLs in the column                                                                                                                                                                                                                                                                                                               |
| NUM_BUCKETS       | NUMBER          |          | Number of buckets in histogram for the column                                                                                                                                                                                                                                                                                               |
| SAMPLE_SIZE       | NUMBER          |          | Sample size used in analyzing this column                                                                                                                                                                                                                                                                                                   |
| LAST_ANALYZED     | DATE            |          | Date on which this column was most recently analyzed                                                                                                                                                                                                                                                                                        |
| GLOBAL_STATS      | VARCHAR2 (3)    |          | GLOBAL_STATS will be YES if statistics have been gathered or NO if statistics have not been gathered                                                                                                                                                                                                                                        |
| USER_STATS        | VARCHAR2 (3)    |          | Indicates whether statistics were entered directly by the user (YES) or not (NO)                                                                                                                                                                                                                                                            |

| Column      | Datatype      | NULL | Description                                                                                                                                                                                                                                           |
|-------------|---------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NOTES       | VARCHAR2 (41) |      | Describes some additional properties of the statistics. For example, if the value is <code>INCREMENTAL</code> , the global statistics are derived from synopses, that is, the global statistics are incrementally maintained.                         |
| AVG_COL_LEN | NUMBER        |      | Average length of the column (in bytes)                                                                                                                                                                                                               |
| HISTOGRAM   | VARCHAR2 (15) |      | Indicates existence/type of histogram: <ul style="list-style-type: none"><li>• <code>NONE</code></li><li>• <code>FREQUENCY</code></li><li>• <code>HEIGHT BALANCED</code></li><li>• <code>HYBRID</code></li><li>• <code>TOP-FREQUENCY</code></li></ul> |

**See Also:**

- `"DBA_SUBPART_COL_STATISTICS"`
- `"USER_SUBPART_COL_STATISTICS"`

## 4.112 ALL\_SUBPART\_HISTOGRAMS

`ALL_SUBPART_HISTOGRAMS` displays the actual histogram data (end-points per histogram) for histograms on table subpartitions accessible to the current user.

### Related Views

- `DBA_SUBPART_HISTOGRAMS` displays this information for all subpartitions in the database.
- `USER_SUBPART_HISTOGRAMS` displays this information for subpartitions of all partitioned objects owned by the current user. This view does not display the `OWNER` column.

**Note:**

These views are populated only if you collect statistics on the index using the `DBMS_STATS` package.

| Column                | Datatype        | NULL | Description                                                          |
|-----------------------|-----------------|------|----------------------------------------------------------------------|
| OWNER                 | VARCHAR2 (128)  |      | Owner of the table                                                   |
| TABLE_NAME            | VARCHAR2 (128)  |      | Name of the table                                                    |
| SUBPARTITION_NAME     | VARCHAR2 (128)  |      | Table subpartition name                                              |
| COLUMN_NAME           | VARCHAR2 (4000) |      | Column name                                                          |
| BUCKET_NUMBER         | NUMBER          |      | Bucket number                                                        |
| ENDPOINT_VALUE        | NUMBER          |      | Normalized endpoint values for this bucket                           |
| ENDPOINT_ACTUAL_VALUE | VARCHAR2 (4000) |      | Actual (not normalized) string value of the endpoint for this bucket |

| Column                    | Datatype  | NULL | Description                                                                                              |
|---------------------------|-----------|------|----------------------------------------------------------------------------------------------------------|
| ENDPOINT_ACTUAL_VALUE_RAW | RAW(1000) |      | Endpoint actual value in raw format                                                                      |
| ENDPOINT_REPEAT_COUNT     | NUMBER    |      | Frequency of the endpoint (applies only to hybrid histograms, and is set to 0 for other histogram types) |

#### See Also:

- ["DBA\\_SUBPART\\_HISTOGRAMS"](#)
- ["USER\\_SUBPART\\_HISTOGRAMS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_STATS package

## 4.113 ALL\_SUBPART\_KEY\_COLUMNS

ALL\_SUBPART\_KEY\_COLUMNS displays subpartitioning key columns for composite-partitioned tables (and local indexes on composite-partitioned tables) accessible to the current user.

#### Related Views

- DBA\_SUBPART\_KEY\_COLUMNS displays this information for all subpartitions in the database.
- USER\_SUBPART\_KEY\_COLUMNS displays this information for subpartitions of all partitioned objects owned by the current user. This view does not display the OWNER column.

| Column             | Datatype       | NULL | Description                                                                               |
|--------------------|----------------|------|-------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2(128)  |      | Owner of the partitioned table or index                                                   |
| NAME               | VARCHAR2(128)  |      | Name of the partitioned table or index                                                    |
| OBJECT_TYPE        | CHAR(5)        |      | Object type: <ul style="list-style-type: none"> <li>• TABLE</li> <li>• INDEX</li> </ul>   |
| COLUMN_NAME        | VARCHAR2(4000) |      | Column name                                                                               |
| COLUMN_POSITION    | NUMBER         |      | Position of the column within the subpartitioning key                                     |
| COLLATED_COLUMN_ID | NUMBER         |      | Internal sequence number of the column for which this column provides linguistic ordering |

#### See Also:

- ["DBA\\_SUBPART\\_KEY\\_COLUMNS"](#)
- ["USER\\_SUBPART\\_KEY\\_COLUMNS"](#)

## 4.114 ALL\_SUBPARTITION\_TEMPLATES

ALL\_SUBPARTITION\_TEMPLATES describes the subpartition templates accessible to the current user.

### Related Views

- DBA\_SUBPARTITION\_TEMPLATES describes all subpartition templates in the database.
- USER\_SUBPARTITION\_TEMPLATES describes the subpartition templates owned by the current user. This view does not display the USER\_NAME column.

| Column                | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USER_NAME             | VARCHAR2 (128) | NOT NULL | Owner of the table                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TABLE_NAME            | VARCHAR2 (128) | NOT NULL | Name of the table                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| SUBPARTITION_NAME     | VARCHAR2 (132) | NOT NULL | Name of the subpartition                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SUBPARTITION_POSITION | NUMBER         |          | Position of the subpartition                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TABLESPACE_NAME       | VARCHAR2 (30)  |          | Tablespace name of the subpartition                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| HIGH_BOUND            | LONG           |          | Literal list values of the subpartition                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| COMPRESSION           | VARCHAR2 (4)   |          | Compression values of COMPRESSION or NOCOMPRESSION can be specified in a subpartition template.<br>The value in this column indicates whether the subpartition template specifies that for each new added composite partition, its subpartition data will be stored in compressed format (YES) or not (NO).<br>If compression is not specified in the subpartition template, then the default is that data stored in newly-added subpartitions will not be stored in compressed format (NO). |
| INDEXING              | VARCHAR2 (4)   |          | Indexing values of INDEXING ON or INDEXING OFF can be specified in a subpartition template.<br>The value in this column indicates whether the subpartition template specifies that for each new added composite partition, its subpartition data will be considered for a partial index (ON) or not (OFF).<br>If indexing is not specified in the subpartition template, then the default is that data stored in newly-added subpartitions will be considered for a partial index (ON).      |
| READ_ONLY             | VARCHAR2 (4)   |          | Values of READ ONLY or READ WRITE can be specified in a subpartition template.<br>The value in this column indicates whether the subpartition template specifies that for each new added composite partition, its subpartition data will be read only (YES) or not (NO).<br>If the read clause is not specified in the subpartition template, then the default is that data stored in newly-added subpartitions will be read/write (NO).                                                     |

**See Also:**

- ["DBA\\_SUBPARTITION\\_TEMPLATES"](#)
- ["USER\\_SUBPARTITION\\_TEMPLATES"](#)

## 4.115 ALL\_SUMDELTA

ALL\_SUMDELTA lists direct path load entries accessible to the current user.

| Column        | Datatype     | NULL     | Description                                                     |
|---------------|--------------|----------|-----------------------------------------------------------------|
| TABLEOBJ#     | NUMBER       | NOT NULL | Object number of the table                                      |
| PARTITIONOBJ# | NUMBER       | NOT NULL | Object number of table partitions (if the table is partitioned) |
| DMLOPERATION  | VARCHAR2 (1) |          | Type of DML operation applied to the table                      |
| SCN           | NUMBER       | NOT NULL | SCN when the bulk DML occurred                                  |
| TIMESTAMP     | DATE         | NOT NULL | Timestamp of the log entry                                      |
| LOWROWID      | ROWID        | NOT NULL | Start ROWID in the loaded rowid range                           |
| HIGHROWID     | ROWID        | NOT NULL | End ROWID in the loaded rowid range                             |
| SEQUENCE      | NUMBER       |          | Sequence number of the direct load                              |
| XID           | NUMBER       |          | Transaction ID                                                  |

## 4.116 ALL\_SYNC\_CAPTURE

ALL\_SYNC\_CAPTURE displays information about the synchronous capture processes that store the captured changes in queues accessible to the current user.

### Related View

DBA\_SYNC\_CAPTURE displays information about all synchronous capture processes in the database.

| Column         | Datatype       | NULL     | Description                                          |
|----------------|----------------|----------|------------------------------------------------------|
| CAPTURE_NAME   | VARCHAR2 (128) | NOT NULL | Name of the capture process                          |
| QUEUE_NAME     | VARCHAR2 (128) | NOT NULL | Name of the queue used for holding captured changes  |
| QUEUE_OWNER    | VARCHAR2 (128) | NOT NULL | Owner of the queue used for holding captured changes |
| RULE_SET_NAME  | VARCHAR2 (128) |          | Rule set used by the capture process                 |
| RULE_SET_OWNER | VARCHAR2 (128) |          | Owner of the rule set                                |
| CAPTURE_USER   | VARCHAR2 (128) |          | Current user who is enqueueing captured messages     |

**See Also:**

- ["DBA\\_SYNC\\_CAPTURE"](#)

## 4.117 ALL\_SYNC\_CAPTURE\_PREPARED\_TABS

ALL\_SYNC\_CAPTURE\_PREPARED\_TABS displays information about the tables accessible to the current user that are prepared for synchronous capture instantiation.

### Related View

DBA\_SYNC\_CAPTURE\_PREPARED\_TABS displays information about all tables in the database that are prepared for synchronous capture instantiation.

| Column      | Datatype       | NULL     | Description                                                       |
|-------------|----------------|----------|-------------------------------------------------------------------|
| TABLE_OWNER | VARCHAR2 (128) | NOT NULL | Owner of the table prepared for synchronous capture instantiation |
| TABLE_NAME  | VARCHAR2 (128) | NOT NULL | Name of the table prepared for synchronous capture instantiation  |
| SCN         | NUMBER         | NOT NULL | SCN from which changes can be captured                            |
| TIMESTAMP   | DATE           |          | Time at which the table was ready to be instantiated              |



**See Also:**

"DBA\_SYNC\_CAPTURE\_PREPARED\_TABS"

## 4.118 ALL\_SYNC\_CAPTURE\_TABLES

ALL\_SYNC\_CAPTURE\_TABLES displays information about the tables accessible to the current user that are captured by synchronous captures.

### Related View

DBA\_SYNC\_CAPTURE\_TABLES displays information about all tables in the database that are captured by synchronous captures.

| Column      | Datatype       | NULL | Description                                                                      |
|-------------|----------------|------|----------------------------------------------------------------------------------|
| TABLE_OWNER | VARCHAR2 (128) |      | Owner of the synchronous capture table                                           |
| TABLE_NAME  | VARCHAR2 (128) |      | Name of the synchronous capture table                                            |
| ENABLED     | VARCHAR2 (3)   |      | Indicates whether synchronous capture is enabled for the table (YES) or not (NO) |



**See Also:**

"DBA\_SYNC\_CAPTURE\_TABLES"

## 4.119 ALL\_SYNONYMS

ALL\_SYNONYMS describes the synonyms accessible to the current user.

The following criteria determine the list of synonyms that ALL\_SYNONYMS shows:

- All private synonyms owned by the logged-in user, even if the base object pointed to is not accessible.
- All public synonyms, even if the base object pointed to is not accessible.
- All private synonyms owned by a different user, where the ultimate base object pointed to by that synonym or by any chain of nested synonyms, is known to be accessible because of a grant to the logged-in user, or a grant to a role in effect for this session.
- If the current session has any of the following privileges, then all synonyms that point directly to local objects are shown because it is assumed that the session can access those objects:

- LOCK ANY TABLE
- READ ANY TABLE
- SELECT ANY TABLE
- INSERT ANY TABLE
- UPDATE ANY TABLE
- DELETE ANY TABLE

Synonyms that point to remote objects are excluded because the system privileges just listed do not automatically convey access to those remote objects. Also, if the synonyms point to objects other than tables and views (such as sequences, PL/SQL procedures, and so on) then this rule may show synonyms that ultimately resolve to objects that this session cannot access.

- All private synonyms owned by a different user, where the synonym is via a database link, are excluded.

### Related Views

- DBA\_SYNONYMS describes all synonyms in the database.
- USER\_SYNONYMS describes the synonyms owned by the current user. This view does not display the OWNER column.

| Column       | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                       |
|--------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER        | VARCHAR2 (128) |      | Owner of the synonym                                                                                                                                                                                                                                                                                                                                              |
| SYNONYM_NAME | VARCHAR2 (128) |      | Name of the synonym                                                                                                                                                                                                                                                                                                                                               |
| TABLE_OWNER  | VARCHAR2 (128) |      | Owner of the object referenced by the synonym, or creator of the referring synonym if the target is a public synonym (that is, the object referred to by TABLE_NAME).<br><br>Although the column is called TABLE_OWNER, the object owned is not necessarily a table. It can be any general object such as a view, sequence, stored procedure, synonym, and so on. |



| Column        | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                       |
|---------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABLE_NAME    | VARCHAR2 (128) |      | Name of the object referenced by the synonym. Although the column is called TABLE_NAME, the object does not necessarily have to be a table. It can be any general object such as a view, sequence, stored procedure, synonym, and so on.                                                                                                                                          |
| DB_LINK       | VARCHAR2 (128) |      | Name of the database link referenced, if any                                                                                                                                                                                                                                                                                                                                      |
| ORIGIN_CON_ID | VARCHAR2 (256) |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root)</li> </ul> |



#### See Also:

- "DBA\_SYNONYMS"
- "USER\_SYNONYMS"

## 4.120 ALL\_TAB\_COL\_STAT\_MODELS

ALL\_TAB\_COL\_STAT\_MODELS describes real-time statistics models for all tables accessible to the current user.

Real-time statistics models use machine learning algorithms to predict the number of distinct values (NDV) for table columns.

#### Related Views

- DBA\_TAB\_COL\_STAT\_MODELS describes real-time statistics models for all tables in the database.
- USER\_TAB\_COL\_STAT\_MODELS describes real-time statistics models for all tables owned by the current user. This view does not display the OWNER column.

| Column      | Datatype                     | NULL     | Description                                                |
|-------------|------------------------------|----------|------------------------------------------------------------|
| OWNER       | VARCHAR2 (128)               | NOT NULL | Owner of the table                                         |
| TABLE_NAME  | VARCHAR2 (128)               | NOT NULL | Name of the table                                          |
| COLUMN_NAME | VARCHAR2 (128)               | NOT NULL | Name of the table column to which the model applies        |
| STATS_TYPE  | VARCHAR2 (7)                 |          | Statistics type<br>The value of this column is always NDV. |
| MODEL_NAME  | VARCHAR2 (200)               | NOT NULL | Name of the model                                          |
| STATUS      | VARCHAR2 (8)                 |          | Status of the model (ENABLED or DISABLED)                  |
| CREATED     | TIMESTAMP (6) WITH TIME ZONE |          | Time at which the model was created                        |

| Column    | Datatype                        | NULL | Description                                    |
|-----------|---------------------------------|------|------------------------------------------------|
| LAST_USED | TIMESTAMP (6) WITH<br>TIME ZONE |      | Time at which the model was most recently used |

**See Also:**

- ["DBA\\_TAB\\_COL\\_STAT\\_MODELS"](#)
- ["USER\\_TAB\\_COL\\_STAT\\_MODELS"](#)

## 4.121 ALL\_TAB\_COL\_STATISTICS

ALL\_TAB\_COL\_STATISTICS displays column statistics and histogram information extracted from ALL\_TAB\_COLUMNS.

### Related Views

- DBA\_TAB\_COL\_STATISTICS displays such information extracted from ["DBA\\_TAB\\_COLUMNS"](#).
- USER\_TAB\_COL\_STATISTICS displays such information extracted from ["USER\\_TAB\\_COLUMNS"](#). This view does not display the OWNER column.

| Column        | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                 |
|---------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER         | VARCHAR2 (128) |      | Owner of the table                                                                                                                                                                                                                                                                                                                          |
| TABLE_NAME    | VARCHAR2 (128) |      | Name of the table                                                                                                                                                                                                                                                                                                                           |
| COLUMN_NAME   | VARCHAR2 (128) |      | Column name                                                                                                                                                                                                                                                                                                                                 |
| NUM_DISTINCT  | NUMBER         |      | Number of distinct values in the column                                                                                                                                                                                                                                                                                                     |
| LOW_VALUE     | RAW (1000)     |      | Low value in the column                                                                                                                                                                                                                                                                                                                     |
| HIGH_VALUE    | RAW (1000)     |      | High value in the column                                                                                                                                                                                                                                                                                                                    |
| DENSITY       | NUMBER         |      | If a histogram is available on COLUMN_NAME, then this column displays the selectivity of a value that spans fewer than 2 endpoints in the histogram. It does not represent the selectivity of values that span 2 or more endpoints.<br><br>If a histogram is not available on COLUMN_NAME, then the value of this column is 1/NUM_DISTINCT. |
| NUM_NULLS     | NUMBER         |      | Number of NULLs in the column                                                                                                                                                                                                                                                                                                               |
| NUM_BUCKETS   | NUMBER         |      | Number of buckets in histogram for the column                                                                                                                                                                                                                                                                                               |
| LAST_ANALYZED | DATE           |      | Date on which this column was most recently analyzed                                                                                                                                                                                                                                                                                        |
| SAMPLE_SIZE   | NUMBER         |      | Sample size used in analyzing this column                                                                                                                                                                                                                                                                                                   |
| GLOBAL_STATS  | VARCHAR2 (3)   |      | GLOBAL_STATS will be YES if statistics are gathered or incrementally maintained, otherwise it will be NO                                                                                                                                                                                                                                    |
| USER_STATS    | VARCHAR2 (3)   |      | Indicates whether statistics were entered directly by the user (YES) or not (NO)                                                                                                                                                                                                                                                            |

| Column      | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------|---------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NOTES       | VARCHAR2 (99) |      | Describes some additional properties of the statistics.<br>For example: <ul style="list-style-type: none"> <li>• A value of <code>INCREMENTAL</code> indicates that the global statistics are derived from synopses, that is, the global statistics are incrementally maintained.</li> <li>• A value of <code>STATS_ON_CONVENTIONAL_LOAD</code> indicates that the statistics are obtained by online statistics gathering for conventional DML.</li> </ul>                                                                                                                                                                                                                   |
| AVG_COL_LEN | NUMBER        |      | Average length of the column (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| HISTOGRAM   | VARCHAR2 (15) |      | Indicates existence/type of histogram: <ul style="list-style-type: none"> <li>• <code>NONE</code></li> <li>• <code>FREQUENCY</code></li> <li>• <code>HEIGHT BALANCED</code></li> <li>• <code>HYBRID</code></li> <li>• <code>TOP-FREQUENCY</code></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SCOPE       | VARCHAR2 (7)  |      | The value is <code>SHARED</code> for statistics gathered on any table other than global temporary tables.<br>For a global temporary table, the possible values are: <ul style="list-style-type: none"> <li>• <code>SESSION</code> - Indicates that the statistics are session-specific</li> <li>• <code>SHARED</code> - Indicates that the statistics are shared across all sessions</li> </ul> See <i>Oracle Database PL/SQL Packages and Types Reference</i> for information about using the <code>GLOBAL_TEMP_TABLE_STATS</code> preference of the <code>DBMS_STATS</code> package to control whether to gather session or shared statistics for global temporary tables. |



#### See Also:

- ["DBA\\_TAB\\_COL\\_STATISTICS"](#)
- ["USER\\_TAB\\_COL\\_STATISTICS"](#)
- ["ALL\\_TAB\\_COLUMNS"](#)

## 4.122 ALL\_TAB\_COLS

`ALL_TAB_COLS` describes the columns of the tables, views, and clusters accessible to the current user.

To gather statistics for this view, use the `DBMS_STATS` package.

This view differs from `ALL_TAB_COLUMNS` in that system-generated hidden columns are not filtered out.

#### Related Views

- `DBA_TAB_COLS` describes the columns of all tables, views, and clusters in the database.

- **USER\_TAB\_COLS** describes the columns of the tables, views, and clusters owned by the current user. This view does not display the **OWNER** column.

| Column          | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128)  | NOT NULL | Owner of the table, view, or cluster                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TABLE_NAME      | VARCHAR2 (128)  | NOT NULL | Name of the table, view, or cluster                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| COLUMN_NAME     | VARCHAR2 (128)  | NOT NULL | Column name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| DATA_TYPE       | VARCHAR2 (128)  |          | Data type of the column                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| DATA_TYPE_MOD   | VARCHAR2 (3)    |          | Data type modifier of the column                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| DATA_TYPE_OWNER | VARCHAR2 (128)  |          | Owner of the data type of the column                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DATA_LENGTH     | NUMBER          | NOT NULL | Length of the column (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DATA_PRECISION  | NUMBER          |          | Decimal precision for <b>NUMBER</b> datatype; binary precision for <b>FLOAT</b> datatype; <b>NULL</b> for all other datatypes                                                                                                                                                                                                                                                                                                                                                                 |
| DATA_SCALE      | NUMBER          |          | Digits to the right of the decimal point in a number                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NULLABLE        | VARCHAR2 (1)    |          | Indicates whether a column allows <b>NULL</b> s. The value is <b>N</b> if there is a <b>NOT NULL</b> constraint on the column or if the column is part of a <b>PRIMARY KEY</b> .                                                                                                                                                                                                                                                                                                              |
| COLUMN_ID       | NUMBER          |          | Sequence number of the column as created                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| DEFAULT_LENGTH  | NUMBER          |          | Length of the default value for the column                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DATA_DEFAULT    | LONG            |          | Default value for the column                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DATA_DEFAULT_VC | VARCHAR2 (4000) |          | Default value for the column<br>This column may truncate the default value.                                                                                                                                                                                                                                                                                                                                                                                                                   |
| NUM_DISTINCT    | NUMBER          |          | Number of distinct values in the column.<br>This column remains for backward compatibility with Oracle7. This information is now in the {TAB   PART}_COL_STATISTICS views.                                                                                                                                                                                                                                                                                                                    |
| LOW_VALUE       | RAW (1000)      |          | Low value in the column.<br>This column remains for backward compatibility with Oracle7. This information is now in the {TAB   PART}_COL_STATISTICS views.                                                                                                                                                                                                                                                                                                                                    |
| HIGH_VALUE      | RAW (1000)      |          | High value in the column.<br>This column remains for backward compatibility with Oracle7. This information is now in the {TAB   PART}_COL_STATISTICS views.                                                                                                                                                                                                                                                                                                                                   |
| DENSITY         | NUMBER          |          | If a histogram is available on <b>COLUMN_NAME</b> , then this column displays the selectivity of a value that spans fewer than 2 endpoints in the histogram. It does not represent the selectivity of values that span 2 or more endpoints.<br><br>If a histogram is not available on <b>COLUMN_NAME</b> , then the value of this column is 1/NUM_DISTINCT.<br>This column remains for backward compatibility with Oracle7. This information is now in the {TAB   PART}_COL_STATISTICS views. |
| NUM_NULLS       | NUMBER          |          | Number of <b>NULL</b> s in the column                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Column               | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|---------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM_BUCKETS          | NUMBER        |          | Number of buckets in the histogram for the column<br><b>Note:</b> The number of buckets in a histogram is specified in the <code>SIZE</code> parameter of the <code>ANALYZE SQL</code> statement. However, Oracle Database does not create a histogram with more buckets than the number of rows in the sample. Also, if the sample contains any values that are very repetitious, Oracle Database creates the specified number of buckets, but the value indicated by this column may be smaller because of an internal compression algorithm. |
| LAST_ANALYZED        | DATE          |          | Date on which this column was most recently analyzed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| SAMPLE_SIZE          | NUMBER        |          | Sample size used in analyzing this column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CHARACTER_SET_NAME   | VARCHAR2 (44) |          | Name of the character set: <ul style="list-style-type: none"> <li>CHAR_CS</li> <li>NCHAR_CS</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CHAR_COL_DECL_LENGTH | NUMBER        |          | Declaration length of the character type column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| GLOBAL_STATS         | VARCHAR2 (3)  |          | GLOBAL_STATS will be YES if statistics are gathered or incrementally maintained, otherwise it will be NO                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| USER_STATS           | VARCHAR2 (3)  |          | Indicates whether statistics were entered directly by the user (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| AVG_COL_LEN          | NUMBER        |          | Average length of the column (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CHAR_LENGTH          | NUMBER        |          | Displays the length of the column in characters. This value only applies to the following datatypes: <ul style="list-style-type: none"> <li>CHAR</li> <li>VARCHAR2</li> <li>NCHAR</li> <li>NVARCHAR2</li> </ul>                                                                                                                                                                                                                                                                                                                                 |
| CHAR_USED            | VARCHAR2 (1)  |          | Indicates that the column uses BYTE length semantics (B) or CHAR length semantics (C), or whether the datatype is not any of the following (NULL): <ul style="list-style-type: none"> <li>CHAR</li> <li>VARCHAR2</li> <li>NCHAR</li> <li>NVARCHAR2</li> </ul>                                                                                                                                                                                                                                                                                   |
| V80_FMT_IMAGE        | VARCHAR2 (3)  |          | Indicates whether the column data is in release 8.0 image format (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| DATA_UPGRADED        | VARCHAR2 (3)  |          | Indicates whether the column data has been upgraded to the latest type version format (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| HIDDEN_COLUMN        | VARCHAR2 (3)  |          | Indicates whether the column is a hidden column (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| VIRTUAL_COLUMN       | VARCHAR2 (3)  |          | Indicates whether the column is a virtual column (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SEGMENT_COLUMN_ID    | NUMBER        |          | Sequence number of the column in the segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| INTERNAL_COLUMN_ID   | NUMBER        | NOT NULL | Internal sequence number of the column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Column                | Datatype        | NULL | Description                                                                                                                                                                      |
|-----------------------|-----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HISTOGRAM             | VARCHAR2 (15)   |      | Indicates existence/type of histogram: <ul style="list-style-type: none"> <li>NONE</li> <li>FREQUENCY</li> <li>TOP-FREQUENCY</li> <li>HEIGHT BALANCED</li> <li>HYBRID</li> </ul> |
| QUALIFIED_COL_NAME    | VARCHAR2 (4000) |      | Qualified column name                                                                                                                                                            |
| USER_GENERATED        | VARCHAR2 (3)    |      | Indicates whether the column is a user-generated column (YES) or a system-generated column (NO).<br>Invisible columns are hidden columns that are also user-generated columns.   |
| DEFAULT_ON_NULL       | VARCHAR2 (3)    |      | Indicates whether the column has DEFAULT ON NULL for INSERT semantics (YES) or not (NO)                                                                                          |
| DEFAULT_ON_NULL_UPD   | VARCHAR2 (3)    |      | Indicates whether the column has DEFAULT ON NULL for UPDATE semantics (YES) or not (NO)                                                                                          |
| RESERVABLE_COLUMN     | VARCHAR2 (3)    |      | Indicates whether the column is a reservable column (YES) or not (NO)                                                                                                            |
| IDENTITY_COLUMN       | VARCHAR2 (3)    |      | Indicates whether the column is an identity column (YES) or not (NO)                                                                                                             |
| EVALUATION_EDITION    | VARCHAR2 (128)  |      | Name of the edition in which editioned objects referenced in an expression column are resolved                                                                                   |
| UNUSABLE_BEFORE       | VARCHAR2 (128)  |      | Name of the oldest edition in which the column is usable                                                                                                                         |
| UNUSABLE_BEGINNING    | VARCHAR2 (128)  |      | Name of the oldest edition in which the column becomes perpetually unusable                                                                                                      |
| COLLATION             | VARCHAR2 (100)  |      | Collation for the column. Only applies to columns with character data types.                                                                                                     |
| COLLATED_COLUMN_ID    | NUMBER          |      | Internal sequence number of a column, for which this virtual column generates a collation key.                                                                                   |
| DOMAIN_OWNER          | VARCHAR2 (128)  |      | If a data use case domain is specified for the column, the owner of the data use case domain                                                                                     |
| DOMAIN_NAME           | VARCHAR2 (128)  |      | If a data use case domain is specified for the column, the name of the data use case domain                                                                                      |
| DOMAIN_COLUMN_NAME    | VARCHAR2 (128)  |      | If a data use case domain is specified for the column, the name of the data use case domain column                                                                               |
| DOMAIN_ASSOCIATION_ID | NUMBER          |      | If a data use case domain is specified for the column, the domain association ID                                                                                                 |

| Column        | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JSON_MODIFIER | VARCHAR2 (448) |      | <p>JSON-type modifier for the column</p> <p>A value is displayed only for columns of data type JSON.</p> <p>If one or more JSON-type modifiers are specified for the column, then the following is displayed:</p> <p><code>JSON( modifier [, modifier]... )</code></p> <p>Possible values for <i>modifier</i>:</p> <ul style="list-style-type: none"><li>• ARRAY - JSON array</li><li>• OBJECT - JSON object</li><li>• SCALAR - JSON scalar</li><li>• <i>data_type</i> - JSON scalar of type <i>data_type</i></li><li>• NULL - JSON null value</li></ul> <p>If a JSON-type modifier is not specified for the column, then the following is displayed:</p> <p><code>JSON( )</code></p> |
| VECTOR_INFO   | VARCHAR2 (56)  |      | <p>Indicates the number of vectors and their data type in an ONNX model</p> <p>Format: <code>VECTOR(dimension,element_type)</code></p> <p>Example: <code>VECTOR(768,float32)</code></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |



#### See Also:

- ["DBA\\_TAB\\_COLS"](#)
- ["USER\\_TAB\\_COLS"](#)
- ["ALL\\_TAB\\_COLUMNS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_STATS package

## 4.123 ALL\_TAB\_COLUMNS

ALL\_TAB\_COLUMNS describes the columns of the tables, views, and clusters accessible to the current user.

To gather statistics for this view, use the DBMS\_STATS package.

This view filters out system-generated hidden columns. The ALL\_TAB\_COLS view does not filter out system-generated hidden columns.

#### Related Views

- DBA\_TAB\_COLUMNS describes the columns of all tables, views, and clusters in the database.
- USER\_TAB\_COLUMNS describes the columns of the tables, views, and clusters owned by the current user. This view does not display the OWNER column.

| Column          | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128)  | NOT NULL | Owner of the table, view, or cluster                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TABLE_NAME      | VARCHAR2 (128)  | NOT NULL | Name of the table, view, or cluster                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| COLUMN_NAME     | VARCHAR2 (128)  | NOT NULL | Column name                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| DATA_TYPE       | VARCHAR2 (128)  |          | Data type of the column                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DATA_TYPE_MOD   | VARCHAR2 (3)    |          | Data type modifier of the column                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| DATA_TYPE_OWNER | VARCHAR2 (128)  |          | Owner of the data type of the column                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DATA_LENGTH     | NUMBER          | NOT NULL | Length of the column (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| DATA_PRECISION  | NUMBER          |          | Decimal precision for <b>NUMBER</b> data type; binary precision for <b>FLOAT</b> data type; <b>NULL</b> for all other data types                                                                                                                                                                                                                                                                                                                                                        |
| DATA_SCALE      | NUMBER          |          | Digits to the right of the decimal point in a number                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NULLABLE        | VARCHAR2 (1)    |          | Indicates whether a column allows <b>NULLS</b> . The value is <b>N</b> if there is a <b>NOT NULL</b> constraint on the column or if the column is part of a <b>PRIMARY KEY</b> . The constraint should be in an <b>ENABLE VALIDATE</b> state.                                                                                                                                                                                                                                           |
| COLUMN_ID       | NUMBER          |          | Sequence number of the column as created                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| DEFAULT_LENGTH  | NUMBER          |          | Length of the default value for the column                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| DATA_DEFAULT    | LONG            |          | Default value for the column                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| DATA_DEFAULT_VC | VARCHAR2 (4000) |          | Default value for the column<br>This column may truncate the default value.                                                                                                                                                                                                                                                                                                                                                                                                             |
| NUM_DISTINCT    | NUMBER          |          | Number of distinct values in the column.<br>This column remains for backward compatibility with Oracle7. This information is now in the {TAB PART}_COL_STATISTICS views.                                                                                                                                                                                                                                                                                                                |
| LOW_VALUE       | RAW (1000)      |          | Low value in the column.<br>This column remains for backward compatibility with Oracle7. This information is now in the {TAB PART}_COL_STATISTICS views.                                                                                                                                                                                                                                                                                                                                |
| HIGH_VALUE      | RAW (1000)      |          | High value in the column.<br>This column remains for backward compatibility with Oracle7. This information is now in the {TAB PART}_COL_STATISTICS views.                                                                                                                                                                                                                                                                                                                               |
| DENSITY         | NUMBER          |          | If a histogram is available on <b>COLUMN_NAME</b> , then this column displays the selectivity of a value that spans fewer than 2 endpoints in the histogram. It does not represent the selectivity of values that span 2 or more endpoints.<br>If a histogram is not available on <b>COLUMN_NAME</b> , then the value of this column is 1/NUM_DISTINCT.<br>This column remains for backward compatibility with Oracle7. This information is now in the {TAB PART}_COL_STATISTICS views. |
| NUM_NULLS       | NUMBER          |          | Number of <b>NULLS</b> in the column                                                                                                                                                                                                                                                                                                                                                                                                                                                    |



| Column               | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|---------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM_BUCKETS          | NUMBER        |      | Number of buckets in the histogram for the column<br><b>Note:</b> The number of buckets in a histogram is specified in the <code>SIZE</code> parameter of the <code>ANALYZE SQL</code> statement. However, Oracle Database does not create a histogram with more buckets than the number of rows in the sample. Also, if the sample contains any values that are very repetitious, Oracle Database creates the specified number of buckets, but the value indicated by this column may be smaller because of an internal compression algorithm. |
| LAST_ANALYZED        | DATE          |      | Date on which this column was most recently analyzed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| SAMPLE_SIZE          | NUMBER        |      | Sample size used in analyzing this column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CHARACTER_SET_NAME   | VARCHAR2 (44) |      | Name of the character set: <ul style="list-style-type: none"> <li>CHAR_CS</li> <li>NCHAR_CS</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CHAR_COL_DECL_LENGTH | NUMBER        |      | Declaration length of the character type column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| GLOBAL_STATS         | VARCHAR2 (3)  |      | GLOBAL_STATS will be YES if statistics are gathered or incrementally maintained, otherwise it will be NO                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| USER_STATS           | VARCHAR2 (3)  |      | Indicates whether statistics were entered directly by the user (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| AVG_COL_LEN          | NUMBER        |      | Average length of the column (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CHAR_LENGTH          | NUMBER        |      | Displays the length of the column in characters. This value only applies to the following datatypes: <ul style="list-style-type: none"> <li>CHAR</li> <li>VARCHAR2</li> <li>NCHAR</li> <li>NVARCHAR2</li> </ul>                                                                                                                                                                                                                                                                                                                                 |
| CHAR_USED            | VARCHAR2 (1)  |      | Indicates that the column uses BYTE length semantics (B) or CHAR length semantics (C), or whether the datatype is not any of the following (NULL): <ul style="list-style-type: none"> <li>CHAR</li> <li>VARCHAR2</li> <li>NCHAR</li> <li>NVARCHAR2</li> </ul>                                                                                                                                                                                                                                                                                   |
| V80_FMT_IMAGE        | VARCHAR2 (3)  |      | Indicates whether the column data is in release 8.0 image format (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| DATA_UPGRADED        | VARCHAR2 (3)  |      | Indicates whether the column data has been upgraded to the latest type version format (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| HISTOGRAM            | VARCHAR2 (15) |      | Indicates existence/type of histogram: <ul style="list-style-type: none"> <li>NONE</li> <li>FREQUENCY</li> <li>TOP-FREQUENCY</li> <li>HEIGHT BALANCED</li> <li>HYBRID</li> </ul>                                                                                                                                                                                                                                                                                                                                                                |
| DEFAULT_ON_NULL      | VARCHAR2 (3)  |      | Indicates whether the column has DEFAULT ON NULL for INSERT semantics (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| DEFAULT_ON_NULL_UPD  | VARCHAR2 (3)  |      | Indicates whether the column has DEFAULT ON NULL for UPDATE semantics (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Column                | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RESERVABLE_COLUMN     | VARCHAR2 (3)   |      | Indicates whether the column is a reservable column (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IDENTITY_COLUMN       | VARCHAR2 (3)   |      | Indicates whether the column is an identity column (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| EVALUATION_EDITION    | VARCHAR2 (128) |      | Name of the edition in which editioned objects referenced in an expression column are resolved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| UNUSABLE_BEFORE       | VARCHAR2 (128) |      | Name of the oldest edition in which the column is usable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| UNUSABLE_BEGINNING    | VARCHAR2 (128) |      | Name of the oldest edition in which the column becomes perpetually unusable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| COLLATION             | VARCHAR2 (100) |      | Collation for the column. Only applies to columns with character data types.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DOMAIN_OWNER          | VARCHAR2 (128) |      | If a data use case domain is specified for the column, the owner of the data use case domain                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DOMAIN_NAME           | VARCHAR2 (128) |      | If a data use case domain is specified for the column, the name of the data use case domain                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DOMAIN_COLUMN_NAME    | VARCHAR2 (128) |      | If a data use case domain is specified for the column, the name of the data use case domain column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| DOMAIN_ASSOCIATION_ID | NUMBER         |      | If a data use case domain is specified for the column, the domain association ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| JSON_MODIFIER         | VARCHAR2 (448) |      | <p>JSON-type modifier for the column</p> <p>A value is displayed only for columns of data type JSON.</p> <p>If one or more JSON-type modifiers are specified for the column, then the following is displayed:</p> <p>JSON( <i>modifier</i> [, <i>modifier</i>]... )</p> <p>Possible values for <i>modifier</i>:</p> <ul style="list-style-type: none"> <li>• ARRAY - JSON array</li> <li>• OBJECT - JSON object</li> <li>• SCALAR - JSON scalar</li> <li>• <i>data_type</i> - JSON scalar of type <i>data_type</i></li> <li>• NULL - JSON null value</li> </ul> <p>If a JSON-type modifier is not specified for the column, then the following is displayed:</p> <p>JSON( )</p> |
| VECTOR_INFO           | VARCHAR2 (56)  |      | <p>Indicates the number of vectors and their data type in an ONNX model</p> <p>Format: VECTOR(<i>dimension</i>,<i>element_type</i>)</p> <p>Example: VECTOR(768,float32)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

**See Also:**

- "DBA\_TAB\_COLUMNS"
- "USER\_TAB\_COLUMNS"
- "ALL\_TAB\_COLS"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_STATS package

## 4.124 ALL\_TAB\_COMMENTS

ALL\_TAB\_COMMENTS displays comments on the tables and views accessible to the current user.

**Related Views**

- DBA\_TAB\_COMMENTS displays comments on all tables and views in the database.
- USER\_TAB\_COMMENTS displays comments on the tables and views owned by the current user. This view does not display the OWNER column.

| Column        | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                   |
|---------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER         | VARCHAR2 (128)  | NOT NULL | Owner of the object                                                                                                                                                                                                                                                                                                                                                           |
| TABLE_NAME    | VARCHAR2 (128)  | NOT NULL | Name of the object                                                                                                                                                                                                                                                                                                                                                            |
| TABLE_TYPE    | VARCHAR2 (11)   |          | Type of the object                                                                                                                                                                                                                                                                                                                                                            |
| COMMENTS      | VARCHAR2 (4000) |          | Comment on the object                                                                                                                                                                                                                                                                                                                                                         |
| ORIGIN_CON_ID | NUMBER          |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs</li><li>• <i>n</i>: This value is used for rows containing data that originate in the container with the ID <i>n</i> (<i>n</i>=1 if the data originates in root)</li></ul> |

**See Also:**

- "DBA\_TAB\_COMMENTS"
- "USER\_TAB\_COMMENTS"

## 4.125 ALL\_TAB\_HISTGRM\_PENDING\_STATS

ALL\_TAB\_HISTGRM\_PENDING\_STATS describes pending statistics for tables, partitions, and subpartitions accessible to the current user.

### Related Views

- DBA\_TAB\_HISTGRM\_PENDING\_STATS describes pending statistics for tables, partitions, and subpartitions in the database.
- USER\_TAB\_HISTGRM\_PENDING\_STATS describes pending statistics for tables, partitions, and subpartitions owned by the current user. This view does not display the OWNER column.

| Column                    | Datatype        | NULL | Description                                                                                              |
|---------------------------|-----------------|------|----------------------------------------------------------------------------------------------------------|
| OWNER                     | VARCHAR2 (128)  |      | Owner of the table                                                                                       |
| TABLE_NAME                | VARCHAR2 (128)  |      | Name of the table                                                                                        |
| PARTITION_NAME            | VARCHAR2 (128)  |      | Name of the partition                                                                                    |
| SUBPARTITION_NAME         | VARCHAR2 (128)  |      | Name of the subpartition                                                                                 |
| COLUMN_NAME               | VARCHAR2 (128)  |      | Name of the column                                                                                       |
| ENDPOINT_NUMBER           | NUMBER          |      | Endpoint number                                                                                          |
| ENDPOINT_VALUE            | NUMBER          |      | Normalized endpoint value                                                                                |
| ENDPOINT_ACTUAL_VALUE     | VARCHAR2 (4000) |      | Actual endpoint value                                                                                    |
| ENDPOINT_ACTUAL_VALUE_RAW | RAW (1000)      |      | Endpoint actual value in raw format                                                                      |
| ENDPOINT_REPEAT_COUNT     | NUMBER          |      | Frequency of the endpoint (applies only to hybrid histograms, and is set to 0 for other histogram types) |

### See Also:

- "DBA\_TAB\_HISTGRM\_PENDING\_STATS"
- "USER\_TAB\_HISTGRM\_PENDING\_STATS"

## 4.126 ALL\_TAB\_HISTOGRAMS

ALL\_TAB\_HISTOGRAMS describes histograms on tables and views accessible to the current user.

The ALL\_TAB\_HISTOGRAMS view may contain a one-bucket histogram, which in fact signifies "No histogram" to the Oracle Database software. Therefore, it should not be queried to indicate the presence or absence of a histogram on a particular column. Instead, query the value of column HISTOGRAM in the ALL\_TAB\_COL\_STATISTICS view.

### Related Views

- DBA\_TAB\_HISTOGRAMS describes histograms on all tables and views in the database.
- USER\_TAB\_HISTOGRAMS describes histograms on all tables and views owned by the current user. This view does not display the OWNER column.

**Note:**

These views are populated only if you collect statistics on the table using the `DBMS_STATS` package. For more information, see *Oracle Database PL/SQL Packages and Types Reference*.

| Column                    | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                     | VARCHAR2 (128)  |      | Owner of the table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TABLE_NAME                | VARCHAR2 (128)  |      | Name of the table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| COLUMN_NAME               | VARCHAR2 (4000) |      | Column name or attribute of the object type column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ENDPOINT_NUMBER           | NUMBER          |      | Histogram bucket number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ENDPOINT_VALUE            | NUMBER          |      | Normalized endpoint value for this bucket                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ENDPOINT_ACTUAL_VALUE     | VARCHAR2 (4000) |      | Actual (not normalized) string value of the endpoint for this bucket                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ENDPOINT_ACTUAL_VALUE_RAW | RAW (1000)      |      | Endpoint actual value in raw format                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ENDPOINT_REPEAT_COUNT     | NUMBER          |      | Frequency of the endpoint (applies only to hybrid histograms, and is set to 0 for other histogram types)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SCOPE                     | VARCHAR2 (7)    |      | <p>The value is <code>SHARED</code> for statistics gathered on any table other than global temporary tables.</p> <p>For a global temporary table, the possible values are:</p> <ul style="list-style-type: none"><li>• <code>SESSION</code> - Indicates that the statistics are session-specific</li><li>• <code>SHARED</code> - Indicates that the statistics are shared across all sessions</li></ul> <p>See <i>Oracle Database PL/SQL Packages and Types Reference</i> for information about using the <code>GLOBAL_TEMP_TABLE_STATS</code> preference of the <code>DBMS_STATS</code> package to control whether to gather session or shared statistics for global temporary tables.</p> |

**See Also:**

- ["DBA\\_TAB\\_HISTOGRAMS"](#)
- ["USER\\_TAB\\_HISTOGRAMS"](#)
- ["ALL\\_TAB\\_COL\\_STATISTICS"](#)

## 4.127 ALL\_TAB\_IDENTITY\_COLS

`ALL_TAB_IDENTITY_COLS` describes all table identity columns.

**Related Views**

- `DBA_TAB_IDENTITY_COLS` describes all table identity columns.

- `USER_TAB_IDENTITY_COLS` describes all table identity columns. This view does not display the `OWNER` column.

| Column                        | Datatype                    | NULL     | Description                                                                                                  |
|-------------------------------|-----------------------------|----------|--------------------------------------------------------------------------------------------------------------|
| <code>OWNER</code>            | <code>VARCHAR2 (128)</code> | NOT NULL | Owner of the table                                                                                           |
| <code>TABLE_NAME</code>       | <code>VARCHAR2 (128)</code> | NOT NULL | Name of the table                                                                                            |
| <code>COLUMN_NAME</code>      | <code>VARCHAR2 (128)</code> | NOT NULL | Name of the identity column                                                                                  |
| <code>GENERATION_TYPE</code>  | <code>VARCHAR2 (10)</code>  |          | Generation type of the identity column. Possible values are <code>ALWAYS</code> or <code>BY DEFAULT</code> . |
| <code>SEQUENCE_NAME</code>    | <code>VARCHAR2 (128)</code> | NOT NULL | Name of the sequence associated with the identity column                                                     |
| <code>IDENTITY_OPTIONS</code> | <code>VARCHAR2 (298)</code> |          | Options for the identity column sequence generator                                                           |



#### See Also:

- `"DBA_TAB_IDENTITY_COLS"`
- `"USER_TAB_IDENTITY_COLS"`



#### See Also:

- The `ALTER TABLE` statement in *Oracle Database SQL Language Reference* for more information about creating an identity column
- The `CREATE TABLE` statements in *Oracle Database SQL Language Reference* for more information about creating an identity column

## 4.128 ALL\_TAB\_MODIFICATIONS

`ALL_TAB_MODIFICATIONS` describes tables accessible to the current user that have been modified since the last time statistics were gathered on the tables.

#### Related Views

- `DBA_TAB_MODIFICATIONS` describes such information for all tables in the database.
- `USER_TAB_MODIFICATIONS` describes such information for tables owned by the current user. This view does not display the `TABLE_OWNER` column.

| Column                         | Datatype                    | NULL | Description                                                                |
|--------------------------------|-----------------------------|------|----------------------------------------------------------------------------|
| <code>TABLE_OWNER</code>       | <code>VARCHAR2 (128)</code> |      | Owner of the modified table                                                |
| <code>TABLE_NAME</code>        | <code>VARCHAR2 (128)</code> |      | Name of the modified table                                                 |
| <code>PARTITION_NAME</code>    | <code>VARCHAR2 (128)</code> |      | Name of the modified partition                                             |
| <code>SUBPARTITION_NAME</code> | <code>VARCHAR2 (128)</code> |      | Name of the modified subpartition                                          |
| <code>INSERTS</code>           | <code>NUMBER</code>         |      | Approximate number of inserts since the last time statistics were gathered |

| Column        | Datatype     | NULL | Description                                                                             |
|---------------|--------------|------|-----------------------------------------------------------------------------------------|
| UPDATES       | NUMBER       |      | Approximate number of updates since the last time statistics were gathered              |
| DELETES       | NUMBER       |      | Approximate number of deletes since the last time statistics were gathered              |
| TIMESTAMP     | DATE         |      | Indicates the last time the table was modified                                          |
| TRUNCATED     | VARCHAR2 (3) |      | Indicates whether the table has been truncated since the last analyze (YES) or not (NO) |
| DROP_SEGMENTS | NUMBER       |      | Number of partition and subpartition segments dropped since the last analyze            |

 **See Also:**

- "DBA\_TAB\_MODIFICATIONS"
- "USER\_TAB\_MODIFICATIONS"

## 4.129 ALL\_TAB\_PARTITIONS

ALL\_TAB\_PARTITIONS displays partition-level partitioning information, partition storage parameters, and partition statistics generated by the DBMS\_STATS package for the partitions accessible to the current user.

### Related Views

- DBA\_TAB\_PARTITIONS displays such information for all partitions in the database.
- USER\_TAB\_PARTITIONS displays such information for the partitions of all partitioned objects owned by the current user. This view does not display the TABLE\_OWNER column.

 **Note:**

Columns marked with an asterisk (\*) are populated only if you collect statistics on the table with the DBMS\_STATS package.

 **Note:**

The following is true for the columns below that include double asterisks (\*\*) in the column description:

The column can display information about segment-level attributes (for simple partitioned tables) or metadata (for composite partitioned tables). In a simple partitioned table, the partition physically contains the data (the segment) in the database. In a composite partitioned table, the partition is metadata and the data itself is stored in the subpartitions.

| Column             | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABLE_OWNER        | VARCHAR2 (128) |      | Owner of the table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TABLE_NAME         | VARCHAR2 (128) |      | Name of the table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| COMPOSITE          | VARCHAR2 (3)   |      | Indicates whether the table is composite-partitioned (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PARTITION_NAME     | VARCHAR2 (128) |      | Name of the partition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SUBPARTITION_COUNT | NUMBER         |      | If this is a composite partitioned table, the number of subpartitions in the partition                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| HIGH_VALUE         | LONG           |      | Partition bound value expression                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| HIGH_VALUE_LENGTH  | NUMBER         |      | Length of the partition bound value expression                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PARTITION_POSITION | NUMBER         |      | Position of the partition within the table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TABLESPACE_NAME    | VARCHAR2 (30)  |      | Name of the tablespace containing the partition**                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PCT_FREE           | NUMBER         |      | Minimum percentage of free space in a block**                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PCT_USED           | NUMBER         |      | Minimum percentage of used space in a block**                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| INI_TRANS          | NUMBER         |      | Initial number of transactions**                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| MAX_TRANS          | NUMBER         |      | Maximum number of transactions**                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| INITIAL_EXTENT     | NUMBER         |      | Size of the initial extent in bytes (for a range partition); size of the initial extent in blocks (for a composite partition)**                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| NEXT_EXTENT        | NUMBER         |      | Size of secondary extents in bytes (for a range partition); size of secondary extents in blocks (for a composite partition)**                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| MIN_EXTENT         | NUMBER         |      | Minimum number of extents allowed in the segment**                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| MAX_EXTENT         | NUMBER         |      | Maximum number of extents allowed in the segment**                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| MAX_SIZE           | NUMBER         |      | Maximum number of blocks allowed in the segment**                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PCT_INCREASE       | NUMBER         |      | Percentage increase in extent size**                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| FREELISTS          | NUMBER         |      | Number of process freelists allocated in this segment**                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| FREELIST_GROUPS    | NUMBER         |      | Number of freelist groups allocated in this segment**                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| LOGGING            | VARCHAR2 (7)   |      | Indicates whether or not changes to the table are logged:** <ul style="list-style-type: none"> <li>NONE - Not specified</li> </ul> <p><b>See Also:</b> the *_TAB_SUBPARTITIONS view</p> <ul style="list-style-type: none"> <li>YES</li> <li>NO</li> </ul>                                                                                                                                                                                                                                                                                                       |
| COMPRESSION        | VARCHAR2 (8)   |      | Indicates the actual compression property for a partition of a simple partitioned table, or the default (if specified) for subpartitions for composite partitioned tables, otherwise NONE.** <ul style="list-style-type: none"> <li>NONE - The partition is composite, and a default setting is not specified for compression.</li> </ul> <p><b>See Also:</b> the *_TAB_SUBPARTITIONS view</p> <ul style="list-style-type: none"> <li>ENABLED - The setting for compression is enabled.</li> <li>DISABLED - The setting for compression is disabled.</li> </ul> |



| Column           | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------|---------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPRESS_FOR     | VARCHAR2 (30) |      | <p>Default compression for what kind of operations:**</p> <ul style="list-style-type: none"> <li>• BASIC</li> <li>• ADVANCED</li> <li>• QUERY LOW</li> <li>• QUERY HIGH</li> <li>• ARCHIVE LOW</li> <li>• ARCHIVE HIGH</li> <li>• NULL</li> </ul> <p>The QUERY_LOW, QUERY_HIGH, ARCHIVE_LOW, and ARCHIVE_HIGH values are associated with Hybrid Columnar Compression, a feature of the Enterprise Edition of Oracle Database that is dependent on the underlying storage system. See <i>Oracle Database Concepts</i> for more information.</p> |
| NUM_ROWS*        | NUMBER        |      | Number of rows in the partition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| BLOCKS*          | NUMBER        |      | Number of used data blocks in the partition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| EMPTY_BLOCKS     | NUMBER        |      | Number of empty (never used) data blocks in the partition. This column is populated only if you collect statistics on the table using the DBMS_STATS package.                                                                                                                                                                                                                                                                                                                                                                                  |
| AVG_SPACE*       | NUMBER        |      | Average amount of free space, in bytes, in a data block allocated to the partition                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CHAIN_CNT*       | NUMBER        |      | Number of rows in the partition that are chained from one data block to another, or which have migrated to a new block, requiring a link to preserve the old ROWID                                                                                                                                                                                                                                                                                                                                                                             |
| AVG_ROW_LEN*     | NUMBER        |      | Average length of a row in the partition (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| SAMPLE_SIZE      | NUMBER        |      | Sample size used in analyzing this partition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LAST_ANALYZED    | DATE          |      | Date on which this partition was most recently analyzed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| BUFFER_POOL      | VARCHAR2 (7)  |      | <p>Buffer pool to be used for the partition blocks:**</p> <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• RECYCLE</li> <li>• NULL</li> </ul>                                                                                                                                                                                                                                                                                                                                                                       |
| FLASH_CACHE      | VARCHAR2 (7)  |      | <p>Database Smart Flash Cache hint to be used for partition blocks:**</p> <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> <p>Solaris and Oracle Linux functionality only.</p>                                                                                                                                                                                                                                                                                                                      |
| CELL_FLASH_CACHE | VARCHAR2 (7)  |      | <p>Cell flash cache hint to be used for partition blocks:**</p> <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> <p><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information</p>                                                                                                                                                                                                                                                                                  |
| GLOBAL_STATS     | VARCHAR2 (3)  |      | GLOBAL_STATS will be YES if statistics have been gathered or NO if statistics have been aggregated from subpartitions or have not been gathered                                                                                                                                                                                                                                                                                                                                                                                                |

| Column                 | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USER_STATS             | VARCHAR2 (3)   |      | Indicates whether statistics were entered directly by the user (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| IS_NESTED              | VARCHAR2 (3)   |      | Indicates whether this is a nested table partition (YES) or not (NO)<br><b>See Also:</b> the *_NESTED_TABLES view for the parent table name/column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PARENT_TABLE_PARTITION | VARCHAR2 (128) |      | Parent table's corresponding partition<br><b>See Also:</b> the *_NESTED_TABLES view for the parent table name/column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| INTERVAL               | VARCHAR2 (3)   |      | Indicates whether the partition is in the interval section of an interval partitioned table (YES) or whether the partition is in the range section (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SEGMENT_CREATED        | VARCHAR2 (4)   |      | Indicates the actual segment creation property for a partition of a simple partitioned table, or the default (if specified) for subpartitions for composite partitioned tables, otherwise NONE.**<br><br>For a simple partitioned table, this column indicates whether a segment was created (YES) or not (NO).<br>For composite partitioned tables, this column indicates whether or not a default segment creation property was explicitly specified. Possible values: <ul style="list-style-type: none"> <li>NONE - No default segment creation property was specified at the partition level. This value appears only for composite partitions, and is treated as an unspecified value.</li> <li>YES - Immediate segment creation was explicitly specified at the partition level and will be used as the default for all of its subpartitions.</li> <li>NO - Deferred segment creation was explicitly specified at the partition level and will be used as the default for all of its subpartitions.</li> </ul> |
| INDEXING               | VARCHAR2 (4)   |      | Indicates the actual indexing property for a partition of a simple partitioned table, or the default (if specified) for subpartitions for composite partitioned tables, otherwise NONE.**<br>Possible values: <ul style="list-style-type: none"> <li>NONE - The partition is composite, and a default setting is not specified for indexing.<br/>This value appears only for composite partitions, and is treated as an unspecified value. When a user adds a subpartition to a table, since the defaults for the partition are unspecified, the ALL_PART_TABLES.DEF_INDEXING value is used for the newly created subpartition.</li> <li>ON - INDEXING is on.</li> <li>OFF - INDEXING is off.</li> </ul>                                                                                                                                                                                                                                                                                                             |

| Column               | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------|---------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| READ_ONLY            | VARCHAR2 (4)  |      | <p>Indicates the default setting for the partition:</p> <ul style="list-style-type: none"> <li>• YES: The default setting for the partition is read-only.</li> <li>• NO: The default setting for the partition is read/write.</li> <li>• NONE: No default setting is specified for the partition.</li> </ul>                                                                                                                                                                                        |
| INMEMORY             | VARCHAR2 (8)  |      | Indicates whether the In-Memory Column Store (IM column store) is enabled (ENABLED) or disabled (DISABLED) for this partition                                                                                                                                                                                                                                                                                                                                                                       |
| INMEMORY_PRIORITY    | VARCHAR2 (8)  |      | <p>Indicates the priority for In-Memory Column Store (IM column store) population. Possible values:</p> <ul style="list-style-type: none"> <li>• LOW</li> <li>• MEDIUM</li> <li>• HIGH</li> <li>• CRITICAL</li> <li>• NONE</li> <li>• NULL</li> </ul>                                                                                                                                                                                                                                               |
| INMEMORY_DISTRIBUTE  | VARCHAR2 (15) |      | <p>Indicates how the IM column store is distributed in an Oracle Real Application Clusters (Oracle RAC) environment:</p> <ul style="list-style-type: none"> <li>• AUTO</li> <li>• BY ROWID RANGE</li> <li>• BY PARTITION</li> <li>• BY SUBPARTITION</li> </ul>                                                                                                                                                                                                                                      |
| INMEMORY_COMPRESSION | VARCHAR2 (17) |      | <p>Indicates the compression level for the IM column store:</p> <ul style="list-style-type: none"> <li>• NO MEMCOMPRESS</li> <li>• FOR DML</li> <li>• FOR QUERY [ LOW   HIGH ]</li> <li>• FOR CAPACITY [ LOW   HIGH ]</li> <li>• AUTO</li> <li>• NULL</li> </ul> <p>This column has a value based on where the segments lie for a table. For example, if the table is partitioned and is enabled for the IM column store, the value is NULL for ALL TABLES but non-NULL for ALL_TAB_PARTITIONS.</p> |
| INMEMORY_DUPLICATE   | VARCHAR2 (13) |      | <p>Indicates the duplicate setting for the IM column store in an Oracle RAC environment:</p> <ul style="list-style-type: none"> <li>• NO DUPLICATE</li> <li>• DUPLICATE</li> <li>• DUPLICATE ALL</li> </ul>                                                                                                                                                                                                                                                                                         |

| Column                | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CELLMEMORY            | VARCHAR2 (24)  |      | <p>The value for columnar compression in the storage cell flash cache. Possible values:</p> <ul style="list-style-type: none"> <li>• <b>ENABLED:</b> Oracle Exadata Storage will decide automatically whether to cache in columnar form</li> <li>• <b>DISABLED:</b> Oracle Exadata Storage is prevented from caching in columnar form</li> <li>• <b>NO CACHECOMPRESS:</b> Oracle Exadata Storage will cache in HCC format (no recompression)</li> <li>• <b>FOR QUERY:</b> Oracle Exadata Storage will recompress and cache in INMEMORY query high format</li> <li>• <b>FOR CAPACITY:</b> Oracle Exadata Storage will recompress and cache in INMEMORY capacity low format</li> </ul> <p>This column is intended for use with Oracle Exadata.</p>                                                                                                |
| INMEMORY_SERVICE      | VARCHAR2 (12)  |      | <p>Indicates how the IM column store is populated on various instances. The possible values are:</p> <ul style="list-style-type: none"> <li>• <b>DEFAULT:</b> Data is populated on all instances specified with the <code>PARALLEL_INSTANCE_GROUP</code> initialization parameter. If that parameter is not set, then the data is populated on all instances. This is the default.</li> <li>• <b>NONE:</b> Data is not populated on any instance.</li> <li>• <b>ALL:</b> Data is populated on all instances, regardless of the value of the <code>PARALLEL_INSTANCE_GROUP</code> initialization parameter.</li> <li>• <b>USER_DEFINED:</b> Data is populated only on the instances on which the user-specified service is active. The service name corresponding to this is stored in the <code>INMEMORY_SERVICE_NAME</code> column.</li> </ul> |
| INMEMORY_SERVICE_NAME | VARCHAR2 (100) |      | <p>Indicates the service name for the service on which the IM column store should be populated. This column has a value only when the corresponding <code>INMEMORY_SERVICE</code> is <code>USER_DEFINED</code>. In all other cases, this column is null.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| MEMOPTIMIZE_READ      | VARCHAR2 (8)   |      | <p>Indicates whether the table is enabled for Fast Key Based Access (<code>ENABLED</code>) or not (<code>DISABLED</code>)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| MEMOPTIMIZE_WRITE     | VARCHAR2 (8)   |      | For internal use only                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| HIGH_VALUE_CLOB       | CLOB           |      | High value (boundary) information for the partition, in CLOB format                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| HIGH_VALUE_JSON       | JSON           |      | High value (boundary) information for the partition, in JSON format                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

**See Also:**

- ["DBA\\_TAB\\_PARTITIONS"](#)
- ["USER\\_TAB\\_PARTITIONS"](#)
- ["PARALLEL\\_INSTANCE\\_GROUP"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_STATS package

## 4.130 ALL\_TAB\_PENDING\_STATS

ALL\_TAB\_PENDING\_STATS describes pending statistics for tables, partitions, and subpartitions accessible to the current user.

### Related Views

- DBA\_TAB\_PENDING\_STATS describes pending statistics for tables, partitions, and subpartitions in the database.
- USER\_TAB\_PENDING\_STATS describes pending statistics for tables, partitions, and subpartitions owned by the current user. This view does not display the OWNER column.

| Column            | Datatype       | NULL | Description                                                                                                         |
|-------------------|----------------|------|---------------------------------------------------------------------------------------------------------------------|
| OWNER             | VARCHAR2 (128) |      | Owner of the table                                                                                                  |
| TABLE_NAME        | VARCHAR2 (128) |      | Name of the table                                                                                                   |
| PARTITION_NAME    | VARCHAR2 (128) |      | Name of the partition                                                                                               |
| SUBPARTITION_NAME | VARCHAR2 (128) |      | Name of the subpartition                                                                                            |
| NUM_ROWS          | NUMBER         |      | Number of rows                                                                                                      |
| BLOCKS            | NUMBER         |      | Number of blocks                                                                                                    |
| AVG_ROW_LEN       | NUMBER         |      | Average row length                                                                                                  |
| IM_IMCU_COUNT     | NUMBER         |      | Number of In-Memory Compression Units (IMCUs) in the table.                                                         |
| IM_BLOCK_COUNT    | NUMBER         |      | Number of In-Memory blocks in the table.                                                                            |
| SCAN_RATE         | NUMBER         |      | Scan rate for the table in megabytes per second. This statistic is only relevant or meaningful for external tables. |
| SAMPLE_SIZE       | NUMBER         |      | Sample size                                                                                                         |
| LAST_ANALYZED     | DATE           |      | Time of last analyze operation                                                                                      |

**See Also:**

- ["DBA\\_TAB\\_PENDING\\_STATS"](#)
- ["USER\\_TAB\\_PENDING\\_STATS"](#)

## 4.131 ALL\_TAB\_PRIVS

ALL\_TAB\_PRIVS describes grants.

ALL\_TAB\_PRIVS describes the following types of grants:

- Object grants for which the current user is the object owner, grantor, or grantee
- Object grants for which an enabled role or PUBLIC is the grantee

### Related Views

- DBA\_TAB\_PRIVS describes all object grants in the database.
- USER\_TAB\_PRIVS describes the object grants for which the current user is the object owner, grantor, or grantee.

| Column       | Datatype       | NULL | Description                                                                                                                                                                                                                                            |
|--------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GRANTOR      | VARCHAR2 (128) |      | Name of the user who performed the grant                                                                                                                                                                                                               |
| GRANTEE      | VARCHAR2 (128) |      | Name of the user or role to whom access was granted                                                                                                                                                                                                    |
| TABLE_SCHEMA | VARCHAR2 (128) |      | Schema of the object                                                                                                                                                                                                                                   |
| TABLE_NAME   | VARCHAR2 (128) |      | Name of the object                                                                                                                                                                                                                                     |
| PRIVILEGE    | VARCHAR2 (40)  |      | Privilege on the object                                                                                                                                                                                                                                |
| GRANTABLE    | VARCHAR2 (3)   |      | Indicates whether the privilege was granted with the GRANT OPTION (YES) or not (NO)                                                                                                                                                                    |
| HIERARCHY    | VARCHAR2 (3)   |      | Indicates whether the privilege was granted with the HIERARCHY OPTION (YES) or not (NO)                                                                                                                                                                |
| COMMON       | VARCHAR2 (3)   |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"><li>• YES if the privilege was granted commonly (CONTAINER=ALL was used)</li><li>• NO if the privilege was granted locally (CONTAINER=ALL was not used)</li></ul> |
| TYPE         | VARCHAR2 (24)  |      | Type of the object                                                                                                                                                                                                                                     |
| INHERITED    | VARCHAR2 (3)   |      | Indicates whether the privilege grant was inherited from another container (YES) or not (NO)                                                                                                                                                           |



### See Also:

- "DBA\_TAB\_PRIVS"
- "USER\_TAB\_PRIVS"

## 4.132 ALL\_TAB\_PRIVS\_MADE

ALL\_TAB\_PRIVS\_MADE describes the object grants for which the current user is the object owner or grantor.

### Related View

USER\_TAB\_PRIVS\_MADE describes the object grants for which the current user is the object owner. This view does not display the OWNER column.

| Column     | Datatype       | NULL | Description                                                                                                                                                                                                                                            |
|------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GRANTEE    | VARCHAR2 (128) |      | Name of the user or role to whom access was granted                                                                                                                                                                                                    |
| OWNER      | VARCHAR2 (128) |      | Owner of the object                                                                                                                                                                                                                                    |
| TABLE_NAME | VARCHAR2 (128) |      | Name of the object                                                                                                                                                                                                                                     |
| GRANTOR    | VARCHAR2 (128) |      | Name of the user who performed the grant                                                                                                                                                                                                               |
| PRIVILEGE  | VARCHAR2 (40)  |      | Privilege on the object                                                                                                                                                                                                                                |
| GRANTABLE  | VARCHAR2 (3)   |      | Indicates whether the privilege was granted with the GRANT OPTION (YES) or not (NO)                                                                                                                                                                    |
| HIERARCHY  | VARCHAR2 (3)   |      | Indicates whether the privilege was granted with the HIERARCHY OPTION (YES) or not (NO)                                                                                                                                                                |
| COMMON     | VARCHAR2 (3)   |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"><li>• YES if the privilege was granted commonly (CONTAINER=ALL was used)</li><li>• NO if the privilege was granted locally (CONTAINER=ALL was not used)</li></ul> |
| TYPE       | VARCHAR2 (24)  |      | Type of the object                                                                                                                                                                                                                                     |
| INHERITED  | VARCHAR2 (3)   |      | Indicates whether the privilege grant was inherited from another container (YES) or not (NO)                                                                                                                                                           |



### See Also:

"USER\_TAB\_PRIVS\_MADE"

## 4.133 ALL\_TAB\_PRIVS\_RECD

ALL\_TAB\_PRIVS\_RECD describes object grants.

ALL\_TAB\_PRIVS\_RECD describes the following types of grants:

- Object grants for which the current user is the grantee
- Object grants for which an enabled role or PUBLIC is the grantee

### Related View

USER\_TAB\_PRIVS\_RECD describes the object grants for which the current user is the grantee. This view does not display the GRANTEE column.

| Column     | Datatype       | NULL | Description                                                                                                                                                                                                                                               |
|------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GRANTEE    | VARCHAR2 (128) |      | Name of the user or role to whom access was granted                                                                                                                                                                                                       |
| OWNER      | VARCHAR2 (128) |      | Owner of the object                                                                                                                                                                                                                                       |
| TABLE_NAME | VARCHAR2 (128) |      | Name of the object                                                                                                                                                                                                                                        |
| GRANTOR    | VARCHAR2 (128) |      | Name of the user who performed the grant                                                                                                                                                                                                                  |
| PRIVILEGE  | VARCHAR2 (40)  |      | Privilege on the object                                                                                                                                                                                                                                   |
| GRANTABLE  | VARCHAR2 (3)   |      | Indicates whether the privilege was granted with the GRANT OPTION (YES) or not (NO)                                                                                                                                                                       |
| HIERARCHY  | VARCHAR2 (3)   |      | Indicates whether the privilege was granted with the HIERARCHY OPTION (YES) or not (NO)                                                                                                                                                                   |
| COMMON     | VARCHAR2 (3)   |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"> <li>• YES if the privilege was granted commonly (CONTAINER=ALL was used)</li> <li>• NO if the privilege was granted locally (CONTAINER=ALL was not used)</li> </ul> |
| TYPE       | VARCHAR2 (24)  |      | Type of the object                                                                                                                                                                                                                                        |
| INHERITED  | VARCHAR2 (3)   |      | Indicates whether the privilege grant was inherited from another container (YES) or not (NO)                                                                                                                                                              |



#### See Also:

"USER\_TAB\_PRIVS\_RECD"

## 4.134 ALL\_TAB\_STAT\_PREFS

ALL\_TAB\_STAT\_PREFS displays information about statistics preferences for the tables accessible to the current user.

#### Related Views

- DBA\_TAB\_STAT\_PREFS displays information about statistics preferences for all tables in the database.
- USER\_TAB\_STAT\_PREFS displays information about statistics preferences for the tables owned by the current user. This view does not display the OWNER column.

| Column           | Datatype        | NULL     | Description             |
|------------------|-----------------|----------|-------------------------|
| OWNER            | VARCHAR2 (128)  | NOT NULL | Owner of the table      |
| TABLE_NAME       | VARCHAR2 (128)  | NOT NULL | Name of the table       |
| PREFERENCE_NAME  | VARCHAR2 (30)   |          | Name of the preference  |
| PREFERENCE_VALUE | VARCHAR2 (4000) |          | Value of the preference |



**See Also:**

- ["DBA\\_TAB\\_STAT\\_PREFS"](#)
- ["USER\\_TAB\\_STAT\\_PREFS"](#)

## 4.135 ALL\_TAB\_STATISTICS

ALL\_TAB\_STATISTICS displays optimizer statistics for the tables accessible to the current user.

### Related Views

- DBA\_TAB\_STATISTICS displays optimizer statistics for all tables in the database.
- USER\_TAB\_STATISTICS displays optimizer statistics for the tables owned by the current user. This view does not display the OWNER column.

| Column                    | Datatype       | NULL | Description                                                                                                                |
|---------------------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------|
| OWNER                     | VARCHAR2 (128) |      | Owner of the object                                                                                                        |
| TABLE_NAME                | VARCHAR2 (128) |      | Name of the table                                                                                                          |
| PARTITION_NAME            | VARCHAR2 (128) |      | Name of the partition                                                                                                      |
| PARTITION_POSITION        | NUMBER         |      | Position of the partition within the table                                                                                 |
| SUBPARTITION_NAME         | VARCHAR2 (128) |      | Name of the subpartition                                                                                                   |
| SUBPARTITION_POSITION     | NUMBER         |      | Position of the subpartition within the partition                                                                          |
| OBJECT_TYPE               | VARCHAR2 (12)  |      | Type of the object: <ul style="list-style-type: none"> <li>• TABLE</li> <li>• PARTITION</li> <li>• SUBPARTITION</li> </ul> |
| NUM_ROWS                  | NUMBER         |      | Number of rows in the object                                                                                               |
| BLOCKS                    | NUMBER         |      | Number of used blocks in the object                                                                                        |
| EMPTY_BLOCKS              | NUMBER         |      | Number of empty blocks in the object                                                                                       |
| AVG_SPACE                 | NUMBER         |      | Average available free space in the object                                                                                 |
| CHAIN_CNT                 | NUMBER         |      | Number of chained rows in the object                                                                                       |
| AVG_ROW_LEN               | NUMBER         |      | Average row length, including row overhead                                                                                 |
| AVG_SPACE_FREELIST_BLOCKS | NUMBER         |      | Average freespace of all blocks on a freelist                                                                              |
| NUM_FREELIST_BLOCKS       | NUMBER         |      | Number of blocks on the freelist                                                                                           |
| AVG_CACHED_BLOCKS         | NUMBER         |      | Average number of blocks in the buffer cache                                                                               |
| AVG_CACHE_HIT_RATIO       | NUMBER         |      | Average cache hit ratio for the object                                                                                     |
| IM_IMCU_COUNT             | NUMBER         |      | Number of In-Memory Compression Units (IMCUs) in the table                                                                 |
| IM_BLOCK_COUNT            | NUMBER         |      | Number of In-Memory blocks in the table                                                                                    |
| IM_STAT_UPDATE_TIME       | TIMESTAMP (9)  |      | The timestamp of the most recent update to the In-Memory statistics                                                        |
| SCAN_RATE                 | NUMBER         |      | Scan rate for the object in megabytes per second. This statistic is only relevant or meaningful for external tables.       |

| Column          | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------|---------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SAMPLE_SIZE     | NUMBER        |      | Sample size used in analyzing the table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| LAST_ANALYZED   | DATE          |      | Date of the most recent time the table was analyzed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| GLOBAL_STATS    | VARCHAR2 (3)  |      | GLOBAL_STATS will be YES if statistics are gathered or incrementally maintained, otherwise it will be NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| USER_STATS      | VARCHAR2 (3)  |      | Indicates whether statistics were entered directly by the user (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| STATTYPE_LOCKED | VARCHAR2 (5)  |      | Type of statistics lock: <ul style="list-style-type: none"><li>• DATA</li><li>• CACHE</li><li>• ALL</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| STALE_STATS     | VARCHAR2 (7)  |      | Indicates whether statistics for the object are stale (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| NOTES           | VARCHAR2 (25) |      | Describes some additional properties of the statistics. For example, a value of STATS_ON_CONVENTIONAL_LOAD indicates that the statistics are obtained by online statistics gathering for conventional DML.                                                                                                                                                                                                                                                                                                                                                                                               |
| SCOPE           | VARCHAR2 (7)  |      | The value is SHARED for statistics gathered on any table other than global temporary tables.<br>For a global temporary table, the possible values are: <ul style="list-style-type: none"><li>• SESSION - Indicates that the statistics are session-specific</li><li>• SHARED - Indicates that the statistics are shared across all sessions</li></ul> See <i>Oracle Database PL/SQL Packages and Types Reference</i> for information about using the GLOBAL_TEMP_TABLE_STATS preference of the DBMS_STATS package to control whether to gather session or shared statistics for global temporary tables. |

**See Also:**

- "DBA\_TAB\_STATISTICS"
- "USER\_TAB\_STATISTICS"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_STATS package

## 4.136 ALL\_TAB\_STATS\_HISTORY

ALL\_TAB\_STATS\_HISTORY provides a history of table statistics modifications for all tables accessible to the current user.

**Related Views**

- DBA\_TAB\_STATS\_HISTORY provides a history of table statistics modifications for all tables in the database.

- `USER_TAB_STATS_HISTORY` provides a history of table statistics modifications for all tables owned by the current user.

| Column            | Datatype                     | NULL | Description                               |
|-------------------|------------------------------|------|-------------------------------------------|
| OWNER             | VARCHAR2 (128)               |      | Owner of the object                       |
| TABLE_NAME        | VARCHAR2 (128)               |      | Name of the table                         |
| PARTITION_NAME    | VARCHAR2 (128)               |      | Name of the partition                     |
| SUBPARTITION_NAME | VARCHAR2 (128)               |      | Name of the subpartition                  |
| STATS_UPDATE_TIME | TIMESTAMP (6) WITH TIME ZONE |      | Time at which the statistics were updated |

#### See Also:

- `"DBA_TAB_STATS_HISTORY"`
- `"USER_TAB_STATS_HISTORY"`

## 4.137 ALL\_TAB\_SUBPARTITIONS

`ALL_TAB_SUBPARTITIONS` displays, for each table subpartition accessible to the current user, the subpartition name, name of the table and partition to which it belongs, its storage attributes, and statistics generated by the `DBMS_STATS` package.

#### Related Views

- `DBA_TAB_SUBPARTITIONS` displays such information for all subpartitions in the database.
- `USER_TAB_SUBPARTITIONS` displays such information for subpartitions of all partitioned objects owned by the current user. This view does not display the `TABLE_OWNER` column.

| Column                | Datatype       | NULL     | Description                                        |
|-----------------------|----------------|----------|----------------------------------------------------|
| TABLE_OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the table                                 |
| TABLE_NAME            | VARCHAR2 (128) | NOT NULL | Name of the table                                  |
| PARTITION_NAME        | VARCHAR2 (128) |          | Name of the partition                              |
| SUBPARTITION_NAME     | VARCHAR2 (128) |          | Name of the subpartition                           |
| HIGH_VALUE            | LONG           |          | Subpartition bound value expression                |
| HIGH_VALUE_LENGTH     | NUMBER         | NOT NULL | Length of the subpartition bound value expression  |
| PARTITION_POSITION    | NUMBER         |          | Position of the partition within the table         |
| SUBPARTITION_POSITION | NUMBER         |          | Position of the subpartition within the partition  |
| TABLESPACE_NAME       | VARCHAR2 (30)  | NOT NULL | Name of the tablespace containing the subpartition |
| PCT_FREE              | NUMBER         | NOT NULL | Minimum percentage of free space in a block        |
| PCT_USED              | NUMBER         |          | Minimum percentage of used space in a block        |
| INI_TRANS             | NUMBER         | NOT NULL | Initial number of transactions                     |
| MAX_TRANS             | NUMBER         | NOT NULL | Maximum number of transactions                     |

| Column          | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------|---------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INITIAL_EXTENT  | NUMBER        |      | Size of the initial extent in bytes (for a range partition); size of the initial extent in blocks (for a composite partition)                                                                                                                                                                                                                                                                                                                                                                                                         |
| NEXT_EXTENT     | NUMBER        |      | Size of secondary extents in bytes (for a range partition); size of secondary extents in blocks (for a composite partition)                                                                                                                                                                                                                                                                                                                                                                                                           |
| MIN_EXTENT      | NUMBER        |      | Minimum number of extents allowed in the segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| MAX_EXTENT      | NUMBER        |      | Maximum number of extents allowed in the segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| MAX_SIZE        | NUMBER        |      | Maximum number of blocks allowed in the segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| PCT_INCREASE    | NUMBER        |      | Percentage increase in extent size                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| FREELISTS       | NUMBER        |      | Number of freelist groups allocated in this segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| FREELIST_GROUPS | NUMBER        |      | Number of freelist groups allocated in this segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LOGGING         | VARCHAR2 (3)  |      | Indicates whether or not changes to the table are logged: <ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                       |
| COMPRESSION     | VARCHAR2 (8)  |      | Indicates whether this subpartition is compressed (ENABLED) or not (DISABLED)                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| COMPRESS_FOR    | VARCHAR2 (30) |      | Default compression for what kind of operations: <ul style="list-style-type: none"> <li>• BASIC</li> <li>• ADVANCED</li> <li>• QUERY LOW</li> <li>• QUERY HIGH</li> <li>• ARCHIVE LOW</li> <li>• ARCHIVE HIGH</li> <li>• NULL</li> </ul> <p>The QUERY_LOW, QUERY_HIGH, ARCHIVE_LOW, and ARCHIVE_HIGH values are associated with Hybrid Columnar Compression, a feature of the Enterprise Edition of Oracle Database that is dependent on the underlying storage system. See <i>Oracle Database Concepts</i> for more information.</p> |
| NUM_ROWS        | NUMBER        |      | Number of rows in the subpartition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| BLOCKS          | NUMBER        |      | Number of blocks in the subpartition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EMPTY_BLOCKS    | NUMBER        |      | Number of empty blocks in the subpartition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| AVG_SPACE       | NUMBER        |      | Average space in the subpartition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CHAIN_CNT       | NUMBER        |      | Chain count                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| AVG_ROW_LEN     | NUMBER        |      | Average row length                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SAMPLE_SIZE     | NUMBER        |      | Sample size                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| LAST_ANALYZED   | DATE          |      | Date on which this table was most recently analyzed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| BUFFER_POOL     | VARCHAR2 (7)  |      | Buffer pool for this subpartition: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• RECYCLE</li> <li>• NULL</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                     |

| Column              | Datatype      | NULL | Description                                                                                                                                                                                                                                                     |
|---------------------|---------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FLASH_CACHE         | VARCHAR2 (7)  |      | <p>Database Smart Flash Cache hint to be used for subpartition blocks:</p> <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> <p>Solaris and Oracle Linux functionality only.</p>                                      |
| CELL_FLASH_CACHE    | VARCHAR2 (7)  |      | <p>Cell flash cache hint to be used for subpartition blocks:</p> <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> <p><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information</p>  |
| GLOBAL_STATS        | VARCHAR2 (3)  |      | GLOBAL_STATS will be YES if statistics have been gathered or NO if statistics have not been gathered                                                                                                                                                            |
| USER_STATS          | VARCHAR2 (3)  |      | Indicates whether statistics were entered directly by the user (YES) or not (NO)                                                                                                                                                                                |
| INTERVAL            | VARCHAR2 (3)  |      | Indicates whether the partition is in the interval section of an interval partitioned table (YES) or whether the partition is in the range section (NO)                                                                                                         |
| SEGMENT_CREATED     | VARCHAR2 (3)  |      | Indicates whether the table subpartition segment has been created (YES) or not (NO); N/A indicates that this table is not subpartitioned                                                                                                                        |
| INDEXING            | VARCHAR2 (3)  |      | <p>Indicates the indexing property.</p> <p>Possible values:</p> <ul style="list-style-type: none"> <li>• ON - Indexing is on for this subpartition</li> <li>• OFF - Indexing is off for this subpartition</li> </ul>                                            |
| READ_ONLY           | VARCHAR2 (3)  |      | <p>Indicates whether a subpartition is read-only or read/write:</p> <ul style="list-style-type: none"> <li>• YES: The default setting for the subpartition is read-only.</li> <li>• NO: The default setting for the subpartition is read/write.</li> </ul>      |
| INMEMORY            | VARCHAR2 (8)  |      | Indicates whether the In-Memory Column Store (IM column store) is enabled (ENABLED) or disabled (DISABLED) for this subpartition                                                                                                                                |
| INMEMORY_PRIORITY   | VARCHAR2 (8)  |      | <p>Indicates the priority for In-Memory Column Store (IM column store) population. Possible values:</p> <ul style="list-style-type: none"> <li>• LOW</li> <li>• MEDIUM</li> <li>• HIGH</li> <li>• CRITICAL</li> <li>• NONE</li> <li>• NULL</li> </ul>           |
| INMEMORY_DISTRIBUTE | VARCHAR2 (15) |      | <p>Indicates how the IM column store is distributed in an Oracle Real Application Clusters (Oracle RAC) environment:</p> <ul style="list-style-type: none"> <li>• AUTO</li> <li>• BY ROWID RANGE</li> <li>• DBY PARTITION</li> <li>• BY SUBPARTITION</li> </ul> |

| Column                | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------|-----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INMEMORY_COMPRESSION  | VARCHAR2 (17)   |      | <p>Indicates the compression level for the IM column store:</p> <ul style="list-style-type: none"> <li>• NO MEMCOMPRESS</li> <li>• FOR DML</li> <li>• FOR QUERY [ LOW   HIGH ]</li> <li>• FOR CAPACITY [ LOW   HIGH ]</li> <li>• AUTO</li> <li>• NULL</li> </ul> <p>This column has a value based on where the segments lie for a table. For example, if the table is partitioned and is enabled for IM column store, the value is NULL for ALL_TABLES but non-NULL for ALL_TAB_SUBPARTITIONS.</p>                                                                                                                                                                                                                                                                           |
| INMEMORY_DUPLICATE    |                 |      | <p>Indicates the duplicate setting for the IM column store in an Oracle RAC environment:</p> <ul style="list-style-type: none"> <li>• DUPLICATE</li> <li>• NO DUPLICATE</li> <li>• DUPLICATE ALL</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| INMEMORY_SERVICE      | VARCHAR2 (12)   |      | <p>Indicates how the IM column store is populated on various instances. The possible values are:</p> <ul style="list-style-type: none"> <li>• DEFAULT: Data is populated on all instances specified with the PARALLEL_INSTANCE_GROUP initialization parameter. If that parameter is not set, then the data is populated on all instances. This is the default.</li> <li>• NONE: Data is not populated on any instance.</li> <li>• ALL: Data is populated on all instances, regardless of the value of the PARALLEL_INSTANCE_GROUP initialization parameter.</li> <li>• USER_DEFINED: Data is populated only on the instances on which the user-specified service is active. The service name corresponding to this is stored in the INMEMORY_SERVICE_NAME column.</li> </ul> |
| INMEMORY_SERVICE_NAME | VARCHAR2 (1000) |      | <p>Indicates the service name for the service on which the IM column store should be populated. This column has a value only when the corresponding INMEMORY_SERVICE is USER_DEFINED. In all other cases, this column is null.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CELLMEMORY            | VARCHAR2 (24)   |      | <p>The value for columnar compression in the storage cell flash cache. Possible values:</p> <ul style="list-style-type: none"> <li>• ENABLED: Oracle Exadata Storage will decide automatically whether to cache in columnar form</li> <li>• DISABLED: Oracle Exadata Storage is prevented from caching in columnar form</li> <li>• NO CACHECOMPRESS: Oracle Exadata Storage will cache in HCC format (no recompression)</li> <li>• FOR QUERY: Oracle Exadata Storage will recompress and cache in INMEMORY query high format</li> <li>• FOR CAPACITY: Oracle Exadata Storage will recompress and cache in INMEMORY capacity low format</li> </ul> <p>This column is intended for use with Oracle Exadata.</p>                                                                |

| Column            | Datatype     | NULL | Description                                                                                                    |
|-------------------|--------------|------|----------------------------------------------------------------------------------------------------------------|
| MEMOPTIMIZE_READ  | VARCHAR2 (8) |      | Indicates whether the table is enabled for Fast Key Based Access ( <b>ENABLED</b> ) or not ( <b>DISABLED</b> ) |
| MEMOPTIMIZE_WRITE | VARCHAR2 (8) |      | For internal use only                                                                                          |
| HIGH_VALUE_CLOB   | CLOB         |      | High value (boundary) information for the subpartition, in CLOB format                                         |
| HIGH_VALUE_JSON   | JSON         |      | High value (boundary) information for the subpartition, in JSON format                                         |

**See Also:**

- ["DBA\\_TAB\\_SUBPARTITIONS"](#)
- ["USER\\_TAB\\_SUBPARTITIONS"](#)
- ["PARALLEL\\_INSTANCE\\_GROUP"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_STATS` package

## 4.138 ALL\_TABLE\_ACCESS\_STATS

`ALL_TABLE_ACCESS_STATS` displays the scan count for tables and partitions accessible to the current user.

The scan data collection begins at instance startup.

### Related Views

- `DBA_TABLE_ACCESS_STATS` displays the scan count for all tables and partitions in the database.
- `USER_TABLE_ACCESS_STATS` displays the scan count for tables and partitions owned by the current user. This view does not display the `TABLE_OWNER` column.

| Column             | Datatype       | NULL     | Description                                                                            |
|--------------------|----------------|----------|----------------------------------------------------------------------------------------|
| TABLE_OWNER        | VARCHAR2 (128) | NOT NULL | Owner of the table                                                                     |
| TABLE_NAME         | VARCHAR2 (128) | NOT NULL | Name of the table                                                                      |
| PARTITION_NAME     | VARCHAR2 (128) |          | Name of the partition<br>For non-partitioned tables, the value of this column is null. |
| INSTANCE_ID        | NUMBER         |          | ID of the instance in which the table or partition was scanned                         |
| READ_COUNT         | NUMBER         |          | Aggregated scan count since instance startup                                           |
| LAST_ACCESSED_TIME | TIMESTAMP (0)  |          | Date and time of the most recent scan                                                  |

**Note:**

The `ALL_TABLE_ACCESS_STATS` and `DBA_TABLE_ACCESS_STATS` views do not display data for Oracle-maintained schemas. You can view data for an Oracle-maintained schema by connecting to the schema and querying the `USER_TABLE_ACCESS_STATS` view.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_TABLE\\_ACCESS\\_STATS"](#)
- ["USER\\_TABLE\\_ACCESS\\_STATS"](#)

## 4.139 ALL\_TABLE\_VIRTUAL\_COLUMNS

`ALL_TABLE_VIRTUAL_COLUMNS` describes virtual columns in tables accessible to the current user.

### Related Views

- `DBA_TABLE_VIRTUAL_COLUMNS` describes virtual columns in all tables in the database.
- `USER_TABLE_VIRTUAL_COLUMNS` describes virtual columns in tables owned by the current user.

| Column                    | Datatype        | NULL     | Description                                  |
|---------------------------|-----------------|----------|----------------------------------------------|
| TABLE_OWNER               | VARCHAR2 (128)  | NOT NULL | Owner of the table                           |
| TABLE_NAME                | VARCHAR2 (128)  | NOT NULL | Name of the table                            |
| VIRTUAL_COLUMN_NAME       | VARCHAR2 (128)  | NOT NULL | Name of the virtual column                   |
| VIRTUAL_COLUMN_EXPRESSION | VARCHAR2 (4000) |          | Expression of the virtual column             |
| COLUMN_ID                 | NUMBER          | NOT NULL | Sequence number of the column as created     |
| SEGMENT_COLUMN_ID         | NUMBER          | NOT NULL | Sequence number of the column in the segment |
| INTERNAL_COLUMN_ID        | NUMBER          | NOT NULL | Internal sequence number of the column       |

**Note:**

This view is available starting with Oracle Database 23ai.



**See Also:**

- "DBA\_TABLE\_VIRTUAL\_COLUMNS"
- "USER\_TABLE\_VIRTUAL\_COLUMNS"

## 4.140 ALL\_TABLES

ALL\_TABLES describes the relational tables accessible to the current user. To gather statistics for this view, use the DBMS\_STATS package.

### Related Views

- DBA\_TABLES describes all relational tables in the database.
- USER\_TABLES describes the relational tables owned by the current user. This view does not display the OWNER column.

**Note:**

Columns marked with an asterisk (\*) are populated only if you collect statistics on the table with the DBMS\_STATS package.

| Column          | Datatype       | NULL     | Description                                                                                                                                                                         |
|-----------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the table                                                                                                                                                                  |
| TABLE_NAME      | VARCHAR2 (128) | NOT NULL | Name of the table                                                                                                                                                                   |
| TABLESPACE_NAME | VARCHAR2 (30)  |          | Name of the tablespace containing the table; NULL for partitioned, temporary, and index-organized tables                                                                            |
| CLUSTER_NAME    | VARCHAR2 (128) |          | Name of the cluster, if any, to which the table belongs                                                                                                                             |
| IOT_NAME        | VARCHAR2 (128) |          | Name of the index-organized table, if any, to which the overflow or mapping table entry belongs. If the IOT_TYPE column is not NULL, then this column contains the base table name. |
| STATUS          | VARCHAR2 (8)   |          | If a previous DROP TABLE operation failed, indicates whether the table is unusable (UNUSABLE) or valid (VALID)                                                                      |
| PCT_FREE        | NUMBER         |          | Minimum percentage of free space in a block; NULL for partitioned tables                                                                                                            |
| PCT_USED        | NUMBER         |          | Minimum percentage of used space in a block; NULL for partitioned tables                                                                                                            |
| INI_TRANS       | NUMBER         |          | Initial number of transactions; NULL for partitioned tables                                                                                                                         |
| MAX_TRANS       | NUMBER         |          | Maximum number of transactions; NULL for partitioned tables                                                                                                                         |
| INITIAL_EXTENT  | NUMBER         |          | Size of the initial extent (in bytes); NULL for partitioned tables                                                                                                                  |

| Column                    | Datatype      | NULL | Description                                                                                                                                                        |
|---------------------------|---------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NEXT_EXTENT               | NUMBER        |      | Size of secondary extents (in bytes); NULL for partitioned tables                                                                                                  |
| MIN_EXTENTS               | NUMBER        |      | Minimum number of extents allowed in the segment; NULL for partitioned tables                                                                                      |
| MAX_EXTENTS               | NUMBER        |      | Maximum number of extents allowed in the segment; NULL for partitioned tables                                                                                      |
| PCT_INCREASE              | NUMBER        |      | Percentage increase in extent size; NULL for partitioned tables                                                                                                    |
| FREELISTS                 | NUMBER        |      | Number of process freelists allocated to the segment; NULL for partitioned tables                                                                                  |
| FREELIST_GROUPS           | NUMBER        |      | Number of freelist groups allocated to the segment; NULL for partitioned tables                                                                                    |
| LOGGING                   | VARCHAR2 (3)  |      | Indicates whether or not changes to the table are logged; NULL for partitioned tables: <ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> </ul>       |
| BACKED_UP                 | VARCHAR2 (1)  |      | Indicates whether the table has been backed up since the last modification (Y) or not (N)                                                                          |
| NUM_ROWS*                 | NUMBER        |      | Number of rows in the table                                                                                                                                        |
| BLOCKS*                   | NUMBER        |      | Number of used data blocks in the table                                                                                                                            |
| EMPTY_BLOCKS              | NUMBER        |      | Number of empty (never used) data blocks in the table. This column is populated only if you collect statistics on the table using the DBMS_STATS package.          |
| AVG_SPACE*                | NUMBER        |      | Average amount of free space, in bytes, in a data block allocated to the table                                                                                     |
| CHAIN_CNT*                | NUMBER        |      | Number of rows in the table that are chained from one data block to another, or which have migrated to a new block, requiring a link to preserve the old ROWID     |
| AVG_ROW_LEN*              | NUMBER        |      | Average length of a row in the table (in bytes)                                                                                                                    |
| AVG_SPACE_FREELIST_BLOCKS | NUMBER        |      | Average freespace of all blocks on a freelist                                                                                                                      |
| NUM_FREELIST_BLOCKS       | NUMBER        |      | Number of blocks on the freelist                                                                                                                                   |
| DEGREE                    | VARCHAR2 (10) |      | Number of threads per instance for scanning the table, or DEFAULT                                                                                                  |
| INSTANCES                 | VARCHAR2 (10) |      | Number of instances across which the table is to be scanned, or DEFAULT                                                                                            |
| CACHE                     | VARCHAR2 (5)  |      | Indicates whether the table is to be cached in the buffer cache (Y) or not (N)                                                                                     |
| TABLE_LOCK                | VARCHAR2 (8)  |      | Indicates whether table locking is enabled (ENABLED) or disabled (DISABLED)                                                                                        |
| SAMPLE_SIZE               | NUMBER        |      | Sample size used in analyzing the table                                                                                                                            |
| LAST_ANALYZED             | DATE          |      | Date on which the table was most recently analyzed                                                                                                                 |
| PARTITIONED               | VARCHAR2 (3)  |      | Indicates whether the table is partitioned (YES) or not (NO)                                                                                                       |
| IOT_TYPE                  | VARCHAR2 (12) |      | If the table is an index-organized table, then IOT_TYPE is IOT, IOT_OVERFLOW, or IOT_MAPPING. If the table is not an index-organized table, then IOT_TYPE is NULL. |

| Column           | Datatype       | NULL | Description                                                                                                                                                                                                                                           |
|------------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TEMPORARY        | VARCHAR2 (1)   |      | Indicates whether the table is temporary (Y) or not (N)                                                                                                                                                                                               |
| SECONDARY        | VARCHAR2 (1)   |      | Indicates whether the table is a secondary object created by the <code>ODCIIndexCreate</code> method of the Oracle Data Cartridge (Y) or not (N)                                                                                                      |
| NESTED           | VARCHAR2 (3)   |      | Indicates whether the table is a nested table (YES) or not (NO)                                                                                                                                                                                       |
| BUFFER_POOL      | VARCHAR2 (7)   |      | Buffer pool for the table; NULL for partitioned tables: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• RECYCLE</li> <li>• NULL</li> </ul>                                                                                |
| FLASH_CACHE      | VARCHAR2 (7)   |      | Database Smart Flash Cache hint to be used for table blocks: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> Solaris and Oracle Linux functionality only.                                                 |
| CELL_FLASH_CACHE | VARCHAR2 (7)   |      | Cell flash cache hint to be used for table blocks: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> <b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information             |
| ROW_MOVEMENT     | VARCHAR2 (8)   |      | Indicates whether partitioned row movement is enabled (ENABLED) or disabled (DISABLED)                                                                                                                                                                |
| GLOBAL_STATS     | VARCHAR2 (3)   |      | GLOBAL_STATS will be YES if statistics are gathered or incrementally maintained, otherwise it will be NO                                                                                                                                              |
| USER_STATS       | VARCHAR2 (3)   |      | Indicates whether statistics were entered directly by the user (YES) or not (NO)                                                                                                                                                                      |
| DURATION         | VARCHAR2 (15)  |      | Indicates the duration of a temporary table: <ul style="list-style-type: none"> <li>• SYS\$SESSION - Rows are preserved for the duration of the session</li> <li>• SYS\$TRANSACTION - Rows are deleted after COMMIT</li> </ul> Null - Permanent table |
| SKIP_CORRUPT     | VARCHAR2 (8)   |      | Indicates whether Oracle Database ignores blocks marked corrupt during table and index scans (ENABLED) or raises an error (DISABLED). To enable this feature, run the <code>DBMS_REPAIR.SKIP_CORRUPT_BLOCKS</code> procedure.                         |
| MONITORING       | VARCHAR2 (3)   |      | This column is obsolete                                                                                                                                                                                                                               |
| CLUSTER_OWNER    | VARCHAR2 (128) |      | Owner of the cluster, if any, to which the table belongs                                                                                                                                                                                              |
| DEPENDENCIES     | VARCHAR2 (8)   |      | Indicates whether row-level dependency tracking is enabled (ENABLED) or disabled (DISABLED)                                                                                                                                                           |
| COMPRESSION      | VARCHAR2 (8)   |      | Indicates whether table compression is enabled (ENABLED) or not (DISABLED); NULL for partitioned tables                                                                                                                                               |

| Column            | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------|---------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPRESS_FOR      | VARCHAR2 (30) |      | <p>Default compression for what kind of operations:</p> <ul style="list-style-type: none"> <li>• BASIC</li> <li>• ADVANCED</li> <li>• QUERY LOW</li> <li>• QUERY HIGH</li> <li>• ARCHIVE LOW</li> <li>• ARCHIVE HIGH</li> <li>• QUERY LOW ROW LEVEL LOCKING</li> <li>• QUERY HIGH ROW LEVEL LOCKING</li> <li>• ARCHIVE LOW ROW LEVEL LOCKING</li> <li>• ARCHIVE HIGH ROW LEVEL LOCKING</li> <li>• NO ROW LEVEL LOCKING</li> <li>• NULL</li> </ul> <p>The QUERY LOW, QUERY HIGH, ARCHIVE LOW, ARCHIVE HIGH, QUERY LOW ROW LEVEL LOCKING, QUERY HIGH ROW LEVEL LOCKING, ARCHIVE LOW ROW LEVEL LOCKING, ARCHIVE HIGH ROW LEVEL LOCKING, and NO ROW LEVEL LOCKING values are associated with Hybrid Columnar Compression, a feature of the Enterprise Edition of Oracle Database that is dependent on the underlying storage system. See <i>Oracle Database Concepts</i> for more information.</p> |
| DROPPED           | VARCHAR2 (3)  |      | <p>Indicates whether the table has been dropped and is in the recycle bin (YES) or not (NO); NULL for partitioned tables</p> <p>This view does not return the names of tables that have been dropped.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| READ_ONLY         | VARCHAR2 (3)  |      | <p>Indicates whether the table segment is READ-ONLY or not. Possible values:</p> <ul style="list-style-type: none"> <li>• YES - The table segment is READ-ONLY</li> <li>• NO - The table segment is not READ-ONLY</li> <li>• N/A - Not applicable. This value appears in a partitioned table, where there is no segment that relates to the logical table object.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SEGMENT_CREATED   | VARCHAR2 (3)  |      | <p>Indicates whether the table segment is created. Possible values:</p> <ul style="list-style-type: none"> <li>• YES - The table segment is created.</li> <li>• NO - The table segment is not created.</li> <li>• N/A - Not applicable. This value appears in a partitioned table, where there is no segment that relates to the logical table object.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| RESULT_CACHE      | VARCHAR2 (7)  |      | <p>Result cache mode annotation for the table:</p> <ul style="list-style-type: none"> <li>• DEFAULT - Table has not been annotated</li> <li>• FORCE</li> <li>• MANUAL</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CLUSTERING        | VARCHAR2 (3)  |      | <p>Indicates whether the table has the attribute clustering clause (YES) or not (NO)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ACTIVITY_TRACKING | VARCHAR2 (23) |      | <p>Indicates whether Heat Map tracking is enabled on the table</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| DML_TIMESTAMP     | VARCHAR2 (25) |      | <p>Modification time, creation time, or both for Automatic Data Optimization</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Column                 | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HAS_IDENTITY           | VARCHAR2 (3)   |      | Indicates whether the table has an identity column (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CONTAINER_DATA         | VARCHAR2 (3)   |      | Indicates whether the table contains container-specific data. Possible values: <ul style="list-style-type: none"> <li>• YES if the table was created with the CONTAINER_DATA clause</li> <li>• NO otherwise</li> </ul>                                                                                                                                                                                                                                                                       |
| INMEMORY               | VARCHAR2 (8)   |      | Indicates whether the In-Memory Column Store (IM column store) is enabled (ENABLED) or disabled (DISABLED) for the table                                                                                                                                                                                                                                                                                                                                                                     |
| INMEMORY_PRIORITY      | VARCHAR2 (8)   |      | Indicates the priority for In-Memory Column Store (IM column store) population. Possible values: <ul style="list-style-type: none"> <li>• LOW</li> <li>• MEDIUM</li> <li>• HIGH</li> <li>• CRITICAL</li> <li>• NONE</li> <li>• NULL</li> </ul>                                                                                                                                                                                                                                               |
| INMEMORY_DISTRIBUTE    | VARCHAR2 (15)  |      | Indicates how the IM column store is distributed in an Oracle Real Application Clusters (Oracle RAC) environment: <ul style="list-style-type: none"> <li>• AUTO</li> <li>• BY ROWID RANGE</li> <li>• DUPLICATE</li> <li>• NONE</li> <li>• NULL</li> </ul>                                                                                                                                                                                                                                    |
| INMEMORY_COMPRESSION   | VARCHAR2 (17)  |      | Indicates the compression level for the IM column store: <ul style="list-style-type: none"> <li>• NO MEMCOMPRESS</li> <li>• FOR DML</li> <li>• FOR QUERY [ LOW   HIGH ]</li> <li>• FOR CAPACITY [ LOW   HIGH ]</li> <li>• AUTO</li> <li>• NULL</li> </ul> <p>This column has a value based on where the segments lie for a table. For example, if the table is partitioned and is enabled for the IM column store, the value is NULL for ALL_TABLES but non-NULL for ALL_TAB_PARTITIONS.</p> |
| INMEMORY_DUPLICATE     | VARCHAR2 (13)  |      | Indicates the duplicate setting for the IM column store in an Oracle RAC environment: <ul style="list-style-type: none"> <li>• NO DUPLICATE</li> <li>• DUPLICATE</li> <li>• DUPLICATE ALL</li> </ul>                                                                                                                                                                                                                                                                                         |
| DEFAULT_COLLATION      | VARCHAR2 (100) |      | Default collation for the table                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| DUPLICATED             | VARCHAR2 (1)   |      | Indicates whether the table is duplicated on this shard (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SYNCHRONOUS_DUPLICATED | VARCHAR2 (1)   |      | Indicates whether the table is a synchronous duplicated table (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SHARDED                | VARCHAR2 (1)   |      | Indicates whether the table is sharded (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Column                 | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------|---------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EXTERNALLY_SHARDED     | VARCHAR2 (1)  |      | Indicates whether the table is externally sharded (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EXTERNALLY_DUPLICATED  | VARCHAR2 (1)  |      | Indicates whether the table is externally duplicated (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| EXTERNAL               | VARCHAR2 (3)  |      | Indicates whether the table is an external table (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| HYBRID                 | VARCHAR2 (3)  |      | Indicates whether the table is a hybrid partitioned table (YES) or not (NO). A hybrid partitioned table can contain a mixture of partitions stored in segments and partitions stored externally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CELLMEMORY             | VARCHAR2 (24) |      | <p>The value for columnar compression in the storage cell flash cache. Possible values:</p> <ul style="list-style-type: none"> <li>• <b>ENABLED:</b> Oracle Exadata Storage will decide automatically whether to cache in columnar form</li> <li>• <b>DISABLED:</b> Oracle Exadata Storage is prevented from caching in columnar form</li> <li>• <b>NO CACHECOMPRESS:</b> Oracle Exadata Storage will cache in HCC format (no recompression)</li> <li>• <b>FOR QUERY:</b> Oracle Exadata Storage will recompress and cache in INMEMORY query high format</li> <li>• <b>FOR CAPACITY:</b> Oracle Exadata Storage will recompress and cache in INMEMORY capacity low format</li> </ul> <p>This column is intended for use with Oracle Exadata.</p>                                                         |
| CONTAINERS_DEFAULT     | VARCHAR2 (3)  |      | Indicates whether the table is enabled for CONTAINERS () by default (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CONTAINER_MAP          | VARCHAR2 (3)  |      | Indicates whether the table is enabled for use with the container_map database property (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EXTENDED_DATA_LINK     | VARCHAR2 (3)  |      | Indicates whether the table is enabled for fetching an extended data link from the root (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EXTENDED_DATA_LINK_MAP | VARCHAR2 (3)  |      | For internal use only                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| INMEMORY_SERVICE       | VARCHAR2 (12) |      | <p>Indicates how the IM column store is populated on various instances. The possible values are:</p> <ul style="list-style-type: none"> <li>• <b>DEFAULT:</b> Data is populated on all instances specified with the PARALLEL_INSTANCE_GROUP initialization parameter. If that parameter is not set, then the data is populated on all instances. This is the default.</li> <li>• <b>NONE:</b> Data is not populated on any instance.</li> <li>• <b>ALL:</b> Data is populated on all instances, regardless of the value of the PARALLEL_INSTANCE_GROUP initialization parameter.</li> <li>• <b>USER_DEFINED:</b> Data is populated only on the instances on which the user-specified service is active. The service name corresponding to this is stored in the INMEMORY_SERVICE_NAME column.</li> </ul> |

| Column                | Datatype        | NULL | Description                                                                                                                                                                                                                 |
|-----------------------|-----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INMEMORY_SERVICE_NAME | VARCHAR2 (1000) |      | Indicates the service name for the service on which the IM column store should be populated. This column has a value only when the corresponding INMEMORY_SERVICE is USER_DEFINED. In all other cases, this column is null. |
| CONTAINER_MAP_OBJECT  | VARCHAR2 (3)    |      | Indicates whether the table is used as the value of the container_map database property (YES) or not (NO)                                                                                                                   |
| MEMOPTIMIZE_READ      | VARCHAR2 (8)    |      | Indicates whether the table is enabled for Fast Key Based Access (ENABLED) or not (DISABLED)                                                                                                                                |
| MEMOPTIMIZE_WRITE     | VARCHAR2 (8)    |      | For internal use only                                                                                                                                                                                                       |
| HAS_SENSITIVE_COLUMN  | VARCHAR2 (3)    |      | Indicates whether the table has one or more sensitive columns (YES) or not (NO)                                                                                                                                             |
| ADMIT_NULL            | VARCHAR2 (3)    |      | Indicates whether the table admits null CON_ID data (YES) or not (NO)                                                                                                                                                       |
| DATA_LINK_DML_ENABLED | VARCHAR2 (3)    |      | Indicates whether DML is permitted on the Data Link table (YES) or not (NO)                                                                                                                                                 |
| LOGICAL_REPLICATION   | VARCHAR2 (8)    |      | Indicates whether the table is enabled for logical replication (ENABLED) or not (DISABLED). This setting is ignored if database-wide column data supplemental logging is enabled.                                           |
| STAGING               | VARCHAR2 (3)    |      | Indicates whether the table is a staging table (YES) or not (NO)                                                                                                                                                            |
| HAS_RESERVABLE_COLUMN | VARCHAR2 (3)    |      | Indicates whether the table has one or more reservable columns (YES) or not (NO)                                                                                                                                            |

## Examples

This SQL query returns the names of the tables in the EXAMPLES tablespace:

```
SELECT table_name FROM all_tables
WHERE tablespace_name = 'EXAMPLE' ORDER BY table_name;
```

This SQL query returns the name of the tablespace that contains the HR schema:

```
SELECT DISTINCT tablespace_name FROM all_tables WHERE owner='HR';
```



### See Also:

- "DBA\_TABLES"
- "USER\_TABLES"
- "PARALLEL\_INSTANCE\_GROUP"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_STATS package

## 4.141 ALL\_TRANSFORMATIONS

`ALL_TRANSFORMATIONS` displays information about all transformations accessible to the current user.

These transformations can be specified with Advanced Queuing operations such as enqueue, dequeue, and subscribe to automatically integrate transformations in AQ messaging.

### Related Views

- `DBA_TRANSFORMATIONS` displays information about all transformations in the database.
- `USER_TRANSFORMATIONS` displays information about transformations owned by the current user. This view does not display the `OWNER` column.

| Column                         | Datatype       | NULL     | Description                              |
|--------------------------------|----------------|----------|------------------------------------------|
| <code>TRANSFORMATION_ID</code> | NUMBER         | NOT NULL | Unique identifier for the transformation |
| <code>OWNER</code>             | VARCHAR2 (128) | NOT NULL | Owning user of the transformation        |
| <code>NAME</code>              | VARCHAR2 (128) | NOT NULL | Transformation name                      |
| <code>FROM_TYPE</code>         | VARCHAR2 (128) |          | Source type name                         |
| <code>TO_TYPE</code>           | VARCHAR2 (256) |          | Target type name                         |



### See Also:

- ["DBA\\_TRANSFORMATIONS"](#)
- ["USER\\_TRANSFORMATIONS"](#)

## 4.142 ALL\_TRIGGER\_COLS

`ALL_TRIGGER_COLS` describes the use of columns in the triggers accessible to the current user and in triggers on tables accessible to the current user.

If the user has the `CREATE ANY TRIGGER` privilege, then this view describes the use of columns in all triggers in the database.

### Related Views

- `DBA_TRIGGER_COLS` describes the use of columns in all triggers in the database.
- `USER_TRIGGER_COLS` describes the use of columns in the triggers owned by the current user and in triggers on tables owned by the current user.

| Column                     | Datatype       | NULL | Description                                        |
|----------------------------|----------------|------|----------------------------------------------------|
| <code>TRIGGER_OWNER</code> | VARCHAR2 (128) |      | Owner of the trigger                               |
| <code>TRIGGER_NAME</code>  | VARCHAR2 (128) |      | Name of the trigger                                |
| <code>TABLE_OWNER</code>   | VARCHAR2 (128) |      | Owner of the table on which the trigger is defined |
| <code>TABLE_NAME</code>    | VARCHAR2 (128) |      | Table on which the trigger is defined              |



| Column       | Datatype        | NULL | Description                                                                                                                                                                                                                                                       |
|--------------|-----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COLUMN_NAME  | VARCHAR2 (4000) |      | Name of the column used in the trigger                                                                                                                                                                                                                            |
| COLUMN_LIST  | VARCHAR2 (3)    |      | Indicates whether the column is specified in the UPDATE clause (YES) or not (NO)                                                                                                                                                                                  |
| COLUMN_USAGE | VARCHAR2 (17)   |      | How the column is used in the trigger: <ul style="list-style-type: none"> <li>• NEW IN</li> <li>• OLD IN</li> <li>• NEW IN OLD IN</li> <li>• NEW OUT</li> <li>• NEW IN OUT</li> <li>• NEW OUT OLD IN</li> <li>• NEW IN OUT OLD IN</li> <li>• PARENT IN</li> </ul> |



#### See Also:

- "DBA\_TRIGGER\_COLS"
- "USER\_TRIGGER\_COLS"

## 4.143 ALL\_TRIGGER\_ORDERING

ALL\_TRIGGER\_ORDERING describes the triggers accessible to the current user that have `FOLLOWS` or `PRECEDES` ordering.

#### Related Views

- DBA\_TRIGGER\_ORDERING describes all triggers in the database that have `FOLLOWS` or `PRECEDES` ordering.
- USER\_TRIGGER\_ORDERING describes the triggers owned by the current user that have `FOLLOWS` or `PRECEDES` ordering. This view does not display the `TRIGGER_OWNER` column.

| Column                   | Datatype       | NULL     | Description                                                                                                                                          |
|--------------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| TRIGGER_OWNER            | VARCHAR2 (128) | NOT NULL | Owner of the trigger                                                                                                                                 |
| TRIGGER_NAME             | VARCHAR2 (128) | NOT NULL | Name of the trigger                                                                                                                                  |
| REFERENCED_TRIGGER_OWNER | VARCHAR2 (128) |          | Owner of the referenced trigger                                                                                                                      |
| REFERENCED_TRIGGER_NAME  | VARCHAR2 (128) |          | Name of the referenced trigger                                                                                                                       |
| ORDERING_TYPE            | VARCHAR2 (8)   |          | Type of the ordering between the trigger and the referenced trigger: <ul style="list-style-type: none"> <li>• FOLLOWS</li> <li>• PRECEDES</li> </ul> |

**See Also:**

- "DBA\_TRIGGER\_ORDERING"
- "USER\_TRIGGER\_ORDERING"

## 4.144 ALL\_TRIGGERS

ALL\_TRIGGERS describes the triggers on tables accessible to the current user.

If the user has the CREATE ANY TRIGGER privilege, then this view describes all triggers in the database.

**Related Views**

- DBA\_TRIGGERS describes all triggers in the database.
- USER\_TRIGGERS describes the triggers owned by the current user. This view does not display the OWNER column.

| Column            | Datatype        | NULL | Description                                                                                                                                                                                                                        |
|-------------------|-----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER             | VARCHAR2 (128)  |      | Owner of the trigger                                                                                                                                                                                                               |
| TRIGGER_NAME      | VARCHAR2 (128)  |      | Name of the trigger                                                                                                                                                                                                                |
| TRIGGER_TYPE      | VARCHAR2 (16)   |      | When the trigger fires: <ul style="list-style-type: none"> <li>• BEFORE STATEMENT</li> <li>• BEFORE EACH ROW</li> <li>• AFTER STATEMENT</li> <li>• AFTER EACH ROW</li> <li>• INSTEAD OF</li> <li>• COMPOUND</li> </ul>             |
| TRIGGERING_EVENT  | VARCHAR2 (246)  |      | DML, DDL, or database event that fires the trigger<br><b>See Also:</b> <i>Oracle Database PL/SQL Language Reference</i> for additional information about triggers and triggering events.                                           |
| TABLE_OWNER       | VARCHAR2 (128)  |      | Owner of the table on which the trigger is defined                                                                                                                                                                                 |
| BASE_OBJECT_TYPE  | VARCHAR2 (18)   |      | Base object on which the trigger is defined: <ul style="list-style-type: none"> <li>• TABLE</li> <li>• VIEW</li> <li>• SCHEMA</li> <li>• DATABASE</li> </ul>                                                                       |
| TABLE_NAME        | VARCHAR2 (128)  |      | If the base object type of the trigger is SCHEMA or DATABASE, then this column is NULL; if the base object type of the trigger is TABLE or VIEW, then this column indicates the table or view name on which the trigger is defined |
| COLUMN_NAME       | VARCHAR2 (4000) |      | Name of the nested table column (if a nested table trigger), else NULL                                                                                                                                                             |
| REFERENCING_NAMES | VARCHAR2 (422)  |      | Names used for referencing OLD and NEW column values from within the trigger                                                                                                                                                       |
| WHEN_CLAUSE       | VARCHAR2 (4000) |      | Must evaluate to TRUE for TRIGGER_BODY to execute                                                                                                                                                                                  |

| Column            | Datatype        | NULL | Description                                                                                                                                                                                                                                       |
|-------------------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS            | VARCHAR2 (8)    |      | Indicates whether the trigger is enabled (ENABLED) or disabled (DISABLED); a disabled trigger will not fire                                                                                                                                       |
| DESCRIPTION       | VARCHAR2 (4000) |      | Trigger description; useful for re-creating a trigger creation statement                                                                                                                                                                          |
| ACTION_TYPE       | VARCHAR2 (11)   |      | Action type of the trigger body: <ul style="list-style-type: none"> <li>CALL</li> <li>PL/SQL</li> </ul>                                                                                                                                           |
| TRIGGER_BODY      | LONG            |      | Statements executed by the trigger when it fires                                                                                                                                                                                                  |
| CROSSEDITION      | VARCHAR2 (7)    |      | Type of crossedition trigger: <ul style="list-style-type: none"> <li>FORWARD</li> <li>REVERSE</li> <li>NO</li> </ul>                                                                                                                              |
| BEFORE_STATEMENT  | VARCHAR2 (3)    |      | Indicates whether the trigger has a BEFORE STATEMENT section (YES) or not (NO)                                                                                                                                                                    |
| BEFORE_ROW        | VARCHAR2 (3)    |      | Indicates whether the trigger has a BEFORE EACH ROW section (YES) or not (NO)                                                                                                                                                                     |
| AFTER_ROW         | VARCHAR2 (3)    |      | Indicates whether the trigger has an AFTER EACH ROW section (YES) or not (NO)                                                                                                                                                                     |
| AFTER_STATEMENT   | VARCHAR2 (3)    |      | Indicates whether the trigger has an AFTER STATEMENT section (YES) or not (NO)                                                                                                                                                                    |
| INSTEAD_OF_ROW    | VARCHAR2 (3)    |      | Indicates whether the trigger has an INSTEAD OF section (YES) or not (NO)                                                                                                                                                                         |
| FIRE_ONCE         | VARCHAR2 (3)    |      | Indicates whether the trigger will fire only for user processes making changes (YES) or whether the trigger will also fire for Replication Apply or SQL Apply processes (NO)                                                                      |
| APPLY_SERVER_ONLY | VARCHAR2 (3)    |      | Indicates whether the trigger will only fire for a Replication Apply or SQL Apply process (YES) or not (NO). If set to YES, then the setting of FIRE_ONCE does not matter.<br><b>See Also:</b> the DBMS_DDL.SET_TRIGGER_FIRING_PROPERTY procedure |



#### See Also:

- "DBA\_TRIGGERS"
- "USER\_TRIGGERS"
- Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_DDL.SET\_TRIGGER\_FIRING\_PROPERTY procedure

## 4.145 ALL\_TRIGGERS\_AE

ALL\_TRIGGERS\_AE describes the triggers on tables (across all editions) accessible to the current user.

If the user has the CREATE ANY TRIGGER privilege, then this view describes all triggers (across all editions) in the database.

### Related Views

- DBA\_TRIGGERS\_AE describes all triggers (across all editions) in the database.
- USER\_TRIGGERS\_AE describes the triggers (across all editions) owned by the current user. This view does not display the OWNER column.

| Column            | Datatype        | NULL | Description                                                                                                                                                                                                                        |
|-------------------|-----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER             | VARCHAR2 (128)  |      | Owner of the trigger                                                                                                                                                                                                               |
| TRIGGER_NAME      | VARCHAR2 (128)  |      | Name of the trigger                                                                                                                                                                                                                |
| TRIGGER_TYPE      | VARCHAR2 (16)   |      | When the trigger fires: <ul style="list-style-type: none"><li>• BEFORE STATEMENT</li><li>• BEFORE EACH ROW</li><li>• AFTER STATEMENT</li><li>• AFTER EACH ROW</li><li>• INSTEAD OF</li><li>• COMPOUND</li></ul>                    |
| TRIGGERING_EVENT  | VARCHAR2 (246)  |      | DML, DDL, or database event that fires the trigger<br><b>See Also:</b> <i>Oracle Database PL/SQL Language Reference</i> for additional information about triggers and triggering events.                                           |
| TABLE_OWNER       | VARCHAR2 (128)  |      | Owner of the table on which the trigger is defined                                                                                                                                                                                 |
| BASE_OBJECT_TYPE  | VARCHAR2 (18)   |      | Base object on which the trigger is defined: <ul style="list-style-type: none"><li>• TABLE</li><li>• VIEW</li><li>• SCHEMA</li><li>• DATABASE</li></ul>                                                                            |
| TABLE_NAME        | VARCHAR2 (128)  |      | If the base object type of the trigger is SCHEMA or DATABASE, then this column is NULL; if the base object type of the trigger is TABLE or VIEW, then this column indicates the table or view name on which the trigger is defined |
| COLUMN_NAME       | VARCHAR2 (4000) |      | Name of the nested table column (if a nested table trigger), else NULL                                                                                                                                                             |
| REFERENCING_NAMES | VARCHAR2 (422)  |      | Names used for referencing OLD and NEW column values from within the trigger                                                                                                                                                       |
| WHEN_CLAUSE       | VARCHAR2 (4000) |      | Must evaluate to TRUE for TRIGGER_BODY to execute                                                                                                                                                                                  |
| STATUS            | VARCHAR2 (8)    |      | Indicates whether the trigger is enabled (ENABLED) or disabled (DISABLED); a disabled trigger will not fire                                                                                                                        |
| DESCRIPTION       | VARCHAR2 (4000) |      | Trigger description; useful for re-creating a trigger creation statement                                                                                                                                                           |

| Column            | Datatype       | NULL | Description                                                                                                                                                                                                                                       |
|-------------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACTION_TYPE       | VARCHAR2 (11)  |      | Action type of the trigger body: <ul style="list-style-type: none"><li>• CALL</li><li>• PL/SQL</li></ul>                                                                                                                                          |
| TRIGGER_BODY      | LONG           |      | Statements executed by the trigger when it fires                                                                                                                                                                                                  |
| CROSSEDITION      | VARCHAR2 (7)   |      | Type of crossedition trigger: <ul style="list-style-type: none"><li>• FORWARD</li><li>• REVERSE</li><li>• NO</li></ul>                                                                                                                            |
| BEFORE_STATEMENT  | VARCHAR2 (3)   |      | Indicates whether the trigger has a BEFORE STATEMENT section (YES) or not (NO)                                                                                                                                                                    |
| BEFORE_ROW        | VARCHAR2 (3)   |      | Indicates whether the trigger has a BEFORE EACH ROW section (YES) or not (NO)                                                                                                                                                                     |
| AFTER_ROW         | VARCHAR2 (3)   |      | Indicates whether the trigger has an AFTER EACH ROW section (YES) or not (NO)                                                                                                                                                                     |
| AFTER_STATEMENT   | VARCHAR2 (3)   |      | Indicates whether the trigger has an AFTER STATEMENT section (YES) or not (NO)                                                                                                                                                                    |
| INSTEAD_OF_ROW    | VARCHAR2 (3)   |      | Indicates whether the trigger has an INSTEAD OF section (YES) or not (NO)                                                                                                                                                                         |
| FIRE_ONCE         | VARCHAR2 (3)   |      | Indicates whether the trigger will fire only for user processes making changes (YES) or whether the trigger will also fire for Replication Apply or SQL Apply processes (NO)                                                                      |
| APPLY_SERVER_ONLY | VARCHAR2 (3)   |      | Indicates whether the trigger will only fire for a Replication Apply or SQL Apply process (YES) or not (NO). If set to YES, then the setting of FIRE_ONCE does not matter.<br><b>See Also:</b> the DBMS_DDL.SET_TRIGGER_FIRING_PROPERTY procedure |
| EDITION_NAME      | VARCHAR2 (128) |      | Name of the application edition where the trigger is defined                                                                                                                                                                                      |

 **See Also:**

- ["DBA\\_TRIGGERS\\_AE"](#)
- ["USER\\_TRIGGERS\\_AE"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_DDL.SET\_TRIGGER\_FIRING\_PROPERTY procedure

## 4.146 ALL\_TSTZ\_TAB\_COLS

ALL\_TSTZ\_TAB\_COLS displays information about the columns of the tables accessible to the current user, which have columns defined on `TIMESTAMP WITH TIME ZONE` data types or object types containing attributes of `TIMESTAMP WITH TIME ZONE` data types.

### Related Views

- **DBA\_TSTZ\_TAB\_COLS** displays information about the columns of all tables in the database, which have columns defined on `TIMESTAMP WITH TIME ZONE` data types or object types containing attributes of `TIMESTAMP WITH TIME ZONE` data types. This view does not display the `COLUMN_NAME`, `NESTED`, and `VIRTUAL_COLUMN` columns.
- **USER\_TSTZ\_TAB\_COLS** displays information about the columns of the tables owned by the current user, which have columns defined on `TIMESTAMP WITH TIME ZONE` data types or object types containing attributes of `TIMESTAMP WITH TIME ZONE` data types. This view does not display the `OWNER`, `COLUMN_NAME`, `NESTED`, and `VIRTUAL_COLUMN` columns.

| Column             | Datatype        | NULL     | Description                                                     |
|--------------------|-----------------|----------|-----------------------------------------------------------------|
| OWNER              | VARCHAR2 (128)  | NOT NULL | Owner of the table                                              |
| TABLE_NAME         | VARCHAR2 (128)  | NOT NULL | Name of the table                                               |
| COLUMN_NAME        | VARCHAR2 (128)  | NOT NULL | Column name                                                     |
| QUALIFIED_COL_NAME | VARCHAR2 (4000) |          | Qualified column name                                           |
| NESTED             | NUMBER          |          | Indicates whether the column is a nested table (1) or not (0)   |
| VIRTUAL_COLUMN     | NUMBER          |          | Indicates whether the column is a virtual column (1) or not (0) |
| SCALAR_COLUMN      | NUMBER          |          | Indicates whether the column is a scalar column (1) or not (0)  |
| UNUSED_COLUMN      | NUMBER          |          | Indicates whether the column is an unused column (1) or not (0) |

### See Also:

- ["DBA\\_TSTZ\\_TAB\\_COLS"](#)
- ["USER\\_TSTZ\\_TAB\\_COLS"](#)

## 4.147 ALL\_TSTZ\_TABLES

ALL\_TSTZ\_TABLES displays information about the tables accessible to the current user, which have columns defined on `TIMESTAMP WITH TIME ZONE` data types or object types containing attributes of `TIMESTAMP WITH TIME ZONE` data types.

### Related Views

- `DBA_TSTZ_TABLES` displays information about all tables in the database, which have columns defined on `TIMESTAMP WITH TIME ZONE` data types or object types containing attributes of `TIMESTAMP WITH TIME ZONE` data types.
- `USER_TSTZ_TABLES` displays information about the tables owned by the current user, which have columns defined on `TIMESTAMP WITH TIME ZONE` data types or object types containing attributes of `TIMESTAMP WITH TIME ZONE` data types. This view does not display the `OWNER` column.

| Column              | Datatype       | NULL     | Description                                                                |
|---------------------|----------------|----------|----------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128) | NOT NULL | Owner of the table                                                         |
| TABLE_NAME          | VARCHAR2 (128) | NOT NULL | Name of the table                                                          |
| UPGRADE_IN_PROGRESS | VARCHAR2 (3)   |          | Indicates whether a table upgrade is in progress (YES) or not (NO)         |
| READ_ONLY           | VARCHAR2 (3)   |          | Indicates whether the table upgrade is in READ ONLY mode (YES) or not (NO) |

### See Also:

- ["DBA\\_TSTZ\\_TABLES"](#)
- ["USER\\_TSTZ\\_TABLES"](#)

## 4.148 ALL\_TXEVENTQ\_MIGRATION\_STATUS

ALL\_TXEVENTQ\_MIGRATION\_STATUS provides information about migrations from AQ classic queues to Transactional Event Queues (TxEventQs) accessible to the current user.

### Related Views

- `DBA_TXEVENTQ_MIGRATION_STATUS` provides information about all migrations from AQ classic queues to Transactional Event Queues (TxEventQs). This view also displays the `SUFFIX` column.
- `USER_TXEVENTQ_MIGRATION_STATUS` provides information about migrations from AQ classic queues to Transactional Event Queues (TxEventQs) owned by the current user. This view does not display the `SOURCE_SCHEMA_NAME` and `SUFFIX` columns.

| Column             | Datatype       | NULL     | Description        |
|--------------------|----------------|----------|--------------------|
| SOURCE_SCHEMA_NAME | VARCHAR2 (128) | NOT NULL | Source schema name |

| Column               | Datatype                        | NULL     | Description                                                                                                                                                                                                                                                                                                                                  |
|----------------------|---------------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SOURCE_QUEUE_NAME    | VARCHAR2 (128)                  | NOT NULL | Source AQ classic queue name                                                                                                                                                                                                                                                                                                                 |
| SOURCE_QUEUE_TABLE   | VARCHAR2 (128)                  |          | Source AQ classic queue table name                                                                                                                                                                                                                                                                                                           |
| TARGET_SCHEMA_NAME   | VARCHAR2 (128)                  | NOT NULL | Target schema name                                                                                                                                                                                                                                                                                                                           |
| TARGET_QUEUE_NAME    | VARCHAR2 (128)                  | NOT NULL | Target TxEventQ name                                                                                                                                                                                                                                                                                                                         |
| EVENT_STATUS         | NUMBER                          |          | Migration record/event type: <ul style="list-style-type: none"><li>• 0 - This row displays data about unsupported features captured via a migration API</li><li>• 1 - This row displays specific migration API details that the user executed</li><li>• 2 - This row displays data about unsupported features captured as warnings</li></ul> |
| EVENT                | VARCHAR2 (128)                  |          | Migration event. Possible values include: <ul style="list-style-type: none"><li>• Retry Delay</li><li>• Message Grouping</li><li>• Listen</li><li>• Next Message</li></ul>                                                                                                                                                                   |
| EVENT_TIMESTAMP      | TIMESTAMP (6)<br>WITH TIME ZONE |          | Date and time at which the migration event occurred                                                                                                                                                                                                                                                                                          |
| EVENT_ERROR_COMMENTS | VARCHAR2 (1024)                 |          | Migration event error comments, if any                                                                                                                                                                                                                                                                                                       |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_TXEVENTQ\\_MIGRATION\\_STATUS"](#)
- ["USER\\_TXEVENTQ\\_MIGRATION\\_STATUS"](#)

## 4.149 ALL\_TYPE\_ATTRS

ALL\_TYPE\_ATTRS describes the attributes of the object types accessible to the current user.

### Related Views

- **DBA\_TYPE\_ATTRS** describes the attributes of all object types in the database. This view does not include the **CHAR\_USED** column.
- **USER\_TYPE\_ATTRS** describes the attributes of the object types owned by the current user. This view does not display the **OWNER** or **CHAR\_USED** column.

| Column | Datatype       | NULL | Description       |
|--------|----------------|------|-------------------|
| OWNER  | VARCHAR2 (128) |      | Owner of the type |



| Column             | Datatype       | NULL | Description                                                                                                                                                   |
|--------------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE_NAME          | VARCHAR2 (128) |      | Name of the type                                                                                                                                              |
| ATTR_NAME          | VARCHAR2 (128) |      | Name of the attribute                                                                                                                                         |
| ATTR_TYPE_MOD      | VARCHAR2 (7)   |      | Type modifier of the attribute: <ul style="list-style-type: none"> <li>REF</li> <li>POINTER</li> </ul>                                                        |
| ATTR_TYPE_OWNER    | VARCHAR2 (128) |      | Owner of the type of the attribute                                                                                                                            |
| ATTR_TYPE_NAME     | VARCHAR2 (128) |      | Name of the type of the attribute                                                                                                                             |
| LENGTH             | NUMBER         |      | Length of the CHAR attribute, or maximum length of the VARCHAR or VARCHAR2 attribute.                                                                         |
| PRECISION          | NUMBER         |      | Decimal precision of the NUMBER or DECIMAL attribute, or binary precision of the FLOAT attribute.                                                             |
| SCALE              | NUMBER         |      | Scale of the NUMBER or DECIMAL attribute                                                                                                                      |
| CHARACTER_SET_NAME | VARCHAR2 (44)  |      | Character set name of the attribute (CHAR_CS or NCHAR_CS)                                                                                                     |
| ATTR_NO            | NUMBER         |      | Syntactical order number or position of the attribute as specified in the type specification or CREATE TYPE statement (not to be used as an ID number)        |
| INHERITED          | VARCHAR2 (3)   |      | Indicates whether the attribute is inherited from a supertype (YES) or not (NO)                                                                               |
| CHAR_USED          | VARCHAR2 (1)   |      | Indicates whether the attribute uses BYTE length semantics (B) or CHAR length semantics (C). For NCHAR and NVARCHAR2 attribute types, this value is always C. |



#### See Also:

- "DBA\_TYPE\_ATTRS"
- "USER\_TYPE\_ATTRS"

## 4.150 ALL\_TYPE\_METHODS

ALL\_TYPE\_METHODS describes the methods of the object types accessible to the current user.

#### Related Views

- DBA\_TYPE\_METHODS describes the methods of all object types in the database.
- USER\_TYPE\_METHODS describes the methods of the object types owned by the current user. This view does not display the OWNER column.

| Column      | Datatype       | NULL     | Description        |
|-------------|----------------|----------|--------------------|
| OWNER       | VARCHAR2 (128) | NOT NULL | Owner of the type  |
| TYPE_NAME   | VARCHAR2 (128) | NOT NULL | Name of the type   |
| METHOD_NAME | VARCHAR2 (128) | NOT NULL | Name of the method |

| Column       | Datatype     | NULL     | Description                                                                                                    |
|--------------|--------------|----------|----------------------------------------------------------------------------------------------------------------|
| METHOD_NO    | NUMBER       | NOT NULL | Method number for distinguishing overloaded methods (not to be used as ID number)                              |
| METHOD_TYPE  | VARCHAR2 (6) |          | Type of the method: <ul style="list-style-type: none"> <li>• MAP</li> <li>• ORDER</li> <li>• PUBLIC</li> </ul> |
| PARAMETERS   | NUMBER       | NOT NULL | Number of parameters to the method                                                                             |
| RESULTS      | NUMBER       | NOT NULL | Number of results returned by the method                                                                       |
| FINAL        | VARCHAR2 (3) |          | Indicates whether the method is final (YES) or not (NO)                                                        |
| INSTANTIABLE | VARCHAR2 (3) |          | Indicates whether the method is instantiable (YES) or not (NO)                                                 |
| OVERRIDING   | VARCHAR2 (3) |          | Indicates whether the method is overriding a supertype method (YES) or not (NO)                                |
| INHERITED    | VARCHAR2 (3) |          | Indicates whether the method is inherited from a supertype (YES) or not (NO)                                   |



#### See Also:

- "DBA\_TYPE\_METHODS"
- "USER\_TYPE\_METHODS"

## 4.151 ALL\_TYPE\_VERSIONS

ALL\_TYPE\_VERSIONS describes the versions of the object types accessible to the current user.

### Related Views

- DBA\_TYPE\_VERSIONS describes the versions of all object types in the database.
- USER\_TYPE\_VERSIONS describes the versions of the object types owned by the current user. This view does not display the OWNER column.

| Column    | Datatype        | NULL     | Description                                                                                                     |
|-----------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------|
| OWNER     | VARCHAR2 (128)  | NOT NULL | Owner of the type                                                                                               |
| TYPE_NAME | VARCHAR2 (128)  | NOT NULL | Name of the type                                                                                                |
| VERSION#  | NUMBER          | NOT NULL | Internal version number of the type                                                                             |
| TYPECODE  | VARCHAR2 (128)  |          | Typecode of the type                                                                                            |
| STATUS    | VARCHAR2 (7)    |          | Status of the type: <ul style="list-style-type: none"> <li>• N/A</li> <li>• VALID</li> <li>• INVALID</li> </ul> |
| LINE      | NUMBER          | NOT NULL | Line number of the type's spec                                                                                  |
| TEXT      | VARCHAR2 (4000) |          | Text of the type's spec                                                                                         |
| HASHCODE  | RAW (17)        |          | Hashcode of the type                                                                                            |

**See Also:**

- ["DBA\\_TYPE\\_VERSIONS"](#)
- ["USER\\_TYPE\\_VERSIONS"](#)

## 4.152 ALL\_TYPES

ALL\_TYPES describes the object types accessible to the current user.

### Related Views

- DBA\_TYPES describes all object types in the database.
- USER\_TYPES describes the object types owned by the current user. This view does not display the OWNER column.

| Column           | Datatype       | NULL | Description                                                          |
|------------------|----------------|------|----------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128) |      | Owner of the type                                                    |
| TYPE_NAME        | VARCHAR2 (128) |      | Name of the type                                                     |
| TYPE_OID         | RAW (16)       |      | Object identifier (OID) of the type                                  |
| TYPECODE         | VARCHAR2 (128) |      | Typecode of the type                                                 |
| ATTRIBUTES       | NUMBER         |      | Number of attributes (if any) in the type                            |
| METHODS          | NUMBER         |      | Number of methods (if any) in the type                               |
| PREDEFINED       | VARCHAR2 (3)   |      | Indicates whether the type is a predefined type (YES) or not (NO)    |
| INCOMPLETE       | VARCHAR2 (3)   |      | Indicates whether the type is an incomplete type (YES) or not (NO)   |
| FINAL            | VARCHAR2 (3)   |      | Indicates whether the type is a final type (YES) or not (NO)         |
| INSTANTIABLE     | VARCHAR2 (3)   |      | Indicates whether the type is an instantiable type (YES) or not (NO) |
| PERSISTABLE      | VARCHAR2 (3)   |      | Indicates whether the type is a persistable type (YES) or not (NO)   |
| SUPERTYPE_OWNER  | VARCHAR2 (128) |      | Owner of the supertype (NULL if type is not a subtype)               |
| SUPERTYPE_NAME   | VARCHAR2 (128) |      | Name of the supertype (NULL if type is not a subtype)                |
| LOCAL_ATTRIBUTES | NUMBER         |      | Number of local (not inherited) attributes (if any) in the subtype   |
| LOCAL_METHODS    | NUMBER         |      | Number of local (not inherited) methods (if any) in the subtype      |
| TYPEID           | RAW (16)       |      | Type ID value of the type                                            |

**See Also:**

- ["DBA\\_TYPES"](#)
- ["USER\\_TYPES"](#)

## 4.153 ALL\_UNIFIED\_AUDIT\_ACTIONS

ALL\_UNIFIED\_AUDIT\_ACTIONS describes unified audit trail actions.

The actions described in this view are valid for audit trail records from the UNIFIED\_AUDIT\_TRAIL view. Such records are generated only when unified auditing is enabled.

**See Also:**

- *Oracle Database Security Guide* for more information about unified auditing.
- *Oracle Database Upgrade Guide* for more information about migrating to unified auditing.

| Column    | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE      | NUMBER        | NOT NULL | Numeric component type for system wide actions                                                                                                                                                                                                                                                                                                                                                   |
| COMPONENT | VARCHAR2 (64) | NOT NULL | Name of component for system wide actions                                                                                                                                                                                                                                                                                                                                                        |
| ACTION    | NUMBER        | NOT NULL | Numeric auditable action code for system wide actions<br><b>Note:</b> The action code values have changed from Oracle Database release 12.2 to the current release. If your applications have queries that include the ACTION column, and if these queries were written in release 12.2, then be aware that the output may be different if you are running these queries in the current release. |
| NAME      | VARCHAR2 (64) | NOT NULL | Name of auditable action                                                                                                                                                                                                                                                                                                                                                                         |

**See Also:**

["UNIFIED\\_AUDIT\\_TRAIL"](#)

## 4.154 ALL\_UNUSED\_COL\_TABS

ALL\_UNUSED\_COL\_TABS describes the tables accessible to the current user that contain unused columns.

**Related Views**

- DBA\_UNUSED\_COL\_TABS describes all tables in the database that contain unused columns.

- `USER_UNUSED_COL_TABS` describes the tables owned by the current user that contain unused columns. This view does not display the `OWNER` column.

| Column     | Datatype       | NULL     | Description              |
|------------|----------------|----------|--------------------------|
| OWNER      | VARCHAR2 (128) | NOT NULL | Owner of the table       |
| TABLE_NAME | VARCHAR2 (128) | NOT NULL | Name of the table        |
| COUNT      | NUMBER         |          | Number of unused columns |

**See Also:**

- ["DBA\\_UNUSED\\_COL\\_TABS"](#)
- ["USER\\_UNUSED\\_COL\\_TABS"](#)

## 4.155 ALL\_UPDATABLE\_COLUMNS

`ALL_UPDATABLE_COLUMNS` describes all columns in a join view that are updatable by the current user, subject to appropriate privileges.

**Related Views**

- `DBA_UPDATABLE_COLUMNS` describes all columns in a join view that are updatable by the database administrator, subject to appropriate privileges.
- `USER_UPDATABLE_COLUMNS` describes all columns owned by the current user that are in a join view and are updatable by the current user, subject to appropriate privileges.

| Column      | Datatype       | NULL     | Description                                                  |
|-------------|----------------|----------|--------------------------------------------------------------|
| OWNER       | VARCHAR2 (128) | NOT NULL | Owner of the table                                           |
| TABLE_NAME  | VARCHAR2 (128) | NOT NULL | Name of the table                                            |
| COLUMN_NAME | VARCHAR2 (128) | NOT NULL | Column name                                                  |
| UPDATABLE   | VARCHAR2 (3)   |          | Indicates whether the column is updatable (YES) or not (NO)  |
| INSERTABLE  | VARCHAR2 (3)   |          | Indicates whether the column is insertable (YES) or not (NO) |
| DELETABLE   | VARCHAR2 (3)   |          | Indicates whether the column is deletable (YES) or not (NO)  |

**Note:**

The values shown in the `UPDATABLE`, `INSERTABLE`, and `DELETABLE` columns are not instantly updated when a DDL operation that would affect these attributes occurs on one of the tables referenced in the `FROM` clause of the view definition. For example, these columns are not instantly updated when a primary key or unique constraint is added to or removed from the non-key-preserved table. To remedy this situation, recompile the view using the `ALTER VIEW COMPILE` statement to ensure that the latest information is displayed.

**See Also:**

- ["DBA\\_UPDATABLE\\_COLUMNS"](#)
- ["USER\\_UPDATABLE\\_COLUMNS"](#)
- *Oracle Database Concepts* for information on updatable join views

## 4.156 ALL\_USERS

`ALL_USERS` lists all users of the database visible to the current user.

This view does not describe the users (see the related views).

**Related Views**

- `DBA_USERS` describes all users of the database, and contains more columns than `ALL_USERS`.
- `USER_USERS` describes the current user, and contains more columns than `ALL_USERS`.

| Column            | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                |
|-------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USERNAME          | VARCHAR2 (128) | NOT NULL | Name of the user                                                                                                                                                                                                                                                                           |
| USER_ID           | NUMBER         | NOT NULL | ID number of the user                                                                                                                                                                                                                                                                      |
| CREATED           | DATE           | NOT NULL | User creation date                                                                                                                                                                                                                                                                         |
| COMMON            | VARCHAR2 (3)   |          | Indicates whether a given user is common. Possible values: <ul style="list-style-type: none"> <li>• YES if a user is common</li> <li>• NO if a user is local (not common)</li> </ul>                                                                                                       |
| ORACLE_MAINTAINED | VARCHAR2 (1)   |          | Denotes whether the user was created, and is maintained, by Oracle-supplied scripts (such as <code>catalog.sql</code> or <code>catproc.sql</code> ). A user for which this column has the value <code>Y</code> must not be changed in any way except by running an Oracle-supplied script. |
| INHERITED         | VARCHAR2 (3)   |          | Indicates whether the user definition was inherited from another container (YES) or not (NO)                                                                                                                                                                                               |
| DEFAULT_COLLATION | VARCHAR2 (100) |          | Default collation for the user's schema                                                                                                                                                                                                                                                    |
| IMPLICIT          | VARCHAR2 (3)   |          | Indicates whether this user is a common user created by an implicit application (YES) or not (NO)                                                                                                                                                                                          |

| Column                            | Datatype     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------|--------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALL_SHARD                         | VARCHAR2 (3) |      | <p>In a sharded database, the value in this column indicates whether the user was created with shard DDL enabled. The possible values are:</p> <ul style="list-style-type: none"> <li>• <b>YES</b>: The user was created with shard DDL enabled. The user exists on all shards and the shard catalog.</li> <li>• <b>NO</b>: The user was created without shard DDL enabled. The user exists only in the database in which the user was created.</li> </ul> <p>In a non-sharded database, the value in this column is always <b>NO</b>.</p> |
| EXTERNAL_SHARD                    | VARCHAR2 (3) |      | <p>In a federated sharded database, the value in this column indicates whether the user is an external shard user (<b>YES</b>) or not (<b>NO</b>).</p> <p>In other types of databases, the value in this column is always <b>NO</b>.</p>                                                                                                                                                                                                                                                                                                   |
| DICTIONARY_PROTECTED <sup>1</sup> | VARCHAR2 (3) |      | <p>Indicates whether the user's schema is dictionary protected (<b>YES</b>) or not (<b>NO</b>)</p> <p><b>See Also:</b> <i>Oracle Database Security Guide</i> for more information about dictionary-protected schemas</p>                                                                                                                                                                                                                                                                                                                   |

1

**See Also:**

- "DBA\_USERS"
- "USER\_USERS"
- *Oracle Globally Distributed Database Guide* for more information about sharded database management

## 4.157 ALL\_USTATS

ALL\_USTATS describes the user-defined statistics collected on the tables and indexes accessible to the current user.

### Related Views

- DBA\_USTATS describes the user-defined statistics collected on all tables and indexes in the database.
- USER\_USTATS describes the user-defined statistics collected on the tables and indexes owned by the current user.

| Column       | Datatype       | NULL | Description                                                              |
|--------------|----------------|------|--------------------------------------------------------------------------|
| OBJECT_OWNER | VARCHAR2 (128) |      | Owner of the table or index for which the statistics have been collected |

| Column           | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                   |
|------------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_NAME      | VARCHAR2 (128) |      | Name of the table or index for which the statistics have been collected                                                                                                                                                                                                                                                                                       |
| PARTITION_NAME   | VARCHAR2 (128) |      | Partition name of a table; NULL if the table is either nonpartitioned or the entry corresponds to the aggregate statistics for the table                                                                                                                                                                                                                      |
| OBJECT_TYPE      | VARCHAR2 (6)   |      | Type of the object for which statistics have been collected: <ul style="list-style-type: none"> <li>• INDEX</li> <li>• COLUMN</li> </ul>                                                                                                                                                                                                                      |
| ASSOCIATION      | VARCHAR2 (8)   |      | Statistics type association: <ul style="list-style-type: none"> <li>• DIRECT Direct association with the object for which the statistics have been collected</li> <li>• IMPLICIT - Association for which the statistics have been collected is with the column type or index type, and the object is an instance of that column type or index type</li> </ul> |
| COLUMN_NAME      | VARCHAR2 (128) |      | Column name, if OBJECT_TYPE is COLUMN, for which statistics have been collected                                                                                                                                                                                                                                                                               |
| STATSTYPE_SCHEMA | VARCHAR2 (128) |      | Schema of the statistics type which was used to collect the statistics                                                                                                                                                                                                                                                                                        |
| STATSTYPE_NAME   | VARCHAR2 (128) |      | Name of the statistics type which was used to collect statistics                                                                                                                                                                                                                                                                                              |
| STATISTICS       | RAW (2000)     |      | User-collected statistics for the object                                                                                                                                                                                                                                                                                                                      |



#### See Also:

- "DBA\_USTATS"
- "USER\_USTATS"

## 4.158 ALL\_VARRAYS

ALL\_VARRAYS describes the varrays accessible to the current user.

#### Related Views

- DBA\_VARRAYS describes all varrays in the database.
- USER\_VARRAYS describes the varrays owned by the current user. This view does not display the OWNER column.

| Column              | Datatype        | NULL | Description                              |
|---------------------|-----------------|------|------------------------------------------|
| OWNER               | VARCHAR2 (128)  |      | Owner of the table containing the varray |
| PARENT_TABLE_NAME   | VARCHAR2 (128)  |      | Name of the containing table             |
| PARENT_TABLE_COLUMN | VARCHAR2 (4000) |      | Name of the varray column or attribute   |
| TYPE_OWNER          | VARCHAR2 (128)  |      | Owner of the varray type                 |



| Column                | Datatype       | NULL | Description                                                                                             |
|-----------------------|----------------|------|---------------------------------------------------------------------------------------------------------|
| TYPE_NAME             | VARCHAR2 (128) |      | Name of the varray type                                                                                 |
| LOB_NAME              | VARCHAR2 (128) |      | Name of the LOB if the varray is stored in a LOB                                                        |
| STORAGE_SPEC          | VARCHAR2 (30)  |      | Indicates whether the storage was defaulted (DEFAULT) or user-specified (USER_SPECIFIED)                |
| RETURN_TYPE           | VARCHAR2 (20)  |      | Return type of the column: <ul style="list-style-type: none"> <li>• LOCATOR</li> <li>• VALUE</li> </ul> |
| ELEMENT_SUBSTITUTABLE | VARCHAR2 (25)  |      | Indicates whether the varray element is substitutable (Y) or not (N)                                    |



#### See Also:

- "DBA\_VARRAYS"
- "USER\_VARRAYS"

## 4.159 ALL\_VIEWS

ALL\_VIEWS describes the views accessible to the current user.

#### Related Views

- DBA\_VIEWS describes all views in the database.
- USER\_VIEWS describes the views owned by the current user. This view does not display the OWNER column.

| Column           | Datatype        | NULL     | Description                                                                                                                                                                            |
|------------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128)  | NOT NULL | Owner of the view                                                                                                                                                                      |
| VIEW_NAME        | VARCHAR2 (128)  | NOT NULL | Name of the view                                                                                                                                                                       |
| TEXT_LENGTH      | NUMBER          |          | Length of the view text                                                                                                                                                                |
| TEXT             | LONG            |          | View text. This column returns the correct value only when the row originates from the current container. The BEQUEATH clause will not appear as part of the TEXT column in this view. |
| TEXT_VC          | VARCHAR2 (4000) |          | View text. This column may truncate the view text. The BEQUEATH clause will not appear as part of the TEXT_VC column in this view.                                                     |
| TYPE_TEXT_LENGTH | NUMBER          |          | Length of the type clause of the typed view                                                                                                                                            |
| TYPE_TEXT        | VARCHAR2 (4000) |          | Type clause of the typed view                                                                                                                                                          |
| OID_TEXT_LENGTH  | NUMBER          |          | Length of the WITH OID clause of the typed view                                                                                                                                        |
| OID_TEXT         | VARCHAR2 (4000) |          | WITH OID clause of the typed view                                                                                                                                                      |
| VIEW_TYPE_OWNER  | VARCHAR2 (128)  |          | Owner of the type of the view if the view is a typed view                                                                                                                              |
| VIEW_TYPE        | VARCHAR2 (128)  |          | Type of the view if the view is a typed view                                                                                                                                           |

| Column                 | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                  |
|------------------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SUPERVIEW_NAME         | VARCHAR2 (128) |      | Name of the superview                                                                                                                                                                                                                                                                                                                                        |
| EDITIONING_VIEW        | VARCHAR2 (1)   |      | Reserved for future use                                                                                                                                                                                                                                                                                                                                      |
| READ_ONLY              | VARCHAR2 (1)   |      | Indicates whether the view is read-only (Y) or not (N)                                                                                                                                                                                                                                                                                                       |
| CONTAINER_DATA         | VARCHAR2 (1)   |      | Indicates whether the view contains container-specific data. Possible values: <ul style="list-style-type: none"> <li>Y if the view was created with the CONTAINER_DATA clause</li> <li>N otherwise</li> </ul>                                                                                                                                                |
| BEQUEATH               | VARCHAR2 (12)  |      | Possible values: <ul style="list-style-type: none"> <li>CURRENT_USER: When the view is a BEQUEATH CURRENT_USER view</li> <li>DEFINER: When the view is a BEQUEATH DEFINER view</li> </ul> For more information about the syntax and semantics of the BEQUEATH clause in the SQL CREATE VIEW statement, see <i>Oracle Database SQL Language Reference</i> .   |
| ORIGIN_CON_ID          | VARCHAR2 (256) |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li>n: This value is used for rows containing data that originate in the container with container ID n (n = 1 if the row originates in root)</li> </ul> |
| DEFAULT_COLLATION      | VARCHAR2 (100) |      | Default collation for the view                                                                                                                                                                                                                                                                                                                               |
| CONTAINERS_DEFAULT     | VARCHAR2 (3)   |      | Indicates whether the view is enabled for CONTAINERS () by default (YES) or not (NO)                                                                                                                                                                                                                                                                         |
| CONTAINER_MAP          | VARCHAR2 (3)   |      | Indicates whether the view is enabled for use with the container_map database property (YES) or not (NO)                                                                                                                                                                                                                                                     |
| EXTENDED_DATA_LINK     | VARCHAR2 (3)   |      | Indicates whether the view is enabled for fetching an extended data link from the root (YES) or not (NO)                                                                                                                                                                                                                                                     |
| EXTENDED_DATA_LINK_MAP | VARCHAR2 (3)   |      | For internal use only                                                                                                                                                                                                                                                                                                                                        |
| HAS_SENSITIVE_COLUMN   | VARCHAR2 (3)   |      | Indicates whether the view has one or more sensitive columns (YES) or not (NO)                                                                                                                                                                                                                                                                               |
| ADMIT_NULL             | VARCHAR2 (3)   |      | Indicates whether the view admits null CON_ID data (YES) or not (NO)                                                                                                                                                                                                                                                                                         |
| PDB_LOCAL_ONLY         | VARCHAR2 (3)   |      | For internal use only                                                                                                                                                                                                                                                                                                                                        |
| DUALITY_VIEW           | VARCHAR2 (3)   |      | Indicates whether the view is a JSON-relational duality view (YES) or not (NO)                                                                                                                                                                                                                                                                               |



#### See Also:

- ["DBA\\_VIEWS"](#)
- ["USER\\_VIEWS"](#)

## 4.160 ALL\_VIEWS\_AE

ALL\_VIEWS\_AE describes the views (across all editions) accessible to the current user.

### Related Views

- DBA\_VIEWS\_AE describes all views (across all editions) in the database.
- USER\_VIEWS\_AE describes the views (across all editions) owned by the current user. This view does not display the OWNER column.

| Column           | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                    |
|------------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128)  | NOT NULL | Owner of the view                                                                                                                                                                                                                                                                                                                                              |
| VIEW_NAME        | VARCHAR2 (128)  | NOT NULL | Name of the view                                                                                                                                                                                                                                                                                                                                               |
| TEXT_LENGTH      | NUMBER          |          | Length of the view text                                                                                                                                                                                                                                                                                                                                        |
| TEXT             | LONG            |          | View text. The BEQUEATH clause will not appear as part of the TEXT column in this view.                                                                                                                                                                                                                                                                        |
| TEXT_VC          | VARCHAR2 (4000) |          | View text. This column may truncate the view text. The BEQUEATH clause will not appear as part of the TEXT_VC column in this view.                                                                                                                                                                                                                             |
| TYPE_TEXT_LENGTH | NUMBER          |          | Length of the type clause of the typed view                                                                                                                                                                                                                                                                                                                    |
| TYPE_TEXT        | VARCHAR2 (4000) |          | Type clause of the typed view                                                                                                                                                                                                                                                                                                                                  |
| OID_TEXT_LENGTH  | NUMBER          |          | Length of the WITH OID clause of the typed view                                                                                                                                                                                                                                                                                                                |
| OID_TEXT         | VARCHAR2 (4000) |          | WITH OID clause of the typed view                                                                                                                                                                                                                                                                                                                              |
| VIEW_TYPE_OWNER  | VARCHAR2 (128)  |          | Owner of the type of the view if the view is an typed view                                                                                                                                                                                                                                                                                                     |
| VIEW_TYPE        | VARCHAR2 (128)  |          | Type of the view if the view is a typed view                                                                                                                                                                                                                                                                                                                   |
| SUPERVIEW_NAME   | VARCHAR2 (128)  |          | Name of the superview, if the view is a subview                                                                                                                                                                                                                                                                                                                |
| EDITIONING_VIEW  | VARCHAR2 (1)    |          | Indicates whether the view is an editioning view (Y) or not (N)                                                                                                                                                                                                                                                                                                |
| READ_ONLY        | VARCHAR2 (1)    |          | Indicates whether the view is read-only (Y) or not (N)                                                                                                                                                                                                                                                                                                         |
| EDITION_NAME     | VARCHAR2 (128)  |          | Name of the application edition where the object is defined                                                                                                                                                                                                                                                                                                    |
| CONTAINER_DATA   | VARCHAR2 (1)    |          | Indicates whether the view contains container-specific data. Possible values: <ul style="list-style-type: none"> <li>• Y if the view was created with the CONTAINER_DATA clause</li> <li>• N otherwise</li> </ul>                                                                                                                                              |
| BEQUEATH         | VARCHAR2 (12)   |          | Possible values: <ul style="list-style-type: none"> <li>• CURRENT_USER: When the view is a BEQUEATH CURRENT_USER view</li> <li>• DEFINER: When the view is a BEQUEATH DEFINER view</li> </ul> For more information about the syntax and semantics of the BEQUEATH clause in the SQL CREATE VIEW statement, see <i>Oracle Database SQL Language Reference</i> . |

| Column                 | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGIN_CON_ID          | NUMBER         |      | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root)</li> </ul> |
| DEFAULT_COLLATION      | VARCHAR2 (100) |      | Default collation for the view                                                                                                                                                                                                                                                                                                                                                    |
| CONTAINERS_DEFAULT     | VARCHAR2 (3)   |      | Indicates whether the view is enabled for <code>CONTAINERS ()</code> by default (YES) or not (NO)                                                                                                                                                                                                                                                                                 |
| CONTAINER_MAP          | VARCHAR2 (3)   |      | Indicates whether the view is enabled for use with the <code>container_map</code> database property (YES) or not (NO)                                                                                                                                                                                                                                                             |
| EXTENDED_DATA_LINK     | VARCHAR2 (3)   |      | Indicates whether the view is enabled for fetching an extended data link from the root (YES) or not (NO)                                                                                                                                                                                                                                                                          |
| EXTENDED_DATA_LINK_MAP | VARCHAR2 (3)   |      | For internal use only                                                                                                                                                                                                                                                                                                                                                             |
| HAS_SENSITIVE_COLUMN   | VARCHAR2 (3)   |      | Indicates whether the view has one or more sensitive columns (YES) or not (NO)                                                                                                                                                                                                                                                                                                    |
| ADMIT_NULL             | VARCHAR2 (3)   |      | Indicates whether the view admits null <code>CON_ID</code> data (YES) or not (NO)                                                                                                                                                                                                                                                                                                 |
| PDB_LOCAL_ONLY         | VARCHAR2 (3)   |      | For internal use only                                                                                                                                                                                                                                                                                                                                                             |
| DUALITY_VIEW           | VARCHAR2 (3)   |      | Indicates whether the view is a JSON-relational duality view (YES) or not (NO)                                                                                                                                                                                                                                                                                                    |



#### See Also:

- ["DBA\\_VIEWS\\_AE"](#)
- ["USER\\_VIEWS\\_AE"](#)

## 4.161 ALL\_WARNING\_SETTINGS

`ALL_WARNING_SETTINGS` displays information about the warning parameter settings for the objects accessible to the current user.

#### Related Views

- `DBA_WARNING_SETTINGS` displays information about the warning parameter settings for all objects in the database.
- `USER_WARNING_SETTINGS` displays information about the warning parameter settings for the objects owned by the current user. This view does not display the `OWNER` column.

| Column      | Datatype       | NULL     | Description                 |
|-------------|----------------|----------|-----------------------------|
| OWNER       | VARCHAR2 (128) | NOT NULL | Owner of the object         |
| OBJECT_NAME | VARCHAR2 (128) | NOT NULL | Name of the object          |
| OBJECT_ID   | NUMBER         | NOT NULL | Object number of the object |

| Column      | Datatype      | NULL | Description                                                                                                                                                                                |
|-------------|---------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_TYPE | VARCHAR2 (12) |      | Type of the object: <ul style="list-style-type: none"> <li>PROCEDURE</li> <li>FUNCTION</li> <li>PACKAGE</li> <li>PACKAGE BODY</li> <li>TRIGGER</li> <li>TYPE</li> <li>TYPE BODY</li> </ul> |
| WARNING     | VARCHAR2 (40) |      | Warning number or category: <ul style="list-style-type: none"> <li>INFORMATIONAL</li> <li>PERFORMANCE</li> <li>SEVERE</li> <li>ALL</li> </ul>                                              |
| SETTING     | VARCHAR2 (7)  |      | Value of the warning setting: <ul style="list-style-type: none"> <li>DISABLE</li> <li>ENABLE</li> <li>ERROR</li> </ul>                                                                     |



#### See Also:

- "DBA\_WARNING\_SETTINGS"
- "USER\_WARNING\_SETTINGS"

## 4.162 ALL\_XML\_INDEXES

ALL\_XML\_INDEXES describes the XML indexes accessible to the current user.

### Related Views

- DBA\_XML\_INDEXES describes all XML indexes in the database.
- USER\_XML\_INDEXES describes the XML indexes owned by the current user. This view does not display the INDEX\_OWNER column.

| Column      | Datatype       | NULL     | Description                                                                                                                                |
|-------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------|
| INDEX_OWNER | VARCHAR2 (128) | NOT NULL | Owner of the XML index                                                                                                                     |
| INDEX_NAME  | VARCHAR2 (128) | NOT NULL | Name of the XML index                                                                                                                      |
| TABLE_OWNER | VARCHAR2 (128) | NOT NULL | Owner of the indexed object                                                                                                                |
| TABLE_NAME  | VARCHAR2 (128) | NOT NULL | Name of the indexed object                                                                                                                 |
| TYPE        | VARCHAR2 (10)  |          | Type of the indexed column: <ul style="list-style-type: none"> <li>REPOSITORY</li> <li>BINARY</li> <li>CLOB in OR</li> <li>CLOB</li> </ul> |

| Column          | Datatype       | NULL | Description                                                                                                                                |
|-----------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------|
| INDEX_TYPE      | VARCHAR2 (27)  |      | Type of the index: <ul style="list-style-type: none"> <li>STRUCTURED</li> <li>STRUCTURED and UNSTRUCTURED</li> <li>UNSTRUCTURED</li> </ul> |
| PATH_TABLE_NAME | VARCHAR2 (128) |      | Name of the path table                                                                                                                     |
| PARAMETERS      | XMLTYPE        |      | Indexed paths and Scheduler job information                                                                                                |
| ASync           | VARCHAR2 (9)   |      | Asynchronous index type: <ul style="list-style-type: none"> <li>ON-COMMIT</li> <li>MANUAL</li> <li>EVERY</li> <li>ALWAYS</li> </ul>        |
| STALE           | VARCHAR2 (5)   |      | Indicates whether the index type is stale (TRUE) or not (FALSE)                                                                            |
| PEND_TABLE_NAME | VARCHAR2 (128) |      | Name of the pending table                                                                                                                  |
| EX_OR_INCLUDE   | VARCHAR2 (8)   |      | Path subsetting: <ul style="list-style-type: none"> <li>INCLUDE</li> <li>EXCLUDE</li> <li>FULLY IX</li> </ul>                              |



#### See Also:

- "DBA\_XML\_INDEXES"
- "USER\_XML\_INDEXES"

## 4.163 ALL\_XML\_NESTED\_TABLES

ALL\_XML\_NESTED\_TABLES describes all the tables and their corresponding nested tables accessible to the current user.

#### Related Views

- DBA\_XML\_NESTED\_TABLES describes all the tables and their corresponding nested tables in the database.
- USER\_XML\_NESTED\_TABLES describes all the tables and their corresponding nested tables owned by the current user. This view does not display the OWNER column.

| Column             | Datatype        | NULL | Description                   |
|--------------------|-----------------|------|-------------------------------|
| OWNER              | VARCHAR2 (128)  |      | Owner of the table            |
| TABLE_NAME         | VARCHAR2 (128)  |      | Name of the table             |
| NESTED_TABLE_NAME  | VARCHAR2 (128)  |      | Name of the nested table      |
| PARENT_COLUMN_NAME | VARCHAR2 (4000) |      | Name of the parent XML column |

 **See Also:**

- ["DBA\\_XML\\_NESTED\\_TABLES"](#)
- ["USER\\_XML\\_NESTED\\_TABLES"](#)

## 4.164 ALL\_XML\_OUT\_OF\_LINE\_TABLES

ALL\_XML\_OUT\_OF\_LINE\_TABLES describes all the out of line tables connected to a given root table for the same schema accessible to the current user.

### Related Views

- DBA\_XML\_OUT\_OF\_LINE\_TABLES describes all the out of line tables connected to a given root table for the same schema in the database.
- USER\_XML\_OUT\_OF\_LINE\_TABLES describes all the out of line tables connected to a given root table for the same schema owned by the current user. This view does not display the TABLE\_OWNER column.

| Column       | Datatype       | NULL | Description                                                                                                                                                                                                    |
|--------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCHEMA_URL   | VARCHAR2 (700) |      | The URL of the schema within which the out of line table is defined<br><br>Refer to the <b>See Also</b> note below for links to more information about the <code>schemaur1</code> attribute for an XML schema. |
| SCHEMA_OWNER | VARCHAR2 (128) |      | Owner of the schema                                                                                                                                                                                            |
| TABLE_NAME   | VARCHAR2 (128) |      | Name of the out of line table                                                                                                                                                                                  |
| TABLE_OWNER  | VARCHAR2 (128) |      | Owner of the out of line table                                                                                                                                                                                 |

 **See Also:**

- ["DBA\\_XML\\_OUT\\_OF\\_LINE\\_TABLES"](#)
- ["USER\\_XML\\_OUT\\_OF\\_LINE\\_TABLES"](#)
- *Oracle XML DB Developer's Guide* for information about registering an XML schema with Oracle XML DB
- *Oracle XML DB Developer's Guide* for information about restrictions for an XML schema URL

## 4.165 ALL\_XML\_SCHEMA\_ATTRIBUTES

ALL\_XML\_SCHEMA\_ATTRIBUTES describes all the attributes and their properties accessible to the current user.

### Related Views

- DBA\_XML\_SCHEMA\_ATTRIBUTES describes all the attributes and their properties accessible to the current user in the database.
- USER\_XML\_SCHEMA\_ATTRIBUTES describes all the attributes and their properties owned by the current user. This view does not display the OWNER column.

| Column           | Datatype        | NULL | Description                                                                                                                                                                                            |
|------------------|-----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128)  |      | The user who owns the attribute                                                                                                                                                                        |
| SCHEMA_URL       | VARCHAR2 (700)  |      | The URL of the schema within which the attribute is defined<br><br>Refer to the <b>See Also</b> note below for links to more information about the <code>schemaur1</code> attribute for an XML schema. |
| TARGET_NAMESPACE | VARCHAR2 (2000) |      | The namespace of the attribute                                                                                                                                                                         |
| ATTRIBUTE_NAME   | VARCHAR2 (2000) |      | Name of the attribute                                                                                                                                                                                  |
| IS_REF           | NUMBER          |      | Indicates whether an attribute was defined using a reference in the XML schema (1) or not (0)                                                                                                          |
| TYPE_NAME        | VARCHAR2 (2000) |      | Name of the type of the attribute                                                                                                                                                                      |
| GLOBAL           | RAW (1)         |      | Indicates whether the attribute is global (1) or not (0)                                                                                                                                               |
| ATTRIBUTE        | XMLTYPE         |      | Actual XMLType for the attribute                                                                                                                                                                       |
| ELEMENT_ID       | RAW (20)        |      | Element ID of the element to which the attribute belongs                                                                                                                                               |
| SQL_TYPE         | VARCHAR2 (128)  |      | XDB annotation for sqlType                                                                                                                                                                             |
| SQL_NAME         | VARCHAR2 (128)  |      | XDB annotation value for sqlName                                                                                                                                                                       |

### See Also:

- "DBA\_XML\_SCHEMA\_ATTRIBUTES"
- "USER\_XML\_SCHEMA\_ATTRIBUTES"
- *Oracle XML DB Developer's Guide* for information about registering an XML schema with Oracle XML DB
- *Oracle XML DB Developer's Guide* for information about restrictions for an XML schema URL



## 4.166 ALL\_XML\_SCHEMA\_COMPLEX\_TYPES

ALL\_XML\_SCHEMA\_COMPLEX\_TYPES describes all complex types accessible to the current user.

### Related Views

- DBA\_XML\_SCHEMA\_COMPLEX\_TYPES describes all complex types in the database.
- USER\_XML\_SCHEMA\_COMPLEX\_TYPES describes all complex types owned by the current user. This view does not display the OWNER column.

| Column                | Datatype                                                                                                   | NULL | Description                                                                                                                                                                                       |
|-----------------------|------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                 | VARCHAR2 (128)                                                                                             |      | The user who owns the type                                                                                                                                                                        |
| SCHEMA_URL            | VARCHAR2 (700)                                                                                             |      | The URL of the schema within which the type is defined<br><br>Refer to the <b>See Also</b> note below for links to more information about the <code>schemaur1</code> attribute for an XML schema. |
| TARGET_NAMESPACE      | VARCHAR2 (2000)                                                                                            |      | The namespace of the type                                                                                                                                                                         |
| COMPLEX_TYPE_NAME     | VARCHAR2 (256)                                                                                             |      | Name of the complex type                                                                                                                                                                          |
| COMPLEX_TYPE          | XMLTYPE (XMLSchema<br>"http://<br>xmlns.oracle.com/<br>xdb/<br>XDBSchema.xsd"<br>Element<br>"complexType") |      | The actual XMLType of the type                                                                                                                                                                    |
| BASE_NAME             | VARCHAR2 (256)                                                                                             |      | Name of the base type to which the complex type refers                                                                                                                                            |
| BASE_SCHEMA_URL       | VARCHAR2 (700)                                                                                             |      | The URL of the schema within which the complex type is defined                                                                                                                                    |
| BASE_TARGET_NAMESPACE | VARCHAR2 (2000)                                                                                            |      | The namespace of the type                                                                                                                                                                         |
| MAINTAIN_DOM          | RAW (1)                                                                                                    |      | XDB annotation for maintainDOM                                                                                                                                                                    |
| SQL_TYPE              | VARCHAR2 (128)                                                                                             |      | XDB annotation for sqlType                                                                                                                                                                        |
| SQL_SCHEMA            | VARCHAR2 (128)                                                                                             |      | XDB annotation for sqlSchema                                                                                                                                                                      |

### See Also:

- ["DBA\\_XML\\_SCHEMA\\_COMPLEX\\_TYPES"](#)
- ["USER\\_XML\\_SCHEMA\\_COMPLEX\\_TYPES"](#)
- *Oracle XML DB Developer's Guide* for information about registering an XML schema with Oracle XML DB
- *Oracle XML DB Developer's Guide* for information about restrictions for an XML schema URL

## 4.167 ALL\_XML\_SCHEMA\_ELEMENTS

ALL\_XML\_SCHEMA\_ELEMENTS describes all the elements and their properties accessible to the current user.

### Related Views

- DBA\_XML\_SCHEMA\_ELEMENTS describes all the elements and their properties.
- USER\_XML\_SCHEMA\_ELEMENTS describes all the elements and their properties owned by the current user. This view does not display the OWNER column.

| Column            | Datatype        | NULL | Description                                                                                                                                                                                          |
|-------------------|-----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER             | VARCHAR2 (128)  |      | The user who owns the element                                                                                                                                                                        |
| SCHEMA_URL        | VARCHAR2 (700)  |      | The URL of the schema within which the element is defined<br><br>Refer to the <b>See Also</b> note below for links to more information about the <code>schemaur1</code> attribute for an XML schema. |
| TARGET_NAMESPACE  | VARCHAR2 (2000) |      | The namespace of the element                                                                                                                                                                         |
| ELEMENT_NAME      | VARCHAR2 (2000) |      | Name of the element                                                                                                                                                                                  |
| IS_REF            | NUMBER          |      | Indicates whether an attribute was defined using a reference in the XML schema (1) or not (0)                                                                                                        |
| TYPE_NAME         | VARCHAR2 (2000) |      | Name of the type of the element                                                                                                                                                                      |
| GLOBAL            | RAW (1)         |      | Indicates whether the attribute is global (1) or not (0)                                                                                                                                             |
| ELEMENT           | XMLTYPE         |      | The actual XML fragment of the element                                                                                                                                                               |
| SQL_INLINE        | RAW (1)         |      | XDB annotation for sqlInline                                                                                                                                                                         |
| SQL_TYPE          | VARCHAR2 (128)  |      | XDB annotation value for sqlType                                                                                                                                                                     |
| SQL_SCHEMA        | VARCHAR2 (128)  |      | XDB annotation value for sqlSchema                                                                                                                                                                   |
| DEFAULT_TABLE     | VARCHAR2 (128)  |      | XDB annotation value for default table                                                                                                                                                               |
| SQL_NAME          | VARCHAR2 (128)  |      | XDB annotation value for sqlName                                                                                                                                                                     |
| SQL_COL_TYPE      | VARCHAR2 (128)  |      | XDB annotation value for sqlColType                                                                                                                                                                  |
| MAINTAIN_DOM      | RAW (1)         |      | XDB annotation for maintainDOM                                                                                                                                                                       |
| MAINTAIN_ORDER    | RAW (1)         |      | XDB annotation for maintainOrder                                                                                                                                                                     |
| ELEMENT_ID        | RAW (20)        |      | Unique identifier for the element                                                                                                                                                                    |
| PARENT_ELEMENT_ID | RAW (20)        |      | Identifies the parent of the element                                                                                                                                                                 |

 **See Also:**

- ["DBA\\_XML\\_SCHEMA\\_ELEMENTS"](#)
- ["USER\\_XML\\_SCHEMA\\_ELEMENTS"](#)
- *Oracle XML DB Developer's Guide* for information about registering an XML schema with Oracle XML DB
- *Oracle XML DB Developer's Guide* for information about restrictions for an XML schema URL

## 4.168 ALL\_XML\_SCHEMA\_NAMESPACES

ALL\_XML\_SCHEMA\_NAMESPACES describes all the available namespaces accessible to the current user.

### Related Views

- DBA\_XML\_SCHEMA\_NAMESPACES describes all the available namespaces.
- USER\_XML\_SCHEMA\_NAMESPACES describes all the available namespaces owned by the current user. This view does not display the OWNER column.

| Column           | Datatype        | NULL | Description                                                                                                                                                  |
|------------------|-----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128)  |      | User who owns the namespace                                                                                                                                  |
| TARGET_NAMESPACE | VARCHAR2 (2000) |      | The target namespace                                                                                                                                         |
| SCHEMA_URL       | VARCHAR2 (700)  |      | The URL of the schema<br>Refer to the <b>See Also</b> note below for links to more information about the <code>schemaur1</code> attribute for an XML schema. |

 **See Also:**

- ["DBA\\_XML\\_SCHEMA\\_NAMESPACES"](#)
- ["USER\\_XML\\_SCHEMA\\_NAMESPACES"](#)
- *Oracle XML DB Developer's Guide* for information about registering an XML schema with Oracle XML DB
- *Oracle XML DB Developer's Guide* for information about restrictions for an XML schema URL

## 4.169 ALL\_XML\_SCHEMA\_SIMPLE\_TYPES

ALL\_XML\_SCHEMA\_SIMPLE\_TYPES describes all simple types accessible to the current user.

### Related Views

- DBA\_XML\_SCHEMA\_SIMPLE\_TYPES describes all simple types.

- `USER_XML_SCHEMA_SIMPLE_TYPES` describes all simple types owned by the current user. This view does not display the `OWNER` column.

| Column           | Datatype                                                                                                  | NULL | Description                                                                                                                                                                                       |
|------------------|-----------------------------------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128)                                                                                            |      | The user who owns the type                                                                                                                                                                        |
| SCHEMA_URL       | VARCHAR2 (700)                                                                                            |      | The URL of the schema within which the type is defined<br><br>Refer to the <b>See Also</b> note below for links to more information about the <code>schemaur1</code> attribute for an XML schema. |
| TARGET_NAMESPACE | VARCHAR2 (2000)                                                                                           |      | The namespace of the type                                                                                                                                                                         |
| SIMPLE_TYPE_NAME | VARCHAR2 (256)                                                                                            |      | Name of the simple type                                                                                                                                                                           |
| SIMPLE_TYPE      | XMLTYPE (XMLSchema<br>"http://<br>xmlns.oracle.com/<br>xdb/<br>XDBSchema.xsd"<br>Element<br>"simpleType") |      | The actual XMLType of the type                                                                                                                                                                    |

 **See Also:**

- ["DBA\\_XML\\_SCHEMA\\_SIMPLE\\_TYPES"](#)
- ["USER\\_XML\\_SCHEMA\\_SIMPLE\\_TYPES"](#)
- *Oracle XML DB Developer's Guide* for information about registering an XML schema with Oracle XML DB
- *Oracle XML DB Developer's Guide* for information about restrictions for an XML schema URL

## 4.170 ALL\_XML\_SCHEMA\_SUBSTGRP\_HEAD

`ALL_XML_SCHEMA_SUBSTGRP_HEAD` describes the heads of substitution groups accessible to the current user.

### Related Views

- `DBA_XML_SCHEMA_SUBSTGRP_HEAD` describes the heads of substitution groups.
- `USER_XML_SCHEMA_SUBSTGRP_HEAD` describes the heads of substitution groups owned by the current user. This view does not display the `OWNER` column.

| Column     | Datatype       | NULL | Description                                                                                                                                                                                          |
|------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER      | VARCHAR2 (128) |      | The user who owns the element                                                                                                                                                                        |
| SCHEMA_URL | VARCHAR2 (700) |      | The URL of the schema within which the element is defined<br><br>Refer to the <b>See Also</b> note below for links to more information about the <code>schemaur1</code> attribute for an XML schema. |

| Column           | Datatype                                                                                               | NULL | Description                            |
|------------------|--------------------------------------------------------------------------------------------------------|------|----------------------------------------|
| TARGET_NAMESPACE | VARCHAR2 (2000)                                                                                        |      | The namespace of the element           |
| ELEMENT_NAME     | VARCHAR2 (256)                                                                                         |      | Name of the element                    |
| ELEMENT          | XMLTYPE (XMLSchema<br>"http://<br>xmlns.oracle.com/<br>xdb/<br>XDBSchema.xsd"<br>Element<br>"element") |      | The actual XML fragment of the element |

**See Also:**

- ["DBA\\_XML\\_SCHEMA\\_SUBSTGRP\\_HEAD"](#)
- ["USER\\_XML\\_SCHEMA\\_SUBSTGRP\\_HEAD"](#)
- *Oracle XML DB Developer's Guide* for information about registering an XML schema with Oracle XML DB
- *Oracle XML DB Developer's Guide* for information about restrictions for an XML schema URL

## 4.171 ALL\_XML\_SCHEMA\_SUBSTGRP\_MBRS

ALL\_XML\_SCHEMA\_SUBSTGRP\_MBRS describes all members of substitution groups accessible to the current user.

**Related Views**

- DBA\_XML\_SCHEMA\_SUBSTGRP\_MBRS describes all members of substitution groups.
- USER\_XML\_SCHEMA\_SUBSTGRP\_MBRS describes all members of substitution groups owned by the current user. This view does not display the OWNER column.

| Column           | Datatype                                                                                               | NULL | Description                                                                                                                                                                                          |
|------------------|--------------------------------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128)                                                                                         |      | The user who owns the element                                                                                                                                                                        |
| SCHEMA_URL       | VARCHAR2 (700)                                                                                         |      | The URL of the schema within which the element is defined<br><br>Refer to the <b>See Also</b> note below for links to more information about the <code>schemaur1</code> attribute for an XML schema. |
| TARGET_NAMESPACE | VARCHAR2 (2000)                                                                                        |      | The namespace of the element                                                                                                                                                                         |
| ELEMENT_NAME     | VARCHAR2 (256)                                                                                         |      | Name of the element                                                                                                                                                                                  |
| ELEMENT          | XMLTYPE (XMLSchema<br>"http://<br>xmlns.oracle.com/<br>xdb/<br>XDBSchema.xsd"<br>Element<br>"element") |      | The actual XML fragment of the element                                                                                                                                                               |

| Column                | Datatype                                                                          | NULL | Description                                                |
|-----------------------|-----------------------------------------------------------------------------------|------|------------------------------------------------------------|
| HEAD_OWNER            | VARCHAR2 (128)                                                                    |      | The user who owns the head element for the current element |
| HEAD_SCHEMA_URL       | VARCHAR2 (700)                                                                    |      | The URL of the schema within which the head element exists |
| HEAD_TARGET_NAMESPACE | VARCHAR2 (2000)                                                                   |      | The namespace of the head element                          |
| HEAD_ELEMENT_NAME     | VARCHAR2 (256)                                                                    |      | Name of the head element                                   |
| HEAD_ELEMENT          | XMLTYPE (XMLSchema "http://xmlns.oracle.com/xdb/XDBSchema.xsd" Element "element") |      | The actual XMLType of the head element                     |

#### See Also:

- ["DBA\\_XML\\_SCHEMA\\_SUBSTGRP\\_MBR"](#)
- ["USER\\_XML\\_SCHEMA\\_SUBSTGRP\\_MBR"](#)
- *Oracle XML DB Developer's Guide* for information about registering an XML schema with Oracle XML DB
- *Oracle XML DB Developer's Guide* for information about restrictions for an XML schema URL

## 4.172 ALL\_XML\_SCHEMAS

ALL\_XML\_SCHEMAS describes the registered XML schemas accessible to the current user.

### Related Views

- DBA\_XML\_SCHEMAS describes all registered XML schemas in the database.
- USER\_XML\_SCHEMAS describes the registered XML schemas owned by the current user. This view does not display the OWNER column.

| Column          | Datatype        | NULL | Description                                                                                                                                                        |
|-----------------|-----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128)  |      | Owner of the XML schema                                                                                                                                            |
| SCHEMA_URL      | VARCHAR2 (700)  |      | Schema URL of the XML schema<br>Refer to the <b>See Also</b> note below for links to more information about the <code>schemaur</code> attribute for an XML schema. |
| LOCAL           | VARCHAR2 (3)    |      | Indicates whether the XML schema is local (YES) or global (NO)                                                                                                     |
| SCHEMA          | XMLTYPE         |      | XML schema document                                                                                                                                                |
| INT_OBJNAME     | VARCHAR2 (4000) |      | Internal database object name for the schema                                                                                                                       |
| QUAL_SCHEMA_URL | VARCHAR2 (865)  |      | Fully qualified schema URL                                                                                                                                         |

| Column    | Datatype      | NULL | Description                                                                                                                                      |
|-----------|---------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| HIER_TYPE | VARCHAR2 (11) |      | Type of hierarchy for which the schema is enabled: <ul style="list-style-type: none"> <li>NONE</li> <li>RESMETADATA</li> <li>CONTENTS</li> </ul> |
| BINARY    | VARCHAR2 (3)  |      | Indicates whether the XML Schema is registered for binary encoding usage (YES) or not (NO)                                                       |
| SCHEMA_ID | RAW (16)      |      | Opaque schema identifier (16 bytes)                                                                                                              |
| HIDDEN    | VARCHAR2 (3)  |      | Indicates whether the XML Schema has been deleted in hidden mode (YES) or not (NO)                                                               |



#### See Also:

- "DBA\_XML\_SCHEMAS"
- "USER\_XML\_SCHEMAS"
- Oracle XML DB Developer's Guide* for information about registering an XML schema with Oracle XML DB
- Oracle XML DB Developer's Guide* for information about restrictions for an XML schema URL

## 4.173 ALL\_XML\_TAB\_COLS

ALL\_XML\_TAB\_COLS describes the columns of the XML tables accessible to the current user.

#### Related Views

- DBA\_XML\_TAB\_COLS describes the columns of all XML tables in the database.
- USER\_XML\_TAB\_COLS describes the columns of the XML tables owned by the current user. This view does not display the OWNER column.

| Column       | Datatype        | NULL | Description                                                   |
|--------------|-----------------|------|---------------------------------------------------------------|
| OWNER        | VARCHAR2 (128)  |      | Owner of the XML table                                        |
| TABLE_NAME   | VARCHAR2 (128)  |      | Name of the XML table                                         |
| COLUMN_NAME  | VARCHAR2 (4000) |      | Name of the XML table column                                  |
| XMLSCHEMA    | VARCHAR2 (700)  |      | Name of the XML Schema that is used for the table definition  |
| SCHEMA_OWNER | VARCHAR2 (128)  |      | Owner of the XML Schema that is used for the table definition |
| ELEMENT_NAME | VARCHAR2 (2000) |      | Name of the XML SCHEMA element that is used for the table     |

| Column       | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                |
|--------------|-----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STORAGE_TYPE | VARCHAR2 (20)   |      | Storage option for the XMLType data: <ul style="list-style-type: none"> <li>BINARY</li> <li>CLOB</li> <li>OBJECT-RELATIONAL</li> <li>TRANSPORTABLE BINARY</li> </ul> <b>Note:</b> The CLOB storage option for XMLType data is deprecated in Oracle Database 12c Release 1 (12.1). Oracle recommends instead using the TRANSPORTABLE BINARY storage option. |
| ANYSHEMA     | VARCHAR2 (3)    |      | If storage is BINARY, indicates whether the column allows ANYSCHEMA (YES) or not (NO), else NULL                                                                                                                                                                                                                                                           |
| NONSCHEMA    | VARCHAR2 (3)    |      | If storage is BINARY, indicates whether the column allows NONSCHEMA (YES) or not (NO), else NULL                                                                                                                                                                                                                                                           |
| TOKENSETS    | VARCHAR2 (4000) |      | This column is for internal use only.                                                                                                                                                                                                                                                                                                                      |



#### See Also:

- ["DBA\\_XML\\_TAB\\_COLS"](#)
- ["USER\\_XML\\_TAB\\_COLS"](#)

## 4.174 ALL\_XML\_TABLES

ALL\_XML\_TABLES describes the XML tables accessible to the current user.

#### Related Views

- DBA\_XML\_TABLES describes all XML tables in the database.
- USER\_XML\_TABLES describes the XML tables owned by the current user. This view does not display the OWNER column.

| Column       | Datatype        | NULL | Description                                                   |
|--------------|-----------------|------|---------------------------------------------------------------|
| OWNER        | VARCHAR2 (128)  |      | Owner of the XML table                                        |
| TABLE_NAME   | VARCHAR2 (128)  |      | Name of the XML table                                         |
| XMLSCHEMA    | VARCHAR2 (700)  |      | Name of the XML Schema that is used for the table definition  |
| SCHEMA_OWNER | VARCHAR2 (128)  |      | Owner of the XML Schema that is used for the table definition |
| ELEMENT_NAME | VARCHAR2 (2000) |      | Name of the XML SCHEMA element that is used for the table     |



| Column       | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                |
|--------------|-----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STORAGE_TYPE | VARCHAR2 (20)   |      | Storage option for the XMLType data: <ul style="list-style-type: none"> <li>BINARY</li> <li>CLOB</li> <li>OBJECT-RELATIONAL</li> <li>TRANSPORTABLE BINARY</li> </ul> <b>Note:</b> The CLOB storage option for XMLType data is deprecated in Oracle Database 12c Release 1 (12.1). Oracle recommends instead using the TRANSPORTABLE BINARY storage option. |
| ANYSHEMA     | VARCHAR2 (3)    |      | If storage is BINARY, indicates whether the column allows ANYSCHEMA (YES) or not (NO), else NULL                                                                                                                                                                                                                                                           |
| NONSCHEMA    | VARCHAR2 (3)    |      | If storage is BINARY, indicates whether the column allows NONSCHEMA (YES) or not (NO), else NULL                                                                                                                                                                                                                                                           |
| TOKENSETS    | VARCHAR2 (4000) |      | This column is for internal use only.                                                                                                                                                                                                                                                                                                                      |



#### See Also:

- "DBA\_XML\_TABLES"
- "USER\_XML\_TABLES"

## 4.175 ALL\_XML\_VIEW\_COLS

ALL\_XML\_VIEW\_COLS describes the columns of the XML views accessible to the current user.

#### Related Views

- DBA\_XML\_VIEW\_COLS describes the columns of all XML views in the database.
- USER\_XML\_VIEW\_COLS describes the columns of the XML views owned by the current user. This view does not display the OWNER column.

| Column       | Datatype        | NULL | Description                                                  |
|--------------|-----------------|------|--------------------------------------------------------------|
| OWNER        | VARCHAR2 (128)  |      | Owner of the XML view                                        |
| VIEW_NAME    | VARCHAR2 (128)  |      | Name of the XML view                                         |
| COLUMN_NAME  | VARCHAR2 (4000) |      | Name of the XML view column                                  |
| XMLSCHEMA    | VARCHAR2 (700)  |      | Name of the XML Schema that is used for the view definition  |
| SCHEMA_OWNER | VARCHAR2 (128)  |      | Owner of the XML Schema that is used for the view definition |
| ELEMENT_NAME | VARCHAR2 (2000) |      | Name of the XML SCHEMA element that is used for the view     |

**See Also:**

- ["DBA\\_XML\\_VIEW\\_COLS"](#)
- ["USER\\_XML\\_VIEW\\_COLS"](#)

## 4.176 ALL\_XML\_VIEWS

ALL\_XML\_VIEWS describes the XML views accessible to the current user.

**Related Views**

- DBA\_XML\_VIEWS describes all XML views the database.
- USER\_XML\_VIEWS describes the XML views owned by the current user. This view does not display the OWNER column.

| Column       | Datatype        | NULL | Description                                                  |
|--------------|-----------------|------|--------------------------------------------------------------|
| OWNER        | VARCHAR2 (128)  |      | Owner of the XML view                                        |
| VIEW_NAME    | VARCHAR2 (128)  |      | Name of the XML view                                         |
| XMLSCHEMA    | VARCHAR2 (700)  |      | Name of the XML Schema that is used for the view definition  |
| SCHEMA_OWNER | VARCHAR2 (128)  |      | Owner of the XML Schema that is used for the view definition |
| ELEMENT_NAME | VARCHAR2 (2000) |      | Name of the XML SCHEMA element that is used for the view     |

**See Also:**

- ["DBA\\_XML\\_VIEWS"](#)
- ["USER\\_XML\\_VIEWS"](#)

## 4.177 ALL\_XSTREAM\_ADMINISTRATOR

ALL\_XSTREAM\_ADMINISTRATOR displays information about the current users's granted privileges to be an XStream administrator by procedures in the DBMS\_XSTREAM\_AUTH package.

**Related View**

DBA\_XSTREAM\_ADMINISTRATOR displays information about the users who have been granted privileges to be XStream administrators by procedures in the DBMS\_XSTREAM\_AUTH package.

| Column   | Datatype       | NULL     | Description                                                                     |
|----------|----------------|----------|---------------------------------------------------------------------------------|
| USERNAME | VARCHAR2 (128) | NOT NULL | Name of the user who has been granted privileges to be an XStream administrator |

| Column                  | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------|---------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRIVILEGE_TYPE          | VARCHAR2 (7)  |      | Type of privilege granted: <ul style="list-style-type: none"> <li>• APPLY</li> <li>• CAPTURE</li> <li>• * - Both APPLY and CAPTURE</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| GRANT_SELECT_PRIVILEGES | VARCHAR2 (3)  |      | Shows whether set of privileges granted to the user (grantee) includes the <code>SELECT_CATALOG_ROLE</code> role, which enables the user to manage other XStream servers that belong to other XStream users.<br>Possible values: <ul style="list-style-type: none"> <li>• YES: The administrator has the <code>SELECT_CATALOG_ROLE</code> role and other privileges, is considered a full privilege administrator, and can manage other users' XStream configuration</li> <li>• NO: The administrator is considered a minimum privilege administrator, and can only manage XStream configurations where the <code>apply_user</code> or <code>capture_user</code> (based on the <code>PRIVILEGE_TYPE</code> column) matches the username.</li> </ul> |
| CREATE_TIME             | TIMESTAMP (6) |      | Time at which the privilege was granted                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| LAST_MODIFIED           | TIMESTAMP (6) |      | Time at which the privilege was last modified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |



#### See Also:

- ["DBA\\_XSTREAM\\_ADMINISTRATOR"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_XSTREAM_AUTH` package

## 4.178 ALL\_XSTREAM\_INBOUND

`ALL_XSTREAM_INBOUND` displays information about the XStream inbound servers accessible to the current user.

### Related View

`DBA_XSTREAM_INBOUND` displays information about all XStream inbound servers in the database.

| Column       | Datatype        | NULL     | Description                                                               |
|--------------|-----------------|----------|---------------------------------------------------------------------------|
| SERVER_NAME  | VARCHAR2 (128)  | NOT NULL | Name of the inbound server                                                |
| QUEUE_OWNER  | VARCHAR2 (128)  | NOT NULL | Owner of the queue associated with the inbound server                     |
| QUEUE_NAME   | VARCHAR2 (128)  | NOT NULL | Name of the queue associated with the inbound server                      |
| APPLY_USER   | VARCHAR2 (128)  |          | Name of the user who can connect to the inbound server and apply messages |
| USER_COMMENT | VARCHAR2 (4000) |          | User comment                                                              |
| CREATE_DATE  | TIMESTAMP (6)   |          | Date when the inbound server was created                                  |

| Column              | Datatype     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------|--------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS              | VARCHAR2 (8) |      | Status of the inbound server: <ul style="list-style-type: none"> <li>DISABLED - The inbound server is not running.</li> <li>DETACHED - The inbound server is running, but the XStream client application is not attached to it.</li> <li>ATTACHED - The inbound server is running, and the XStream client application is attached to it.</li> <li>ABORTED - The inbound server became disabled because it encountered an error.</li> </ul> |
| COMMITTED_DATA_ONLY | VARCHAR2 (3) |      | YES - means the inbound server can receive only LCRs in committed transactions from the XStream client application. A committed transaction is an assembled, noninterleaving transaction with no rollbacks.                                                                                                                                                                                                                                |



**See Also:**

"DBA\_XSTREAM\_INBOUND"

## 4.179 ALL\_XSTREAM\_INBOUND\_PROGRESS

ALL\_XSTREAM\_INBOUND\_PROGRESS displays information about the progress made by the XStream inbound servers accessible to the current user.

### Related View

DBA\_XSTREAM\_INBOUND\_PROGRESS displays information about the progress made by all XStream inbound servers in the database.

| Column                 | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                |
|------------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SERVER_NAME            | VARCHAR2 (128) | NOT NULL | Name of the inbound server                                                                                                                                                                                                                                                                                                                 |
| PROCESSED_LOW_POSITION | RAW (64)       |          | Position of the processed low transaction                                                                                                                                                                                                                                                                                                  |
| APPLIED_LOW_POSITION   | RAW (64)       |          | All messages with a commit position less than this value have been applied                                                                                                                                                                                                                                                                 |
| APPLIED_HIGH_POSITION  | RAW (64)       |          | Highest commit position of a transaction that has been applied                                                                                                                                                                                                                                                                             |
| SPILL_POSITION         | RAW (64)       |          | Position of the spill low watermark of the transactions currently being applied                                                                                                                                                                                                                                                            |
| OLDEST_POSITION        | RAW (64)       |          | Earliest position of the transactions currently being applied                                                                                                                                                                                                                                                                              |
| OLDEST_MESSAGE_NUMBER  | NUMBER         | NOT NULL | Earliest message number of the transactions currently being applied                                                                                                                                                                                                                                                                        |
| APPLIED_MESSAGE_NUMBER | NUMBER         | NOT NULL | Message number up to which all transactions have definitely been applied. This value is the low watermark for the inbound server. That is, messages with a commit message number less than or equal to this message number have definitely been applied, but some messages with a higher commit message number may also have been applied. |

| Column                      | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                     |
|-----------------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| APPLIED_TIME                | DATE           |          | Time at which the message with the message number displayed in the APPLIED_MESSAGE_NUMBER column was applied                                                                                                                                                                    |
| APPLIED_MESSAGE_CREATE_TIME | DATE           |          | Time at which the message with the message number displayed in the APPLIED_MESSAGE_NUMBER column was created at its source database                                                                                                                                             |
| SPILL_MESSAGE_NUMBER        | NUMBER         |          | Spill low watermark. Any message with a lower SCN has either been applied or spilled to disk. The XStream client application does not need to send logical change records (LCRs) with a lower SCN than the spill low watermark. Spilled messages may not have been applied yet. |
| SOURCE_DATABASE             | VARCHAR2 (128) | NOT NULL | Database where the transaction originated                                                                                                                                                                                                                                       |
| SOURCE_ROOT_NAME            | VARCHAR2 (128) |          | The global name of the source root database                                                                                                                                                                                                                                     |

**See Also:**["DBA\\_XSTREAM\\_INBOUND\\_PROGRESS"](#)

## 4.180 ALL\_XSTREAM\_OUT\_SUPPORT\_MODE

ALL\_XSTREAM\_OUT\_SUPPORT\_MODE displays information about the level of XStream capture process support for the tables accessible to the current user in the database.

### Related View

DBA\_XSTREAM\_OUT\_SUPPORT\_MODE displays information about the level of XStream capture process support for the tables in the database.

| Column       | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER        | VARCHAR2 (128) |      | Table owner                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| OBJECT_NAME  | VARCHAR2 (128) |      | Table name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SUPPORT_MODE | VARCHAR2 (6)   |      | Capture process support level for the table: <ul style="list-style-type: none"><li>FULL - A capture process can capture changes made to all of the columns in the table.</li><li>ID KEY - A capture process can capture changes made to the key columns and any other columns in the table that are supported by the capture process, except for LOB, LONG, LONG RAW, and XMLType columns.</li><li>NONE - A capture process cannot capture changes made to any columns in the table.</li></ul> |

| Column      | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                          |
|-------------|-----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EXPLANATION | VARCHAR2 (4000) |      | Reason the table does not have FULL capture process support<br>This column is populated only when both of the following conditions are met: <ul style="list-style-type: none"> <li>The value of the COMPATIBLE initialization parameter is 20.0 or higher</li> <li>The value of the SUPPORT_MODE column is ID KEY or NONE</li> </ul> |



#### See Also:

"DBA\_XSTREAM\_OUT\_SUPPORT\_MODE"

## 4.181 ALL\_XSTREAM\_OUTBOUND

ALL\_XSTREAM\_OUTBOUND displays information about the XStream outbound servers accessible to the current user.

#### Related View

DBA\_XSTREAM\_OUTBOUND displays information about all XStream outbound servers in the database.

| Column          | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SERVER_NAME     | VARCHAR2 (128)  | NOT NULL | Name of the outbound server                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CONNECT_USER    | VARCHAR2 (128)  |          | Name of the user who can connect to the outbound server and process the outbound LCRs                                                                                                                                                                                                                                                                                                                                                           |
| CAPTURE_NAME    | VARCHAR2 (128)  |          | Name of the Replication capture process                                                                                                                                                                                                                                                                                                                                                                                                         |
| SOURCE_DATABASE | VARCHAR2 (128)  |          | Database where the transaction originated                                                                                                                                                                                                                                                                                                                                                                                                       |
| CAPTURE_USER    | VARCHAR2 (128)  |          | Current user who is enqueueing captured messages                                                                                                                                                                                                                                                                                                                                                                                                |
| QUEUE_OWNER     | VARCHAR2 (128)  | NOT NULL | Owner of the queue associated with the outbound server                                                                                                                                                                                                                                                                                                                                                                                          |
| QUEUE_NAME      | VARCHAR2 (128)  | NOT NULL | Name of the queue associated with the outbound server                                                                                                                                                                                                                                                                                                                                                                                           |
| USER_COMMENT    | VARCHAR2 (4000) |          | User comment                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CREATE_DATE     | TIMESTAMP (6)   |          | Date when the outbound server was created                                                                                                                                                                                                                                                                                                                                                                                                       |
| STATUS          | VARCHAR2 (8)    |          | Status of the outbound server: <ul style="list-style-type: none"> <li>DISABLED - The outbound server is not running.</li> <li>DETACHED - The outbound server is running, but the XStream client application is not attached to it.</li> <li>ATTACHED - The outbound server is running, and the XStream client application is attached to it.</li> <li>ABORTED - The outbound server became disabled because it encountered an error.</li> </ul> |

| Column              | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMMITTED_DATA_ONLY | VARCHAR2 (3)   |      | YES if the outbound server can send only LCRs in committed transactions to the XStream client application. A committed transaction is an assembled, noninterleaving transaction with no rollbacks.<br><br>NO if the outbound server can send LCRs in transactions that have not yet committed to the XStream client application. This mode is for internal Oracle use only. |
| START_SCN           | NUMBER         |      | The SCN from which the outbound server's capture process started capturing changes when it was last started                                                                                                                                                                                                                                                                 |
| START_TIME          | TIMESTAMP (6)  |      | The time from which the outbound server's capture process started capturing changes when it was last started                                                                                                                                                                                                                                                                |
| SOURCE_ROOT_NAME    | VARCHAR2 (128) |      | The global name of the source root database                                                                                                                                                                                                                                                                                                                                 |
| LCRID_VERSION       | NUMBER         |      | LCR ID format currently being used                                                                                                                                                                                                                                                                                                                                          |



**See Also:**

"DBA\_XSTREAM\_OUTBOUND"

## 4.182 ALL\_XSTREAM\_OUTBOUND\_PROGRESS

ALL\_XSTREAM\_OUTBOUND\_PROGRESS displays information about the progress made by the XStream outbound servers accessible to the current user.

### Related View

DBA\_XSTREAM\_OUTBOUND\_PROGRESS displays information about the progress made by all XStream outbound servers in the database.

| Column                 | Datatype       | NULL     | Description                                                                                                  |
|------------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------|
| SERVER_NAME            | VARCHAR2 (128) | NOT NULL | Name of the outbound server                                                                                  |
| SOURCE_DATABASE        | VARCHAR2 (128) |          | Global name of the database where the transaction originated. For a PDB, this is the global name of the PDB. |
| PROCESSED_LOW_POSITION | RAW (64)       |          | Position of the low-watermark transaction processed by the outbound server                                   |
| PROCESSED_LOW_TIME     | DATE           |          | Time when the processed low position was last updated by the outbound server                                 |
| OLDEST_POSITION        | RAW (64)       |          | The position of the earliest LCR that is required by the XStream client application                          |
| SOURCE_ROOT_NAME       | VARCHAR2 (128) |          | The global name of the source root database                                                                  |
| PROCESSED_LOW_SCN      | NUMBER         | NOT NULL | SCN of the processed low transaction                                                                         |
| OLDEST_SCN             | NUMBER         | NOT NULL | Oldest SCN of the transactions currently being captured                                                      |

**See Also:**["DBA\\_XSTREAM\\_OUTBOUND\\_PROGRESS"](#)

## 4.183 ALL\_XSTREAM\_RULES

ALL\_XSTREAM\_RULES displays information about the XStream rules accessible to the current user.

### Related View

DBA\_XSTREAM\_RULES displays information about all XStream server rules in the database.

| Column                  | Datatype        | NULL     | Description                                                                                                                             |
|-------------------------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------|
| STREAMS_NAME            | VARCHAR2 (128)  |          | Name of the XStream process                                                                                                             |
| STREAMS_TYPE            | VARCHAR2 (12)   |          | Type of the XStream process: <ul style="list-style-type: none"> <li>• CAPTURE</li> <li>• APPLY</li> </ul>                               |
| STREAMS_RULE_TYPE       | VARCHAR2 (9)    |          | The XStream type of the rule: <ul style="list-style-type: none"> <li>• TABLE</li> <li>• SCHEMA</li> <li>• GLOBAL</li> </ul>             |
| RULE_SET_OWNER          | VARCHAR2 (128)  |          | Owner of the rule set                                                                                                                   |
| RULE_SET_NAME           | VARCHAR2 (128)  |          | Name of the rule set                                                                                                                    |
| RULE_SET_TYPE           | CHAR (8)        |          | Type of the rule set: <ul style="list-style-type: none"> <li>• POSITIVE</li> <li>• NEGATIVE</li> </ul>                                  |
| RULE_OWNER              | VARCHAR2 (128)  | NOT NULL | Owner of the rule                                                                                                                       |
| RULE_NAME               | VARCHAR2 (128)  | NOT NULL | Name of the rule                                                                                                                        |
| RULE_TYPE               | VARCHAR2 (9)    |          | The type of the rule: <ul style="list-style-type: none"> <li>• DML</li> <li>• DDL</li> </ul>                                            |
| RULE_CONDITION          | CLOB            |          | Current rule condition                                                                                                                  |
| SCHEMA_NAME             | VARCHAR2 (128)  |          | For table and schema rules, the schema name                                                                                             |
| OBJECT_NAME             | VARCHAR2 (128)  |          | For table rules, the table name                                                                                                         |
| INCLUDE_TAGGED_LCR      | VARCHAR2 (3)    |          | Indicates whether to include tagged LCRs (YES) or not (NO)                                                                              |
| SUBSETTING_OPERATION    | VARCHAR2 (6)    |          | For subset rules, the type of operation: <ul style="list-style-type: none"> <li>• INSERT</li> <li>• UPDATE</li> <li>• DELETE</li> </ul> |
| DML_CONDITION           | VARCHAR2 (4000) |          | For subset rules, the row subsetting condition                                                                                          |
| SOURCE_DATABASE         | VARCHAR2 (128)  |          | The global name of the database where the LCRs originated. In a PDB, this is the global name of the PDB.                                |
| ORIGINAL_RULE_CONDITION | VARCHAR2 (4000) |          | For rules created by the XStream administrative APIs, the original rule condition when the rule was created                             |



| Column                | Datatype       | NULL | Description                                                                                                                                                     |
|-----------------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SAME_RULE_CONDITION   | VARCHAR2 (3)   |      | For rules created by the XStream administrative APIs, indicates whether the current rule condition is the same as the original rule condition (YES) or not (NO) |
| SOURCE_ROOT_NAME      | VARCHAR2 (128) |      | The global name of the source root database                                                                                                                     |
| SOURCE_CONTAINER_NAME | VARCHAR2 (128) |      | The container name of the database where the transactions originated                                                                                            |

**See Also:****"DBA\_XSTREAM\_RULES"**

## 4.184 ALL\_XSTREAM\_TRANSFORMATIONS

ALL\_XSTREAM\_TRANSFORMATIONS displays information about all XStream transformations accessible to the current user, in order of execution.

### Related View

DBA\_XSTREAM\_TRANSFORMATIONS displays information about all XStream transformations available on a system, in order of execution.

| Column           | Datatype        | NULL | Description                                                                                                                                                    |
|------------------|-----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RULE_OWNER       | VARCHAR2 (128)  |      | Owner of the rule which has an associated transformation                                                                                                       |
| RULE_NAME        | VARCHAR2 (128)  |      | Name of the rule which has an associated transformation                                                                                                        |
| TRANSFORM_TYPE   | VARCHAR2 (26)   |      | Type of the transformation: <ul style="list-style-type: none"><li>• DECLARATIVE TRANSFORMATION</li><li>• SUBSET RULE</li><li>• CUSTOM TRANSFORMATION</li></ul> |
| FROM_SCHEMA_NAME | VARCHAR2 (128)  |      | Schema to be renamed                                                                                                                                           |
| TO_SCHEMA_NAME   | VARCHAR2 (128)  |      | New schema name                                                                                                                                                |
| FROM_TABLE_NAME  | VARCHAR2 (128)  |      | Table to be renamed                                                                                                                                            |
| TO_TABLE_NAME    | VARCHAR2 (128)  |      | New table name                                                                                                                                                 |
| SCHEMA_NAME      | VARCHAR2 (128)  |      | Schema of the column to be modified                                                                                                                            |
| TABLE_NAME       | VARCHAR2 (128)  |      | Table of the column to be modified                                                                                                                             |
| FROM_COLUMN_NAME | VARCHAR2 (4000) |      | Column to be renamed                                                                                                                                           |
| TO_COLUMN_NAME   | VARCHAR2 (4000) |      | New column name                                                                                                                                                |
| COLUMN_NAME      | VARCHAR2 (4000) |      | Column to add or delete                                                                                                                                        |
| COLUMN_VALUE     | ANYDATA         |      | Value of the column to add                                                                                                                                     |
| COLUMN_TYPE      | VARCHAR2 (4000) |      | Type of the new column                                                                                                                                         |
| COLUMN_FUNCTION  | VARCHAR2 (128)  |      | Name of the default function used to add a column                                                                                                              |

| Column               | Datatype        | NULL | Description                                                                                                                                                                                                              |
|----------------------|-----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VALUE_TYPE           | VARCHAR2 (3)    |      | Indicates whether to modify the old (OLD), new (NEW), or both (*) values of the LCR                                                                                                                                      |
| USER_FUNCTION_NAME   | VARCHAR2 (4000) |      | Name of the user-defined transformation function to run                                                                                                                                                                  |
| SUBSETTING_OPERATION | VARCHAR2 (6)    |      | DML operation for row subsetting: <ul style="list-style-type: none"><li>• INSERT</li><li>• UPDATE</li><li>• DELETE</li></ul>                                                                                             |
| DML_CONDITION        | VARCHAR2 (4000) |      | Row subsetting condition                                                                                                                                                                                                 |
| DECLARATIVE_TYPE     | VARCHAR2 (13)   |      | Type of declarative transform to run: <ul style="list-style-type: none"><li>• KEEP COLUMNS</li><li>• DELETE COLUMN</li><li>• RENAME COLUMN</li><li>• ADD COLUMN</li><li>• RENAME TABLE</li><li>• RENAME SCHEMA</li></ul> |
| PRECEDENCE           | NUMBER          |      | Execution order relative to other declarative transformations on the same STEP_NUMBER                                                                                                                                    |
| STEP_NUMBER          | NUMBER          |      | Order in which this transformation should be executed                                                                                                                                                                    |

**See Also:**["DBA\\_XSTREAM\\_TRANSFORMATIONS"](#)

## 4.185 ALL\_XTERNAL\_LOC\_PARTITIONS

ALL\_XTERNAL\_LOC\_PARTITIONS describes partition-level locations accessible to the current user.

If an external table is partitioned, then the existing ALL\_EXTERNAL\_LOCATIONS, DBA\_EXTERNAL\_LOCATIONS, and USER\_EXTERNAL\_LOCATIONS views will have no rows for that table. Instead, locations will be indicated in the ALL\_XTERNAL\_LOC\_PARTITIONS, DBA\_XTERNAL\_LOC\_PARTITIONS, USER\_XTERNAL\_LOC\_PARTITIONS, ALL\_XTERNAL\_LOC\_SUBPARTITIONS, DBA\_XTERNAL\_LOC\_SUBPARTITIONS, and USER\_XTERNAL\_LOC\_SUBPARTITIONS views.

### Related Views

- DBA\_XTERNAL\_LOC\_PARTITIONS describes partition-level locations in the database.
- USER\_XTERNAL\_LOC\_PARTITIONS describes partition-level locations owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL | Description                             |
|----------------|----------------|------|-----------------------------------------|
| OWNER          | VARCHAR2 (128) |      | Owner of the partitioned external table |
| TABLE_NAME     | VARCHAR2 (128) |      | Name of the partitioned external table  |
| PARTITION_NAME | VARCHAR2 (128) |      | Name of the partition                   |

| Column          | Datatype        | NULL | Description                                                             |
|-----------------|-----------------|------|-------------------------------------------------------------------------|
| LOCATION        | VARCHAR2 (4000) |      | External table location clause for the partition                        |
| DIRECTORY_OWNER | CHAR (3)        |      | Owner of the directory containing the external table partition location |
| DIRECTORY_NAME  | VARCHAR2 (128)  |      | Name of the directory containing the external table partition location  |

**See Also:**

- "DBA\_XTERNAL\_LOC\_PARTITIONS"
- "USER\_XTERNAL\_LOC\_PARTITIONS"

## 4.186 ALL\_XTERNAL\_LOC\_SUBPARTITIONS

ALL\_XTERNAL\_LOC\_SUBPARTITIONS describes subpartition-level locations accessible to the current user.

If an external table is partitioned, then the existing ALL\_EXTERNAL\_LOCATIONS, DBA\_EXTERNAL\_LOCATIONS, and USER\_EXTERNAL\_LOCATIONS views will have no rows for that table. Instead, locations will be indicated in the ALL\_XTERNAL\_LOC\_PARTITIONS, DBA\_XTERNAL\_LOC\_PARTITIONS, USER\_XTERNAL\_LOC\_PARTITIONS, ALL\_XTERNAL\_LOC\_SUBPARTITIONS, DBA\_XTERNAL\_LOC\_SUBPARTITIONS, and USER\_XTERNAL\_LOC\_SUBPARTITIONS views.

### Related Views

- DBA\_XTERNAL\_LOC\_SUBPARTITIONS describes subpartition-level locations in the database.
- USER\_XTERNAL\_LOC\_SUBPARTITIONS describes subpartition-level locations owned by the current user. This view does not display the TABLE\_OWNER column.

| Column            | Datatype        | NULL     | Description                                                                |
|-------------------|-----------------|----------|----------------------------------------------------------------------------|
| TABLE_OWNER       | VARCHAR2 (128)  | NOT NULL | Owner of the partitioned external table                                    |
| TABLE_NAME        | VARCHAR2 (128)  | NOT NULL | Name of the partitioned external table                                     |
| PARTITION_NAME    | VARCHAR2 (128)  |          | Name of the partition                                                      |
| SUBPARTITION_NAME | VARCHAR2 (128)  |          | Name of the subpartition                                                   |
| LOCATION          | VARCHAR2 (4000) |          | External table location clause for the subpartition                        |
| DIRECTORY_OWNER   | CHAR (3)        |          | Owner of the directory containing the external table subpartition location |
| DIRECTORY_NAME    | VARCHAR2 (128)  |          | Name of the directory containing the external table subpartition location  |

**See Also:**

- "DBA\_XTERNAL\_LOC\_SUBPARTITIONS"
- "USER\_XTERNAL\_LOC\_SUBPARTITIONS"

## 4.187 ALL\_XTERNAL\_PART\_TABLES

ALL\_XTERNAL\_PART\_TABLES describes object-level information for partitioned external tables accessible to the current user.

### Related Views

- DBA\_XTERNAL\_PART\_TABLES describes object-level information for partitioned external tables in the database
- USER\_XTERNAL\_PART\_TABLES describes object-level information for partitioned external tables owned by the current user. This view does not display the OWNER column.

| Column                            | Datatype       | NULL     | Description                                                                                                                                                                                                                                       |
|-----------------------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                             | VARCHAR2 (128) | NOT NULL | Owner of the partitioned external table                                                                                                                                                                                                           |
| TABLE_NAME                        | VARCHAR2 (128) | NOT NULL | Name of the partitioned external table                                                                                                                                                                                                            |
| TYPE_OWNER                        | CHAR (3)       |          | Owner of the implementation type for the external table access driver                                                                                                                                                                             |
| TYPE_NAME                         | VARCHAR2 (128) |          | Name of the implementation type for the external table access driver                                                                                                                                                                              |
| DEFAULT_DIRECTORY_OWNER           | CHAR (3)       |          | Owner of the default directory for the external table                                                                                                                                                                                             |
| DEFAULT_DIRECTORY_NAME            | VARCHAR2 (128) |          | Name of the default directory for the external table                                                                                                                                                                                              |
| REJECT_LIMIT                      | VARCHAR2 (40)  |          | Reject limit for the external table, or UNLIMITED                                                                                                                                                                                                 |
| ACCESS_TYPE                       | VARCHAR2 (7)   |          | Type of access parameters for the external table (BLOB, CLOB)                                                                                                                                                                                     |
| ACCESS_PARAMETERS                 | CLOB           |          | Access parameters for the external table                                                                                                                                                                                                          |
| PROPERTY                          | VARCHAR2 (10)  |          | Property of the external table (REFERENCED, ALL)                                                                                                                                                                                                  |
| INMEMORY <sup>1</sup>             | VARCHAR2 (8)   |          | Indicates whether the In-Memory Column Store (IM column store) is by default enabled (ENABLED), disabled (DISABLED), or not specified (NONE) for partitions in the external table                                                                 |
| INMEMORY_COMPRESSION <sup>1</sup> | VARCHAR2 (17)  |          | Indicates the default compression level for the IM column store: <ul style="list-style-type: none"> <li>• NO MEMCOMPRESS</li> <li>• FOR DML</li> <li>• FOR QUERY [ LOW   HIGH ]</li> <li>• FOR CAPACITY [ LOW   HIGH ]</li> <li>• NULL</li> </ul> |

<sup>1</sup> This column is available starting with Oracle Database 21c. It appears in the USER\_XTERNAL\_PART\_TABLES view and is omitted from the ALL\_XTERNAL\_PART\_TABLES and DBA\_XTERNAL\_PART\_TABLES views.

**See Also:**

- "DBA\_XTERNAL\_PART\_TABLES"
- "USER\_XTERNAL\_PART\_TABLES"

## 4.188 ALL\_XTERNAL\_TAB\_PARTITIONS

ALL\_XTERNAL\_TAB\_PARTITIONS describes partition-level information for partitioned external tables accessible to the current user.

### Related Views

- DBA\_XTERNAL\_TAB\_PARTITIONS describes partition-level information for partitioned external tables in the database
- USER\_XTERNAL\_TAB\_PARTITIONS describes partition-level information for partitioned external tables owned by the current user. This view does not display the TABLE\_OWNER column.

| Column                  | Datatype       | NULL | Description                                                                                                                                                                                                                         |
|-------------------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABLE_OWNER             | VARCHAR2 (128) |      | Owner of the partitioned external table                                                                                                                                                                                             |
| TABLE_NAME              | VARCHAR2 (128) |      | Name of the partitioned external table                                                                                                                                                                                              |
| PARTITION_NAME          | VARCHAR2 (128) |      | Name of the partition                                                                                                                                                                                                               |
| DEFAULT_DIRECTORY_OWNER | CHAR (3)       |      | Owner of the default directory for the external table partition                                                                                                                                                                     |
| DEFAULT_DIRECTORY_NAME  | VARCHAR2 (128) |      | Name of the default directory for the external table partition                                                                                                                                                                      |
| ACCESS_TYPE             | VARCHAR2 (7)   |      | Type of access parameters for the partition (BLOB, CLOB)                                                                                                                                                                            |
| ACCESS_PARAMETERS       | CLOB           |      | Access parameters for the external table partition                                                                                                                                                                                  |
| PROPERTY                | VARCHAR2 (10)  |      | Property of the external table partition: <ul style="list-style-type: none"><li>• REFERENCED - Referenced columns</li><li>• ALL - All columns</li></ul>                                                                             |
| INMEMORY                | VARCHAR2 (8)   |      | Indicates whether the In-Memory Column Store (IM column store) is enabled (ENABLED) or disabled (DISABLED) for the external table partition                                                                                         |
| INMEMORY_COMPRESSION    | VARCHAR2 (17)  |      | Indicates the compression level for the IM column store: <ul style="list-style-type: none"><li>• NO MEMCOMPRESS</li><li>• FOR DML</li><li>• FOR QUERY [ LOW   HIGH ]</li><li>• FOR CAPACITY [ LOW   HIGH ]</li><li>• NULL</li></ul> |

 **See Also:**

- ["DBA\\_XTERNAL\\_TAB\\_PARTITIONS"](#)
- ["USER\\_XTERNAL\\_TAB\\_PARTITIONS"](#)

## 4.189 ALL\_XTERNAL\_TAB\_SUBPARTITIONS

ALL\_XTERNAL\_TAB\_SUBPARTITIONS describes subpartition-level information for partitioned external tables accessible to the current user.

### Related Views

- DBA\_XTERNAL\_TAB\_SUBPARTITIONS describes subpartition-level information for partitioned external tables in the database.
- USER\_XTERNAL\_TAB\_SUBPARTITIONS describes subpartition-level information for partitioned external tables owned by the current user. This view does not display the TABLE\_OWNER column.

| Column                  | Datatype       | NULL     | Description                                                     |
|-------------------------|----------------|----------|-----------------------------------------------------------------|
| TABLE_OWNER             | VARCHAR2 (128) | NOT NULL | Owner of the partitioned external table                         |
| TABLE_NAME              | VARCHAR2 (128) | NOT NULL | Name of the partitioned external table                          |
| PARTITION_NAME          | VARCHAR2 (128) |          | Name of the partition                                           |
| SUBPARTITION_NAME       | VARCHAR2 (128) |          | Name of the subpartition                                        |
| DEFAULT_DIRECTORY_OWNER | CHAR (3)       |          | Owner of the default directory for the external table partition |
| DEFAULT_DIRECTORY_NAME  | VARCHAR2 (128) |          | Name of the default directory for the external table partition  |
| ACCESS_TYPE             | VARCHAR2 (7)   |          | Type of access parameters for the partition (BLOB, CLOB)        |
| ACCESS_PARAMETERS       | CLOB           |          | Access parameters for the external table partition              |

 **See Also:**

- ["DBA\\_XTERNAL\\_TAB\\_SUBPARTITIONS"](#)
- ["USER\\_XTERNAL\\_TAB\\_SUBPARTITIONS"](#)

## 4.190 ALL\_ZONEMAP\_MEASURES

ALL\_ZONEMAP\_MEASURES describes the measures for all zone maps accessible to the user.

### Related Views

- DBA\_ZONEMAP\_MEASURES describes the measures for all the zone maps in the database.
- USER\_ZONEMAP\_MEASURES describes the measures for all the zone maps owned by the user.

| Column             | Datatype       | NULL     | Description                                                                              |
|--------------------|----------------|----------|------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the zone map                                                                    |
| ZONEMAP_NAME       | VARCHAR2 (128) | NOT NULL | Name of the zone map                                                                     |
| MEASURE            | LONG           |          | Column whose MIN/MAX value is computed                                                   |
| POSITION_IN_SELECT | NUMBER         | NOT NULL | Original position of the mesaure aggregate on the SELECT list of zone map defining query |
| AGG_FUNCTION       | VARCHAR2 (13)  |          | Name of aggregate in zone map table                                                      |
| AGG_COLUMN_NAME    | VARCHAR2 (128) | NOT NULL | Name of the column whose MIN/MAX per zone maintained                                     |

**Note:**

This view is intended for use with Oracle Exadata release 12.1.2.1.1 or later.

**See Also:**

- ["DBA\\_ZONEMAP\\_MEASURES"](#)
- ["USER\\_ZONEMAP\\_MEASURES"](#)
- *Oracle Database Data Warehousing Guide* for more information about zone maps

## 4.191 ALL\_ZONEMAPS

ALL\_ZONEMAPS describes all the zone maps accessible to the user.

### Related Views

- DBA\_ZONEMAPS describes all the zone maps in the database.
- USER\_ZONEMAPS describes all the zone maps owned by the user.

| Column          | Datatype       | NULL | Description                                                                            |
|-----------------|----------------|------|----------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128) |      | Owner of the zone map                                                                  |
| ZONEMAP_NAME    | VARCHAR2 (128) |      | Name of the zone map                                                                   |
| FACT_OWNER      | VARCHAR2 (128) |      | Owner of the fact table of the zone map                                                |
| FACT_TABLE      | VARCHAR2 (128) |      | Name of the fact table on which the zone map is defined                                |
| SCALE           | NUMBER         |      | Scale factor of the zone map                                                           |
| HIERARCHICAL    | VARCHAR2 (12)  |      | Indicates whether the zone map is hierarchical (YES) or not (NO)                       |
| WITH_CLUSTERING | VARCHAR2 (15)  |      | Indicates whether the zone map is created with the CLUSTERING clause (YES) or not (NO) |

| Column              | Datatype      | NULL | Description                                                                                                                                                                                                                                         |
|---------------------|---------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AUTOMATIC           | VARCHAR2 (9)  |      | Indicates whether the zone map is automatic (YES) or not (NO)                                                                                                                                                                                       |
| QUERY               | LONG          |      | Zone map defining query                                                                                                                                                                                                                             |
| QUERY_LEN           | NUMBER (38)   |      | Length of defining query in bytes                                                                                                                                                                                                                   |
| PRUNING             | VARCHAR2 (8)  |      | Indicates whether the zone map is enabled for pruning (ENABLED) or not (DISABLED)                                                                                                                                                                   |
| REFRESH_MODE        | VARCHAR2 (17) |      | Refresh mode for the zone map: <ul style="list-style-type: none"> <li>• COMMIT</li> <li>• DEMAND</li> <li>• DATAMOVEMENT</li> <li>• LOAD</li> <li>• LOAD DATAMOVEMENT</li> </ul>                                                                    |
| REFRESH_METHOD      | VARCHAR2 (14) |      | Refresh method for the zone map <ul style="list-style-type: none"> <li>• COMPLETE</li> <li>• FORCE</li> <li>• FAST</li> </ul>                                                                                                                       |
| LAST_REFRESH_METHOD | VARCHAR2 (19) |      | The last refresh method used for the zone map: <ul style="list-style-type: none"> <li>• NA</li> <li>• COMPLETE</li> <li>• FAST</li> <li>• ERROR-UNKNOWN</li> </ul>                                                                                  |
| LAST_REFRESH_TIME   | TIMESTAMP (9) |      | Time of the last refresh                                                                                                                                                                                                                            |
| INVALID             | VARCHAR2 (7)  |      | Indicates whether the zone map is invalid due to some DDL (YES) or not (NO)                                                                                                                                                                         |
| STALE               | VARCHAR2 (7)  |      | Indicates whether the zone map is stale because of DML operations and cannot be used for pruning (YES) or not (NO), or whether this cannot be determined (UNKNOWN)                                                                                  |
| PARTLY_STALE        | VARCHAR2 (12) |      | Indicates whether the zone map is partly stale (YES) or not (NO), or whether this cannot be determined (UNKNOWN). A partly stale zone map contains both fresh and stale zones.                                                                      |
| INCOMPLETE          | VARCHAR2 (12) |      | Indicates whether the zone map has missing zones (YES) or not (NO), or whether this cannot be determined (UNKNOWN). Missing zones result when data is added to the base table and a subsequent refresh of the zone map is not performed.            |
| UNUSABLE            | VARCHAR2 (8)  |      | Indicates whether the zone map has been marked unusable by the owner (YES) or not (NO)                                                                                                                                                              |
| COMPILE_STATE       | VARCHAR2 (19) |      | Current compile state of the zone map: <ul style="list-style-type: none"> <li>• VALID</li> <li>• AUTHORIZATION_ERROR</li> <li>• COMPILATION_ERROR</li> <li>• NEEDS_COMPILE</li> <li>• ERROR_UNKNOWN</li> </ul> Similar to ALL_MVIEWS.COMPILE_STATE. |



**Note:**

This view is intended for use with Oracle Exadata release 12.1.2.1.1 or later.

**See Also:**

- ["DBA\\_ZONEMAPS"](#)
- ["USER\\_ZONEMAPS"](#)
- *Oracle Database Data Warehousing Guide* for more information about zone maps

## 4.192 AUDIT\_ACTIONS

AUDIT\_ACTIONS describes audit trail action type codes. This table can be used to map action type numbers to action type names.

**Note:**

The mapping explained in this view is valid for audit trail records from the following views only, and such audit records are generated only when unified auditing is not enabled:

- DBA\_AUDIT\_TRAIL
- DBA\_COMMON\_AUDIT\_TRAIL
- DBA\_FGA\_AUDIT\_TRAIL
- USER\_AUDIT\_TRAIL
- V\$XML\_AUDIT\_TRAIL

**Note:**

This view is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored and are viewable with this view. See *Oracle Database Security Guide* for more information about how this desupport works.

| Column | Datatype      | NULL     | Description                            |
|--------|---------------|----------|----------------------------------------|
| ACTION | NUMBER        | NOT NULL | Numeric audit trail action type code.  |
| NAME   | VARCHAR2 (28) | NOT NULL | Name of the type of audit trail action |

## 4.193 AUDIT\_UNIFIED\_CONTEXTS

AUDIT\_UNIFIED\_CONTEXTS describes the application context's attributes, which are configured to be captured in the audit trail.



### Note:

This view is populated only in an Oracle Database where unified auditing is enabled.

- See *Oracle Database Security Guide* for more information about unified auditing.
- See *Oracle Database Upgrade Guide* for more information about migrating to unified auditing.

| Column    | Datatype       | NULL | Description                                                                                                            |
|-----------|----------------|------|------------------------------------------------------------------------------------------------------------------------|
| NAMESPACE | VARCHAR2 (128) |      | Application context namespace                                                                                          |
| ATTRIBUTE | VARCHAR2 (128) |      | Application context attribute                                                                                          |
| USER_NAME | VARCHAR2 (128) |      | Username of database user for whom the application context's attribute is configured to be captured in the audit trail |

## 4.194 AUDIT\_UNIFIED\_ENABLED\_POLICIES

AUDIT\_UNIFIED\_ENABLED\_POLICIES describes all the audit policies that are enabled in the database.



### Note:

This view is populated only in an Oracle Database where unified auditing is enabled.

- See *Oracle Database Security Guide* for more information about unified auditing.
- See *Oracle Database Upgrade Guide* for more information about migrating to unified auditing.

| Column         | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                          |
|----------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POLICY_NAME    | VARCHAR2 (128) |      | Name of the audit policy                                                                                                                                                                                                                                                                                                                                             |
| ENABLED_OPTION | VARCHAR2 (15)  |      | Enabled option of the audit policy. Possible values: <ul style="list-style-type: none"><li>• BY USER: For policies that are enabled on users</li><li>• EXCEPT USER: For policies that are enabled on users</li><li>• BY GRANTED ROLE: For policies that are enabled on roles</li><li>• INVALID: For policies that are not enabled on either users or roles</li></ul> |

| Column      | Datatype       | NULL | Description                                                                                                                                                                                                                         |
|-------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ENTITY_NAME | VARCHAR2 (128) |      | Database entity (user name or role name) on which the audit policy is enabled.<br><br>When an audit policy is enabled on all database users, ALL USERS is displayed in this column.                                                 |
| ENTITY_TYPE | VARCHAR2 (7)   |      | Database entity type. Possible values: <ul style="list-style-type: none"> <li>• USER: Indicates that the policy is enabled on a user or users.</li> <li>• ROLE: Indicates that the policy is enabled on a role or roles.</li> </ul> |
| SUCCESS     | VARCHAR2 (3)   |      | Indicates whether the audit policy is enabled for auditing successful events (YES) or not (NO)                                                                                                                                      |
| FAILURE     | VARCHAR2 (3)   |      | Indicates whether the audit policy is enabled for auditing unsuccessful events (YES) or not (NO)                                                                                                                                    |

## 4.195 AUDIT\_UNIFIED\_POLICIES

AUDIT\_UNIFIED\_POLICIES describes all audit policies created in the database.



### Note:

This view is populated only in an Oracle Database where unified auditing is enabled.

- See *Oracle Database Security Guide* for more information about unified auditing.
- See *Oracle Database Upgrade Guide* for more information about migrating to unified auditing.

| Column             | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------|-----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POLICY_NAME        | VARCHAR2 (128)  |      | Name of the audit policy                                                                                                                                                                                                                                                                                                                                                                       |
| AUDIT_CONDITION    | VARCHAR2 (4000) |      | Condition associated with the audit policy                                                                                                                                                                                                                                                                                                                                                     |
| CONDITION_EVAL_OPT | VARCHAR2 (9)    |      | Evaluation option associated with the audit policy's condition. The possible values are STATEMENT, SESSION, INSTANCE, and NONE.                                                                                                                                                                                                                                                                |
| AUDIT_OPTION       | VARCHAR2 (128)  |      | Auditing option defined in the audit policy                                                                                                                                                                                                                                                                                                                                                    |
| AUDIT_OPTION_TYPE  | VARCHAR2 (18)   |      | Type of the auditing option. Possible values: <ul style="list-style-type: none"> <li>• COLUMN ACTION</li> <li>• DATAPUMP ACTION</li> <li>• DIRECT LOAD ACTION</li> <li>• DV ACTION</li> <li>• INVALID</li> <li>• OBJECT ACTION</li> <li>• OLS_ACTION</li> <li>• ROLE PRIVILEGE</li> <li>• STANDARD ACTION</li> <li>• SYSTEM ACTION</li> <li>• SYSTEM PRIVILEGE</li> <li>• XS ACTION</li> </ul> |

| Column              | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_SCHEMA       | VARCHAR2 (128) |      | Owner of the object, for an object-specific auditing option                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| OBJECT_NAME         | VARCHAR2 (128) |      | Name of the object, for an object-specific auditing option                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| OBJECT_TYPE         | VARCHAR2 (23)  |      | Type of the object, for an object-specific auditing option                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| COMMON              | VARCHAR2 (3)   |      | <p>Indicates whether the audit policy is a common audit policy or local audit policy. The value is <code>NULL</code> for a non-CDB.</p> <p>For local audit policies, the value of the <code>COMMON</code> column is always <code>NO</code>.</p> <p>For a CDB common policy:</p> <ul style="list-style-type: none"> <li>If you query <code>AUDIT_UNIFIED_POLICIES</code> from the CDB root container, the value of the <code>COMMON</code> column will be <code>YES</code> and the value of the <code>INHERITED</code> column will be <code>NO</code>.</li> <li>If you query <code>AUDIT_UNIFIED_POLICIES</code> from any other container besides the CDB root container, the value of the <code>COMMON</code> column and the <code>INHERITED</code> column will be <code>YES</code>.</li> </ul> <p>For an application container common policy:</p> <ul style="list-style-type: none"> <li>If you query <code>AUDIT_UNIFIED_POLICIES</code> from the application root container, the value of the <code>COMMON</code> column will be <code>YES</code> and the value of the <code>INHERITED</code> column will be <code>NO</code>.</li> <li>If you query <code>AUDIT_UNIFIED_POLICIES</code> from any other container besides the application root container, the value of the <code>COMMON</code> column and the <code>INHERITED</code> column will be <code>YES</code>.</li> </ul> |
| INHERITED           | VARCHAR2 (3)   |      | Indicates whether the audit policy was inherited from another container ( <code>YES</code> ) or not ( <code>NO</code> ). This value is <code>NULL</code> for non-CDBs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| AUDIT_ONLY_TOPLEVEL | VARCHAR2 (3)   |      | Indicates whether the audit policy is defined to audit only top level SQL statements ( <code>YES</code> ) or both top level SQL statements and recursive SQL statements ( <code>NO</code> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ORACLE_SUPPLIED     | VARCHAR2 (3)   |      | <p>Indicates whether the audit policy is an Oracle-supplied policy (<code>YES</code>) or not (<code>NO</code>)</p> <p>Oracle-supplied policies are also called predefined policies.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| COLUMN_NAME         | VARCHAR2 (128) |      | <p>If <code>AUDIT_OPTION_TYPE = COLUMN ACTION</code>, then this column displays the name of the table column on which the audit policy was created. In this case, the <code>OBJECT_SCHEMA</code>, <code>OBJECT_NAME</code>, and <code>OBJECT_TYPE</code> columns apply to the table containing the audited column.</p> <p>Otherwise, the value of this column is null.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## 4.196 AUDIT\_UNIFIED\_POLICY\_COMMENTS

AUDIT\_UNIFIED\_POLICY\_COMMENTS shows the description of each unified audit policy, if a description was entered for the unified audit policy using the COMMENT SQL statement.



### Note:

This view is populated only in an Oracle Database where unified auditing is enabled.

- See *Oracle Database Security Guide* for more information about unified auditing.
- See *Oracle Database Upgrade Guide* for more information about migrating to unified auditing.

| Column      | Datatype        | NULL     | Description                                                                                 |
|-------------|-----------------|----------|---------------------------------------------------------------------------------------------|
| POLICY_NAME | VARCHAR2 (128)  | NOT NULL | Name of the unified audit policy                                                            |
| COMMENTS    | VARCHAR2 (4000) |          | Description of the unified audit policy, if one was entered using the COMMENT SQL statement |

## 4.197 AUDITABLE\_SYSTEM\_ACTIONS

AUDITABLE\_SYSTEM\_ACTIONS maps the auditable system action numbers to the action names. These actions are configurable for audit when unified auditing is enabled.

The actions include:

- All standard RDBMS actions (from the V\$SQLCOMMAND view) except the following, which are not configurable for auditing:
  - ALTER EDITION
  - ALTER REWRITE EQUIVALENCE
  - ALTER SUMMARY
  - ALTER TRACING
  - CREATE BITMAPFILE
  - CREATE CONTROL FILE
  - CREATE DATABASE
  - CREATE SUMMARY
  - DECLARE REWRITE EQUIVALENCE
  - DROP BITMAPFILE
  - DROP DATABASE
  - DROP REWRITE EQUIVALENCE
  - DROP SUMMARY
  - FLASHBACK DATABASE
  - MERGE

- SAVEPOINT
- SET CONSTRAINTS
- UNDROP OBJECT
- UPDATE INDEXES
- UPDATE JOIN INDEX
- VALIDATE INDEX
- Other actions:
  - ALL
  - LOGON
  - LOGOFF

**Note:**

This view is populated only in an Oracle Database where unified auditing is enabled.

- See *Oracle Database Security Guide* for more information about unified auditing.
- See *Oracle Database Upgrade Guide* for more information about migrating to unified auditing.

| Column    | Datatype      | NULL | Description                                           |
|-----------|---------------|------|-------------------------------------------------------|
| TYPE      | NUMBER        |      | Numeric component type for system wide actions        |
| COMPONENT | VARCHAR2 (64) |      | Name of component for system wide actions             |
| ACTION    | NUMBER        |      | Numeric auditable action code for system wide actions |
| NAME      | VARCHAR2 (64) |      | Name of auditable action                              |

Some auditable actions in `AUDITABLE_SYSTEM_ACTIONS` have different names than their equivalent commands in `V$SQLCOMMAND`, as shown in the following table:

| <b>AUDITABLE_SYSTEM_ACTIONS Action Name</b> | <b>V\$SQLCOMMAND Command Name</b> |
|---------------------------------------------|-----------------------------------|
| GRANT                                       | GRANT OBJECT                      |
| REVOKE                                      | REVOKE OBJECT                     |
| AUDIT                                       | AUDIT OBJECT                      |
| NOAUDIT                                     | NOAUDIT OBJECT                    |
| EXECUTE                                     | PL/SQL EXECUTE                    |
| EXPLAIN PLAN                                | EXPLAIN                           |
| CALL                                        | CALL METHOD                       |
| PURGE DBA_RECYCLEBIN                        | PURGE DBA RECYCLEBIN              |

**See Also:**

"`V$SQLCOMMAND`"

## 4.198 CAT

CAT is a synonym for USER\_CATALOG.



### See Also:

"USER\_CATALOG"

## 4.199 CATALOG

CATALOG is included for compatibility. Oracle recommends that you not use this view.

## 4.200 CHAINED\_ROWS

CHAINED\_ROWS stores the output for the ANALYZE statement with the LIST CHAINED ROWS clause.

You must run the utlchain.sql or utlchn1.sql script to create this table.

| Column            | Description                                     |
|-------------------|-------------------------------------------------|
| OWNER_NAME        | Table owner                                     |
| TABLE_NAME        | Table name                                      |
| CLUSTER_NAME      | Cluster the table is in, if any                 |
| PARTITION_NAME    | The name of the partition                       |
| SUBPARTITION_NAME | The name of the subpartition                    |
| HEAD_ROWID        | ROWID the chained row is accessed by            |
| ANALYZE_TIMESTAMP | Date/time that the ANALYZE statement was issued |

## 4.201 CLIENT\_RESULT\_CACHE\_STAT\$\$

CLIENT\_RESULT\_CACHE\_STAT\$\$ displays various client result cache settings and usage statistics.

Statistics are stored as name, value pairs. For each client cache ID, there will be multiple rows for each statistic.

| Column   | Datatype       | NULL     | Description                                            |
|----------|----------------|----------|--------------------------------------------------------|
| CACHE_ID | NUMBER         | NOT NULL | Unique ID per client cache                             |
| STAT_ID  | NUMBER         | NOT NULL | Statistic ID                                           |
| NAME     | VARCHAR2 (128) |          | Name of the statistic (see <a href="#">Table 4-1</a> ) |
| VALUE    | NUMBER         |          | Value of the statistic                                 |

**Table 4-1 CLIENT\_RESULT\_CACHE\_STAT\$\$ Statistics**

| Statistic Name       | Description                                                                                                                                  |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Block Size           | Size (in bytes) of each memory block in the result cache.                                                                                    |
| Block Count Max      | Maximum number of blocks that can be allocated in the result cache based on the cache size configuration parameters on server and on client. |
| Block Count Current  | Current number of blocks allocated by the client result cache.                                                                               |
| Hash Bucket Count    | Size of the hash table used for query matching.                                                                                              |
| Create Count Success | Number of cached result sets that did not get invalidated before caching all the rows of the result set.                                     |
| Create Count Failure | Number of cached result sets that did not fetch all the rows in the result set.                                                              |
| Find Count           | Number of cache hits.                                                                                                                        |
| Invalidation Count   | Number of cached result sets that got invalidated due to database changes that could have affected the result set.                           |
| Delete Count Invalid | Number of cached result sets not invalidated whose memory was reclaimed by result cache.                                                     |
| Delete Count Valid   | Number of invalidated cached result sets whose memory was reclaimed by result cache.                                                         |

## 4.202 CLU

CLU is a synonym for USER\_CLUSTERS.



**See Also:**

"USER\_CLUSTERS"

## 4.203 COL

COL is included for compatibility. Oracle recommends that you not use this view.

## 4.204 COLS

COLS is a synonym for USER\_TAB\_COLUMNS.



**See Also:**

"USER\_TAB\_COLUMNS"



## 4.205 DATABASE\_EXPORT\_OBJECTS

DATABASE\_EXPORT\_OBJECTS lists simple path names for some of the object types belonging to a full Data Pump export, which is invoked using the FULL=Y parameter on the expdp command.

Users of the Data Pump Export and Import utilities can query this view to determine valid values for the EXCLUDE and INCLUDE parameters.

| Column      | Datatype        | NULL     | Description                                                                                                                                       |
|-------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_PATH | VARCHAR2 (200)  | NOT NULL | Simple path name for the object type                                                                                                              |
| COMMENTS    | VARCHAR2 (2000) |          | Comment on the object type                                                                                                                        |
| NAMED       | CHAR (1)        |          | Do objects of this type have names? If yes (Y), then the name can be specified in the optional name_clause on the EXCLUDE and INCLUDE parameters. |

### See Also:

- "SCHEMA\_EXPORT\_OBJECTS"
- "TABLE\_EXPORT\_OBJECTS"
- *Oracle Database Utilities* for more information on performing a full Data Pump export using the expdp command

## 4.206 DATABASE\_PROPERTIES

DATABASE\_PROPERTIES lists permanent database properties.

| Column         | Datatype        | NULL     | Description          |
|----------------|-----------------|----------|----------------------|
| PROPERTY_NAME  | VARCHAR2 (128)  | NOT NULL | Property name        |
| PROPERTY_VALUE | VARCHAR2 (4000) |          | Property value       |
| DESCRIPTION    | VARCHAR2 (4000) |          | Property description |

### Note:

The CDB\_PROPERTIES view provides access to data visible to PDBs through the DATABASE\_PROPERTIES view.

# 5

## Static Data Dictionary Views: DBA\_2PC\_NEIGHBORS to DBA\_HIST\_JAVA\_POOL\_ADVICE

This chapter contains the static data dictionary views `DBA_2PC_NEIGHBORS` through `DBA_HIST_JAVA_POOL_ADVICE`.

### 5.1 DBA\_2PC\_NEIGHBORS

`DBA_2PC_NEIGHBORS` describes incoming and outgoing connections for pending transactions.

| Column        | Datatype       | NULL | Description                                                               |
|---------------|----------------|------|---------------------------------------------------------------------------|
| LOCAL_TRAN_ID | VARCHAR2 (22)  |      | Local identifier of a transaction                                         |
| IN_OUT        | VARCHAR2 (3)   |      | IN for incoming connections, OUT for outgoing                             |
| DATABASE      | VARCHAR2 (128) |      | IN for client database name, OUT for outgoing database link               |
| DBUSER_OWNER  | VARCHAR2 (128) |      | IN for name of local user, OUT for owner of database link                 |
| INTERFACE     | VARCHAR2 (1)   |      | C for request commit, otherwise N for prepare or request read only commit |
| DBID          | VARCHAR2 (16)  |      | Database ID at the other end of the connection                            |
| SESS#         | NUMBER (38)    |      | Session number of the connection at this database                         |
| BRANCH        | VARCHAR2 (128) |      | Transaction branch ID of the connection at this database                  |

### 5.2 DBA\_2PC\_PENDING

`DBA_2PC_PENDING` describes distributed transactions awaiting recovery.

| Column         | Datatype       | NULL     | Description                                                                 |
|----------------|----------------|----------|-----------------------------------------------------------------------------|
| LOCAL_TRAN_ID  | VARCHAR2 (22)  | NOT NULL | String of form: n.n.n; n is a number                                        |
| GLOBAL_TRAN_ID | VARCHAR2 (169) |          | Globally unique transaction ID                                              |
| STATE          | VARCHAR2 (16)  | NOT NULL | Collecting, prepared, committed, forced commit, or forced rollback          |
| MIXED          | VARCHAR2 (3)   |          | YES indicates part of the transaction committed and part rolled back        |
| ADVICE         | VARCHAR2 (1)   |          | C for commit, R for rollback, else NULL                                     |
| TRAN_COMMENT   | VARCHAR2 (255) |          | Text for commit work comment text                                           |
| FAIL_TIME      | DATE           | NOT NULL | Value of SYSDATE when the row was inserted (transaction or system recovery) |

| Column      | Datatype       | NULL     | Description                                                          |
|-------------|----------------|----------|----------------------------------------------------------------------|
| FORCE_TIME  | DATE           |          | Time of manual force decision (null if not forced locally)           |
| RETRY_TIME  | DATE           | NOT NULL | Time automatic recovery (RECO) last tried to recover the transaction |
| OS_USER     | VARCHAR2 (64)  |          | Operating system-specific name for the end-user                      |
| OS_TERMINAL | VARCHAR2 (255) |          | Operating system-specific name for the end-user terminal             |
| HOST        | VARCHAR2 (128) |          | Name of the host system for the end-user                             |
| DB_USER     | VARCHAR2 (128) |          | Oracle user name of the end-user at the topmost database             |
| COMMIT#     | VARCHAR2 (16)  |          | Global commit number for committed transactions                      |

## 5.3 DBA\_ACCHK\_EVENTS

DBA\_ACCHK\_EVENTS displays information about events that occurred during an Application Continuity Protection Check (ACCHK) workload run.

Each row in this view represents one trace record for an event. You can use this view in conjunction with the DBA\_ACCHK\_STATISTICS view. Join the SESSION\_ID and SERIAL# columns in this view with the SESSION\_ID and SERIAL# columns in DBA\_ACCHK\_STATISTICS to view Application Continuity protection statistics for a particular session.

The ACCHK\_READ role allows users with no administrative privileges to query this view.

| Column       | Datatype                     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------|------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INST_ID      | NUMBER                       |      | Identifier for the instance in which the trace record was generated                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID       | NUMBER                       |      | The ID of the container to which the data pertains.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| TIMESTAMP    | TIMESTAMP (3) WITH TIME ZONE |      | Time at which the event occurred                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SESSION_ID   | NUMBER                       |      | ID of the session that generated the trace record                                                                                                                                                                                                                                                                                                                                                                                                  |
| SERIAL#      | NUMBER                       |      | Serial number of the session that generated the trace record                                                                                                                                                                                                                                                                                                                                                                                       |
| SERVICE_NAME | VARCHAR2 (64)                |      | Service name of the session that generated the trace record                                                                                                                                                                                                                                                                                                                                                                                        |
| PROGRAM      | VARCHAR2 (84)                |      | Name of the operating system program that generated the trace record                                                                                                                                                                                                                                                                                                                                                                               |
| MODULE       | VARCHAR2 (64)                |      | Name of the module that generated the trace record                                                                                                                                                                                                                                                                                                                                                                                                 |
| ACTION       | VARCHAR2 (64)                |      | Name of the action that generated the trace record                                                                                                                                                                                                                                                                                                                                                                                                 |

| Column     | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------|---------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQL_ID     | VARCHAR2 (13) |      | SQL identifier of the SQL statement that generated the trace record                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CALL_NAME  | VARCHAR2 (20) |      | Name of the user call that generated the trace record                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EVENT_TYPE | VARCHAR2 (16) |      | Event type. Possible values: <ul style="list-style-type: none"><li>• <b>DISABLED</b> - The event caused capture or replay to be disabled. Refer to the <code>ERROR_CODE</code> column for more information.</li><li>• <b>NEVER ENABLED</b> - Neither Application Continuity nor Transparent Application Continuity was enabled for the session when the event occurred.</li><li>• <b>NOT ENABLING</b> - The event describes why the database could not reenable protection after protection was disabled. Refer to the <code>ERROR_CODE</code> column for more information.</li><li>• <b>REPLAY FAILED</b> - The event describes why the session did not fail over. This event only occurs if Application Continuity could not fail over. Refer to the <code>ERROR_CODE</code> column for more information.</li></ul> |
| ERROR_CODE | NUMBER        |      | If an error occurred, this column displays the error code: <i>ORA-number</i> . Otherwise, the value of this column is 0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

**See Also:**["DBA\\_ACCHK\\_STATISTICS"](#)

## 5.4 DBA\_ACCHK\_EVENTS\_SUMMARY

DBA\_ACCHK\_EVENTS\_SUMMARY displays summary information about events that occurred during an Application Continuity Protection Check (ACCHK) workload run.

This view describes the number of times a particular type of event occurred in a session. You can use this view in conjunction with the DBA\_ACCHK\_STATISTICS\_SUMMARY view. Join the INST\_ID and CON\_ID columns in this view with the INST\_ID and CON\_ID columns in DBA\_ACCHK\_STATISTICS\_SUMMARY to view Application Continuity protection statistics for a particular instance.

The ACCHK\_READ role allows users with no administrative privileges to query this view.

| Column  | Datatype | NULL | Description                 |
|---------|----------|------|-----------------------------|
| INST_ID | NUMBER   |      | Identifier for the instance |

| Column           | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------|---------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID           | NUMBER        |      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                   |
| SERVICE_NAME     | VARCHAR2 (64) |      | Service name of the session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| FAILOVER_TYPE    | VARCHAR2 (16) |      | Indicates the FAILOVER_TYPE service setting for the session. Possible values: <ul style="list-style-type: none"> <li>AUTO - Transparent Application Continuity (TAC) was enabled for the session</li> <li>TRANSACTION - Application Continuity (AC) was enabled for the session</li> <li>NONE - Failover was disabled for the session</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                  |
| FAILOVER_RESTORE | VARCHAR2 (16) |      | Indicates the FAILOVER_RESTORE service setting for the session. Possible values: <ul style="list-style-type: none"> <li>AUTO - Transparent Application Continuity</li> <li>LEVEL1 - Application Continuity</li> <li>NONE - Session state was not restored at failover</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| RESET_STATE      | VARCHAR2 (16) |      | Indicates the RESET_STATE service setting for the session. Possible values: <ul style="list-style-type: none"> <li>LEVEL1 - The session state was cleaned at the end of a request</li> <li>NONE - The session state was not cleaned at the end of a request</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PROGRAM          | VARCHAR2 (84) |      | Name of the operating system program that generated the trace record                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| MODULE           | VARCHAR2 (64) |      | Name of the module that generated the trace record                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| ACTION           | VARCHAR2 (64) |      | Name of the action that generated the trace record                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| SQL_ID           | VARCHAR2 (13) |      | SQL identifier of the SQL statement that generated the trace record                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CALL_NAME        | VARCHAR2 (20) |      | Name of the user call that generated the trace record                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| EVENT_TYPE       | VARCHAR2 (16) |      | Event type. Possible values: <ul style="list-style-type: none"> <li>DISABLED - The event caused capture or replay to be disabled. Refer to the ERROR_CODE column for more information.</li> <li>NEVER ENABLED - Neither Application Continuity nor Transparent Application Continuity was enabled for the session when the event occurred.</li> <li>NOT ENABLING - The event describes why the database could not reenabling protection after protection was disabled. Refer to the ERROR_CODE column for more information.</li> <li>REPLAY FAILED - The event describes why the session did not fail over. This event only occurs if Application Continuity could not fail over. Refer to the ERROR_CODE column for more information.</li> </ul> |

| Column     | Datatype | NULL | Description                                                                                                              |
|------------|----------|------|--------------------------------------------------------------------------------------------------------------------------|
| ERROR_CODE | NUMBER   |      | If an error occurred, this column displays the error code: <i>ORA-number</i> . Otherwise, the value of this column is 0. |
| FREQUENCY  | NUMBER   |      | Number of times the event occurred during the workload run                                                               |

## 5.5 DBA\_ACCHK\_STATISTICS

DBA\_ACCHK\_STATISTICS displays Application Continuity protection statistics for each session that executed during an Application Continuity Protection Check (ACCHK) workload run.

ACCHK should be used on a running workload. Sessions that are terminated are not included in this view.

The ACCHK\_READ role allows users with no administrative privileges to query this view.

| Column           | Datatype                    | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|-----------------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INST_ID          | NUMBER                      |      | Identifier for the instance for the session                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID           | NUMBER                      |      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| TIMESTAMP        | TIMESTAMP(3) WITH TIME ZONE |      | Time at which the session was terminated and the statistics were reported                                                                                                                                                                                                                                                                                                                                                                       |
| SESSION_ID       | NUMBER                      |      | ID of the session                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SERIAL#          | NUMBER                      |      | Serial number of the session                                                                                                                                                                                                                                                                                                                                                                                                                    |
| STAT_TYPE        | VARCHAR2(32)                |      | Type of statistic<br>The value of this column is always SESSION_STATISTICS.                                                                                                                                                                                                                                                                                                                                                                     |
| SERVICE_NAME     | VARCHAR2(64)                |      | Service name of the session                                                                                                                                                                                                                                                                                                                                                                                                                     |
| FAILOVER_TYPE    | VARCHAR2(16)                |      | Indicates the FAILOVER_TYPE service setting for the session. Possible values: <ul style="list-style-type: none"> <li>AUTO - Transparent Application Continuity (TAC) was enabled for the session</li> <li>TRANSACTION - Application Continuity (AC) was enabled for the session</li> <li>NONE - Failover was disabled for the session</li> </ul>                                                                                                |
| FAILOVER_RESTORE | VARCHAR2(16)                |      | Indicates the FAILOVER_RESTORE service setting for the session. Possible values: <ul style="list-style-type: none"> <li>AUTO - Transparent Application Continuity</li> <li>LEVEL1 - Application Continuity</li> <li>NONE - Session state was not restored at failover</li> </ul>                                                                                                                                                                |

| Column                      | Datatype      | NULL | Description                                                                                                                                                                                                                                                                |
|-----------------------------|---------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RESET_STATE                 | VARCHAR2 (16) |      | Indicates the RESET_STATE service setting for the session. Possible values: <ul style="list-style-type: none"> <li>• LEVEL1 - The session state was cleaned at the end of a request</li> <li>• NONE - The session state was not cleaned at the end of a request</li> </ul> |
| PROGRAM                     | VARCHAR2 (84) |      | Name of the operating system program                                                                                                                                                                                                                                       |
| BEGIN_REQUESTS              | NUMBER        |      | Number of begin requests received for the session                                                                                                                                                                                                                          |
| END_REQUESTS                | NUMBER        |      | Number of end requests received for the session                                                                                                                                                                                                                            |
| USER_CALLS_IN_REQUESTS      | NUMBER        |      | Number of user calls received from the application within requests (between begin request and end request)                                                                                                                                                                 |
| PROTECTED_CALLS_IN_REQUESTS | NUMBER        |      | Number of user calls protected by Application Continuity (between begin request and end request)                                                                                                                                                                           |
| TIME_IN_REQUESTS            | NUMBER        |      | Time in microseconds spent in user calls within requests (between begin request and end request)                                                                                                                                                                           |
| TIME_PROTECTED_IN_REQUESTS  | NUMBER        |      | Time in microseconds for user calls protected by Application Continuity within requests (between begin request and end request)                                                                                                                                            |

## 5.6 DBA\_ACCHK\_STATISTICS\_SUMMARY

DBA\_ACCHK\_STATISTICS\_SUMMARY displays a summary of Application Continuity protection statistics for each session that executed during an Application Continuity Protection Check (ACCHK) workload run.

ACCHK should be used on a running workload. Sessions that are terminated are not included in this view.

The ACCHK\_READ role allows users with no administrative privileges to query this view.

| Column       | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------|---------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INST_ID      | NUMBER        |      | Identifier for the instance for the session                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID       | NUMBER        |      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| SERVICE_NAME | VARCHAR2 (64) |      | Service name of the session                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Column                          | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------|---------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FAILOVER_TYPE                   | VARCHAR2 (16) |      | Indicates the FAILOVER_TYPE service setting for the session. Possible values: <ul style="list-style-type: none"> <li>AUTO - Transparent Application Continuity (TAC) was enabled for the session</li> <li>TRANSACTION - Application Continuity (AC) was enabled for the session</li> <li>NONE - Failover was disabled for the session</li> </ul> |
| FAILOVER_RESTORE                | VARCHAR2 (16) |      | Indicates the FAILOVER_RESTORE service setting for the session. Possible values: <ul style="list-style-type: none"> <li>AUTO - Transparent Application Continuity</li> <li>LEVEL1 - Application Continuity</li> <li>NONE - Session state is not restored at failover</li> </ul>                                                                  |
| RESET_STATE                     | VARCHAR2 (16) |      | Indicates the RESET_STATE service setting for the session. Possible values: <ul style="list-style-type: none"> <li>LEVEL1 - The session state was cleaned at the end of a request</li> <li>NONE - The session state was not cleaned at the end of a request</li> </ul>                                                                           |
| TOTAL_REQUESTS                  | NUMBER        |      | Number of requests received for this session                                                                                                                                                                                                                                                                                                     |
| PROTECTED_CALLS_PERCENT         | NUMBER        |      | Percentage of user calls within requests protected by Application Continuity for failover                                                                                                                                                                                                                                                        |
| PROTECTED_TIME_PERCENT          | NUMBER        |      | Percentage of time spent within requests protected by Application Continuity for failover                                                                                                                                                                                                                                                        |
| AVG_USER_CALLS_IN_REQUESTS      | NUMBER        |      | Average number of user calls received from the application within requests (between begin request and end request)                                                                                                                                                                                                                               |
| AVG_PROTECTED_CALLS_IN_REQUESTS | NUMBER        |      | Average number of user calls protected by Application Continuity within requests (between begin request and end request)                                                                                                                                                                                                                         |
| AVG_TIME_IN_REQUESTS            | NUMBER        |      | Average time in microseconds spent in user calls within requests (between begin request and end request)                                                                                                                                                                                                                                         |
| AVG_TIME_PROTECTED_IN_REQUESTS  | NUMBER        |      | Average time in microseconds for user calls protected by Application Continuity within requests (between begin request and end request)                                                                                                                                                                                                          |

## 5.7 DBA\_ACL\_NAME\_MAP

DBA\_ACL\_NAME\_MAP maps new names of the access control lists for PL/SQL network utility packages from old XDB names.

| Column    | Datatype        | NULL     | Description                                 |
|-----------|-----------------|----------|---------------------------------------------|
| XDB_NAME  | VARCHAR2 (4000) | NOT NULL | The old XDB name of the access control list |
| ACL       | VARCHAR2 (128)  |          | The new name of the access control list     |
| ACL_OWNER | VARCHAR2 (128)  |          | The owner of the access control list        |



## 5.8 DBA\_ACTIVITY\_CONFIG

DBA\_ACTIVITY\_CONFIG describes the configuration parameters that control the Object Activity Tracking System (OATS).

| Column            | Datatype        | NULL     | Description                                                                                                                                                                      |
|-------------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_DBNAME        | VARCHAR2 (128)  | NOT NULL | Name of the container to which the data pertains                                                                                                                                 |
| PARAMETER_NAME    | VARCHAR2 (128)  | NOT NULL | Name of the configuration parameter                                                                                                                                              |
| PARAMETER_VALUE   | VARCHAR2 (4000) |          | Value of the configuration parameter                                                                                                                                             |
| LAST_UPDATED_TIME | TIMESTAMP (3)   |          | If the value of the configuration parameter was last updated by a user, then this column displays the time at which the parameter was updated. Otherwise, this column is null.   |
| LAST_UPDATED_USER | VARCHAR2 (128)  |          | If the value of the configuration parameter was last updated by a user, then this column displays the name of the user who performed the update. Otherwise, this column is null. |

## 5.9 DBA\_ACTIVITY\_MVIEW

DBA\_ACTIVITY\_MVIEW describes materialized view activity snapshots that were recently taken by the Object Activity Tracking System (OATS).

Each row in this view represents one recently completed activity snapshot and describes the materialized view activity that occurred during the snapshot interval.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                               |
|--------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID            | NUMBER         | NOT NULL | Activity snapshot identifier                                                                                                                                                                                                                                                                                                              |
| CON_DBNAME         | VARCHAR2 (128) | NOT NULL | Name of the container to which the data pertains                                                                                                                                                                                                                                                                                          |
| INSTANCE_NUMBER    | NUMBER         | NOT NULL | Identifier for the instance in which the activity snapshot was taken                                                                                                                                                                                                                                                                      |
| BEGIN_TIME         | TIMESTAMP (3)  | NOT NULL | Begin time for the activity snapshot interval                                                                                                                                                                                                                                                                                             |
| END_TIME           | TIMESTAMP (3)  | NOT NULL | End time for the activity snapshot interval                                                                                                                                                                                                                                                                                               |
| MVIEW_NAME         | VARCHAR2 (128) | NOT NULL | Name of the materialized view for which the activity snapshot was taken                                                                                                                                                                                                                                                                   |
| MVIEW_OWNER        | VARCHAR2 (128) | NOT NULL | Owner of materialized view for which the activity snapshot was taken                                                                                                                                                                                                                                                                      |
| USER_CLASS         | VARCHAR2 (7)   |          | Indicates whether the activity was performed by the RDBMS (SYS) or by a user (NON-SYS)                                                                                                                                                                                                                                                    |
| COMPILES           | NUMBER         |          | Number of times the materialized view was compiled<br>This number includes: <ul style="list-style-type: none"> <li>• Explicit compiles performed with the SQL statement <code>ALTER MATERIALIZED VIEW ... COMPILE</code></li> <li>• Automatic compiles that occurred because the structure of an underlying base table changed</li> </ul> |
| REWRITES_TEXTMATCH | NUMBER         |          | Number of query rewrites that used the text match rewrite method                                                                                                                                                                                                                                                                          |

| Column                 | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REWRITES_GENERAL       | NUMBER   |      | Number of query rewrites that used general rewrite methods                                                                                                                                                                                                                                                                                                                                                                                           |
| REWRITES_PARTIAL       | NUMBER   |      | Number of query rewrites that occurred when the view was partially stale<br>This number includes: <ul style="list-style-type: none"> <li>• UNION ALL operations involving rewritten queries that had one branch with the materialized view and the other branch with its underlying base tables (partial rewrites)</li> <li>• Single query block rewrites of the materialized view that involved a join back to its underlying base table</li> </ul> |
| REWRITES_DELTA         | NUMBER   |      | Number of query rewrites that used stale data in the materialized view plus the delta information stored in the materialized view logs                                                                                                                                                                                                                                                                                                               |
| REWRITES_PCT           | NUMBER   |      | Number of partition change tracking (PCT) rewrites                                                                                                                                                                                                                                                                                                                                                                                                   |
| REWRITES_HINTED        | NUMBER   |      | Number of query rewrites that occurred because the materialized view was eligible for query rewrite and the SELECT statement contained the REWRITE hint with the name of the materialized view specified in the hint                                                                                                                                                                                                                                 |
| NOREWRITES_HINTED      | NUMBER   |      | Reserved for future use                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NOREWRITES_STALE       | NUMBER   |      | Number of query executions that did not use query rewrite because the materialized view was eligible for query rewrite, but stale                                                                                                                                                                                                                                                                                                                    |
| REFRESHES_ON_DEMAND    | NUMBER   |      | Number of ON DEMAND refreshes<br>This type of refresh is performed on materialized views that use the ON DEMAND refresh mode, which instructs the database to refresh the materialized view only when a manual refresh is launched by one of the three DBMS_MVIEW refresh procedures.                                                                                                                                                                |
| REFRESHES_ON_COMMIT    | NUMBER   |      | Number of ON COMMIT refreshes<br>This type of refresh is performed on materialized views that use the ON COMMIT refresh mode, which instructs the database to refresh the materialized view whenever the database commits a transaction that operates on a master table of the materialized view.                                                                                                                                                    |
| REFRESHES_ON_STATEMENT | NUMBER   |      | Number of ON STATEMENT refreshes<br>This type of refresh is performed on materialized views that use the ON STATEMENT refresh mode, which instructs the database to perform an automatic refresh of the materialized view every time a DML operation is performed on any of the view's base tables.                                                                                                                                                  |
| REFRESHES_SCHEDULED    | NUMBER   |      | Number of scheduled refreshes                                                                                                                                                                                                                                                                                                                                                                                                                        |
| REFRESHES_AUTOMATIC    | NUMBER   |      | Number of automatic refreshes                                                                                                                                                                                                                                                                                                                                                                                                                        |
| REFRESHES_FAST         | NUMBER   |      | Number of incremental refreshes                                                                                                                                                                                                                                                                                                                                                                                                                      |
| REFRESHES_COMPLETE     | NUMBER   |      | Number of full refreshes                                                                                                                                                                                                                                                                                                                                                                                                                             |
| REFRESHES_PCT          | NUMBER   |      | Number of partition change tracking (PCT) refreshes                                                                                                                                                                                                                                                                                                                                                                                                  |

**Note:**

The counts in this view are approximate in order to keep system overhead low. Also, there are database activities, such as statistics collection, query compilation, and query optimization, that may cause the counts to be different than expected or to vary slightly across successive queries.

**See Also:**

"[V\\$ACTIVITY\\_MVIEW](#)" to view in-progress materialized view activity snapshots

## 5.10 DBA\_ACTIVITY\_SNAPSHOT\_META

DBA\_ACTIVITY\_SNAPSHOT\_META displays information about activity snapshots taken by the Object Activity Tracking System (OATS).

| Column             | Datatype                          | NULL     | Description                                                                    |
|--------------------|-----------------------------------|----------|--------------------------------------------------------------------------------|
| SNAP_ID            | NUMBER                            | NOT NULL | Activity snapshot identifier                                                   |
| CON_DBNAME         | VARCHAR2 (128)                    | NOT NULL | Name of the container to which the data pertains                               |
| INSTANCE_NUMBER    | NUMBER                            | NOT NULL | Identifier for the instance in which the activity snapshot was taken           |
| BEGIN_TIME         | TIMESTAMP (3)                     | NOT NULL | Begin time for the activity snapshot interval                                  |
| END_TIME           | TIMESTAMP (3)                     | NOT NULL | End time for the activity snapshot interval                                    |
| FLUSH_ELAPSED_TIME | INTERVAL DAY (2)<br>TO SECOND (3) |          | Amount of time spent creating the activity snapshot                            |
| FLUSH_IS_MANUAL    | VARCHAR2 (3)                      |          | Indicates whether the activity snapshot was created manually (YES) or not (NO) |

## 5.11 DBA\_ACTIVITY\_TABLE

DBA\_ACTIVITY\_TABLE describes table activity snapshots that were recently taken by the Object Activity Tracking System (OATS).

Each row in this view represents one recently completed activity snapshot and describes the table activity that occurred during the snapshot interval.

| Column          | Datatype       | NULL     | Description                                                          |
|-----------------|----------------|----------|----------------------------------------------------------------------|
| SNAP_ID         | NUMBER         | NOT NULL | Activity snapshot identifier                                         |
| CON_DBNAME      | VARCHAR2 (128) | NOT NULL | Name of the container to which the data pertains                     |
| INSTANCE_NUMBER | NUMBER         | NOT NULL | Identifier for the instance in which the activity snapshot was taken |
| BEGIN_TIME      | TIMESTAMP (3)  | NOT NULL | Begin time for the activity snapshot interval                        |
| END_TIME        | TIMESTAMP (3)  | NOT NULL | End time for the activity snapshot interval                          |

| Column                   | Datatype       | NULL     | Description                                                                                   |
|--------------------------|----------------|----------|-----------------------------------------------------------------------------------------------|
| TABLE_NAME               | VARCHAR2 (128) | NOT NULL | Name of the table for which the activity snapshot was taken                                   |
| TABLE_OWNER              | VARCHAR2 (128) | NOT NULL | Owner of the table for which the activity snapshot was taken                                  |
| USER_CLASS               | VARCHAR2 (7)   |          | Reserved for future use                                                                       |
| SCANS                    | NUMBER         |          | Number of table scans                                                                         |
| LOADS                    | NUMBER         |          | Number of table loads                                                                         |
| LOAD_ROWS                | NUMBER         |          | Number of rows that were loaded into the table                                                |
| INSERT_ROWS              | NUMBER         |          | Number of rows that were inserted into the table                                              |
| DELETE_ROWS              | NUMBER         |          | Number of rows that were deleted from the table                                               |
| UPDATE_ROWS              | NUMBER         |          | Number of table rows that were updated                                                        |
| TRUNCATES                | NUMBER         |          | Number of table truncations                                                                   |
| TRUNCATED_ROWS           | NUMBER         |          | Number of table rows that were deleted due to table truncations                               |
| PARTITION_TRUNCATES      | NUMBER         |          | Number of table partition or subpartition truncations                                         |
| PARTITION_TRUNCATED_ROWS | NUMBER         |          | Number of table rows that were deleted due to table partition or subpartition truncations     |
| PARTITION_CREATES        | NUMBER         |          | Number of table partitions or subpartitions that were created                                 |
| PARTITION_DROPS          | NUMBER         |          | Number of table partition or subpartition drops                                               |
| PARTITION_DROPS_ROWS     | NUMBER         |          | Number of table rows that were dropped due to table partition or subpartition drops           |
| PARTITION_MOVES          | NUMBER         |          | Number of table partition or subpartition moves                                               |
| PARTITION_MOVES_ROWS     | NUMBER         |          | Number of table rows that were moved due to table partition or subpartition moves             |
| PARTITION_SPLITS         | NUMBER         |          | Number of table partition or subpartition splits                                              |
| PARTITION_SPLITS_ROWS    | NUMBER         |          | Number of table rows that were split due to table partition or subpartition splits            |
| PARTITION_MERGES         | NUMBER         |          | Number of table partition or subpartition merges                                              |
| PARTITION_MERGES_ROWS    | NUMBER         |          | Number of table rows that were merged due to table partition or subpartition merges           |
| PARTITION_COALESCE       | NUMBER         |          | Number of table partition or subpartition coalesces                                           |
| PARTITION_COALESCE_ROWS  | NUMBER         |          | Number of table rows that were redistributed due to table partition or subpartition coalesces |
| PARTITION_EXCHANGES      | NUMBER         |          | Number of table partition or subpartition exchanges                                           |
| PARTITION_EXCHANGES_ROWS | NUMBER         |          | Number of table rows that were exchanged due to table partition or subpartition exchanges     |

 **Note:**

The counts in this view are approximate in order to keep system overhead low. Also, there are database activities, such as statistics collection, query compilation, and query optimization, that may cause the counts to be different than expected or to vary slightly across successive queries.

**Note:**

This view does not contain information related to temporary tables or external tables.

**See Also:**

"V\$ACTIVITY\_TABLE" to view in-progress table activity snapshots

## 5.12 DBA\_ADDM\_FDG\_BREAKDOWN

DBA\_ADDM\_FDG\_BREAKDOWN describes the contribution for each finding from the different instances.

There is one row for each finding and for each instance participating in the analysis. Rows are omitted if the impact from that instance is not sufficient to register a finding in a local ADDM analysis.

**Related View**

USER\_ADDM\_FDG\_BREAKDOWN describes the contribution for each finding from the different instances owned by the current user.

| Column               | Datatype | NULL     | Description                                                                                   |
|----------------------|----------|----------|-----------------------------------------------------------------------------------------------|
| TASK_ID              | NUMBER   | NOT NULL | Identifies the task to which this finding belongs (see DBA_ADVISOR_TASKS)                     |
| FINDING_ID           | NUMBER   | NOT NULL | Identifies the finding (see DBA_ADVISOR_FINDINGS)                                             |
| INSTANCE_NUMBER      | NUMBER   | NOT NULL | The number of the instance contributing to the finding                                        |
| DATABASE_TIME        | NUMBER   |          | The database time, in microseconds, accumulated by this instance during the analysis period   |
| ACTIVE_SESSIONS      | NUMBER   |          | The average number of active sessions of the finding in this instance                         |
| PERC_ACTIVE_SESSIONS | NUMBER   |          | The percentage of contribution from this instance compared to the total impact of the finding |

**See Also:**

"USER\_ADDM\_FDG\_BREAKDOWN"

## 5.13 DBA\_ADDM\_FINDINGS

DBA\_ADDM\_FINDINGS displays the ADDM findings discovered by all advisors in the database.

Each row for ADDM tasks in the related DBA\_ADVISOR\_FINDINGS view has a corresponding row in this view.

## Related View

USER\_ADDM\_FINDINGS displays the ADDM findings discovered by the advisors owned by the current user. Each row for ADDM tasks in the related USER\_ADVISOR\_FINDINGS view has a corresponding row in this view. The USER\_ADDM\_FINDINGS view does not display the OWNER column.

| Column           | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                              |
|------------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128)  |          | Owner of the task                                                                                                                                                                                                                                                                        |
| TASK_ID          | NUMBER          | NOT NULL | Identifier of the task                                                                                                                                                                                                                                                                   |
| TASK_NAME        | VARCHAR2 (128)  |          | Name of the task                                                                                                                                                                                                                                                                         |
| EXECUTION_NAME   | VARCHAR2 (128)  |          | The name of the task execution with which this entry (row) is associated                                                                                                                                                                                                                 |
| FINDING_ID       | NUMBER          | NOT NULL | Identifier of the finding                                                                                                                                                                                                                                                                |
| FINDING_NAME     | VARCHAR2 (4000) |          | Name of the finding                                                                                                                                                                                                                                                                      |
| TYPE             | VARCHAR2 (11)   |          | Type of the finding:<br>PROBLEM<br>SYMPTOM<br>ERROR<br>INFORMATION                                                                                                                                                                                                                       |
| TYPE_ID          | NUMBER          | NOT NULL | Numeric ID for the value in column TYPE                                                                                                                                                                                                                                                  |
| PARENT           | NUMBER          | NOT NULL | Identifier of the parent finding                                                                                                                                                                                                                                                         |
| OBJECT_ID        | NUMBER          |          | Identifier of the associated object, if any                                                                                                                                                                                                                                              |
| IMPACT_TYPE      | VARCHAR2 (4000) |          | Impact of the finding on the system                                                                                                                                                                                                                                                      |
| IMPACT           | NUMBER          |          | Impact value                                                                                                                                                                                                                                                                             |
| MESSAGE          | VARCHAR2 (4000) |          | Message describing the finding                                                                                                                                                                                                                                                           |
| MORE_INFO        | VARCHAR2 (4000) |          | Additional info associated with the finding                                                                                                                                                                                                                                              |
| FILTERED         | VARCHAR2 (1)    |          | A value of Y means that the row in the view was filtered out by a directive (or a combination of directives). A value of N means that the row was not filtered.                                                                                                                          |
| FLAGS            | NUMBER          |          | For internal use only by advisor framework clients                                                                                                                                                                                                                                       |
| DATABASE_TIME    | NUMBER          |          | The database time, in microseconds, accumulated by this finding                                                                                                                                                                                                                          |
| ACTIVE_SESSIONS  | NUMBER          |          | The average number of active sessions for the finding                                                                                                                                                                                                                                    |
| PERC_ACTIVE_SESS | NUMBER          |          | The percentage of active sessions for this finding out of the total active sessions for the task                                                                                                                                                                                         |
| IS_AGGREGATE     | CHAR (1)        |          | A value of Y means that this finding is created for global/continental ADDM as an aggregate of local ADDM findings. Otherwise, the value is N.                                                                                                                                           |
| METER_LEVEL      | VARCHAR2 (6)    |          | Reserved for future use                                                                                                                                                                                                                                                                  |
| QUERY_IS_APPROX  | CHAR (1)        |          | Indicates whether the ASH SQL associated with the finding is an approximate query (Y) or an exact query (N).<br><br>To get the associated query, use the TASK_NAME and FINDING_ID columns from this view and call the PL/SQL function<br>DBMS_ADDM.GET_ASH_QUERY(task_name, finding_id). |

**See Also:**

- "USER\_ADDM\_FINDINGS"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_ADDM.GET\_ASH\_QUERY procedure

## 5.14 DBA\_ADDM\_INSTANCES

DBA\_ADDM\_INSTANCES displays instance-level information for ADDM tasks that finished executing.

For each instance that was supposed to be analyzed (whether it was or not) there is one row describing information about it.

### Related View

USER\_ADDM\_INSTANCES displays instance-level information for ADDM tasks that finished executing in all instances owned by the current user.

| Column           | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------|---------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TASK_ID          | NUMBER        | NOT NULL | The ID of the main ADDM task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| INSTANCE_NUMBER  | NUMBER        | NOT NULL | The number of the instance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| INSTANCE_NAME    | VARCHAR2 (16) |          | The name of the instance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| HOST_NAME        | VARCHAR2 (64) |          | The name of the system on which the instance was running                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| STATUS           | VARCHAR2 (10) |          | How information from this instance was used by the ADDM task.<br><br>A value of ANALYZED means that the instance participated fully in the analysis. For the following remaining values, the instance was not used during task execution, for the stated reason:<br><br>BOUNCED - the instance was shut down or started during the analysis period<br><br>NO_SNAPS - there were either begin or end snapshots missing for the instance<br><br>NO_STATS - there were key statistics missing for the instance<br><br>NOT_FOUND - no mention of this instance could be found in AWR during the analysis period |
| DATABASE_TIME    | NUMBER        |          | The database time, in microseconds, accumulated by this instance during the analysis period                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| ACTIVE_SESSIONS  | NUMBER        |          | The average number of active sessions for the instance during the analysis period                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| PERC_ACTIVE_SESS | NUMBER        |          | The percentage of active sessions for this instance, out of the total active sessions for the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| METER_LEVEL      | VARCHAR2 (6)  |          | Reserved for future use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Column        | Datatype | NULL | Description                                                                                                                                                                                                       |
|---------------|----------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LOCAL_TASK_ID | NUMBER   |      | The ID of a local ADDM task that contained an analysis of the instance for the same analysis period as that of the main task. If the main task is a local ADDM, then this value is the same as the TASK_ID value. |

**See Also:**

"USER\_ADDM\_INSTANCES"

## 5.15 DBA\_ADDM\_PENDING\_AUTOTASKS

DBA\_ADDM\_PENDING\_AUTOTASKS displays information about all automatic ADDM tasks in the database that are currently being executed.

This view is accessible at both the CDB and PDB level and contains information about the ADDM tasks that were executed at each level. Oracle Autonomous Database and Oracle Cloud users can see information about the tasks that were executed in their PDB, obtain more diagnostic information on failed tasks, and manually re-execute those tasks. Once a task is executed successfully, its entry is removed from this view. Failed tasks automatically age out and are removed when the corresponding AWR snapshots age out.

| Column                 | Datatype       | NULL | Description                                                              |
|------------------------|----------------|------|--------------------------------------------------------------------------|
| DBID                   | NUMBER         |      | Database ID for the ADDM task                                            |
| INSTANCE_NUMBER        | NUMBER         |      | Instance number for the ADDM task                                        |
| END_SNAP_ID            | NUMBER         |      | End snapshot for the ADDM task                                           |
| STATUS                 | VARCHAR2 (20)  |      | Status of the task execution                                             |
| REGISTERED_TIME        | TIMESTAMP (6)  |      | Time at which the ADDM task was first registered for automatic execution |
| ERROR_MESSAGE          | VARCHAR2 (200) |      | If the execution of the ADDM task failed, the error message              |
| CREATION_ATTEMPTS      | NUMBER         |      | The number of attempts to automatically start the ADDM task.             |
| LAST_CREATION_ATTEMPT  | TIMESTAMP (6)  |      | The time of the last attempt to automatically start the ADDM task.       |
| EXECUTION_ATTEMPTS     | NUMBER         |      | Number of times the ADDM task has attempted to be run                    |
| LAST_EXECUTION_ATTEMPT | TIMESTAMP (6)  |      | Time of the most recent attempt to execute the ADDM task                 |

**Note:**

This view is available starting with Oracle Database 23ai.



## 5.16 DBA\_ADDM\_SCHEDULED\_AUTOTASKS

DBA\_ADDM\_SCHEDULED\_AUTOTASKS displays information about all automatic ADDM tasks in the database that are currently scheduled to be executed by the Manageability Monitor Process (MMON).

This view is accessible at both the CDB and PDB level and contains information about the ADDM tasks that are scheduled to be executed at each level. Oracle Autonomous Database and Oracle Cloud users can see information about the tasks that are scheduled for their PDB. Once a task starts executing, its entry is removed from this view.

| Column              | Datatype                     | NULL     | Description                                                                                                |
|---------------------|------------------------------|----------|------------------------------------------------------------------------------------------------------------|
| INSTANCE_NUMBER     | NUMBER                       | NOT NULL | Instance number for the ADDM task                                                                          |
| DBID                | NUMBER                       | NOT NULL | Database ID for the ADDM task                                                                              |
| END_SNAP_ID         | NUMBER                       | NOT NULL | End snapshot for the ADDM task                                                                             |
| TASK_TYPE           | VARCHAR2 (14)                |          | Type of ADDM task: <ul style="list-style-type: none"><li>• INSTANCE LEVEL</li><li>• SYSTEM LEVEL</li></ul> |
| SCHEDULED_SINCE_UTC | TIMESTAMP (6) WITH TIME ZONE |          | Time at which the ADDM task was scheduled to be executed, in UTC (Coordinated Universal Time) time zone    |



### Note:

This view is available starting with Oracle Database 23ai.

## 5.17 DBA\_ADDM\_SYSTEM\_DIRECTIVES

DBA\_ADDM\_SYSTEM\_DIRECTIVES displays information about global instances for ADDM system directives.

| Column         | Datatype        | NULL     | Description                                                                                                                    |
|----------------|-----------------|----------|--------------------------------------------------------------------------------------------------------------------------------|
| INSTANCE_ID    | NUMBER          | NOT NULL | Unique ID for the directive instance. The directive management engine automatically generates ID numbers.                      |
| INSTANCE_NAME  | VARCHAR2 (128)  | NOT NULL | User-assigned name for the directive instance.                                                                                 |
| DIRECTIVE_NAME | VARCHAR2 (128)  | NOT NULL | Any value that further classifies this directive within a domain. The domain and the name form a unique key for the directive. |
| DESCRIPTION    | VARCHAR2 (4000) |          | Description of the ADDM system directive, shown in the language used by the current session                                    |

## 5.18 DBA\_ADDM\_TASK\_DIRECTIVES

DBA\_ADDM\_TASK\_DIRECTIVES displays information about all ADDM task directives in the database.

### Related View

USER\_ADDM\_TASK\_DIRECTIVES displays information about ADDM task directives owned by the current user.

| Column         | Datatype        | NULL     | Description                                                                                                                    |
|----------------|-----------------|----------|--------------------------------------------------------------------------------------------------------------------------------|
| TASK_ID        | NUMBER          |          | An ADDM advisor task identifier to which the directive instance is associated                                                  |
| TASK_NAME      | VARCHAR2 (128)  |          | An ADDM advisor task to which the directive instance is associated                                                             |
| USERNAME       | VARCHAR2 (128)  | NOT NULL | Database user who owns the ADDM task instance                                                                                  |
| SEQ_ID         | NUMBER          | NOT NULL | Unique ID for the directive instance. The directive management engine automatically generates ID numbers.                      |
| INSTANCE_NAME  | VARCHAR2 (128)  | NOT NULL | A user-assigned name for the ADDM task directive instance                                                                      |
| DIRECTIVE_NAME | VARCHAR2 (128)  | NOT NULL | Any value that further classifies this directive within a domain. The domain and the name form a unique key for the directive. |
| DESCRIPTION    | VARCHAR2 (4000) |          | Description of the ADDM task directive, shown in the language used by the current session                                      |



### See Also:

"USER\_ADDM\_TASK\_DIRECTIVES"

## 5.19 DBA\_ADDM\_TASKS

DBA\_ADDM\_TASKS displays information about all ADDM tasks in the database.

The view contains one row for each row in the related DBA\_ADVISOR\_TASKS view that has ADVISOR\_NAME=ADDM and STATUS=COMPLETED.

### Related View

USER\_ADDM\_TASKS displays information about the ADDM tasks owned by the current user. The view contains one row for each row in the related USER\_ADVISOR\_TASKS view that has ADVISOR\_NAME=ADDM and STATUS=COMPLETED. This view does not display the OWNER column.

| Column  | Datatype       | NULL     | Description                   |
|---------|----------------|----------|-------------------------------|
| OWNER   | VARCHAR2 (128) |          | Owner of the task             |
| TASK_ID | NUMBER         | NOT NULL | Unique identifier of the task |

| Column                | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TASK_NAME             | VARCHAR2 (128)  |          | Name of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DESCRIPTION           | VARCHAR2 (256)  |          | User-supplied description of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| ADVISOR_NAME          | VARCHAR2 (128)  |          | Advisor associated with the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CREATED               | DATE            | NOT NULL | Creation date of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| LAST_MODIFIED         | DATE            | NOT NULL | Date on which the task was last modified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PARENT_TASK_ID        | NUMBER          |          | Identifier of the parent task (if the task was created because of the recommendation of another task)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PARENT_RXEC_ID        | NUMBER          |          | Identifier of the recommendation within the parent task that resulted in the creation of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LAST_EXECUTION        | VARCHAR2 (128)  |          | Name of the current or last task execution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| EXECUTION_TYPE        | VARCHAR2 (128)  |          | Type of the last execution. This information is optional for single-execution tasks.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EXECUTION_TYPE#       | NUMBER          |          | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| EXECUTION_DESCRIPTION | VARCHAR2 (256)  |          | Optional description of the last execution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| EXECUTION_START       | DATE            |          | Execution start date and time of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| EXECUTION_END         | DATE            |          | Execution end date and time of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| STATUS                | VARCHAR2 (11)   |          | Current operational status of the task: <ul style="list-style-type: none"> <li>• INITIAL - Initial state of the task; no recommendations are present</li> <li>• EXECUTING - Task is currently running</li> <li>• INTERRUPTED - Task analysis was interrupted by the user. Recommendation data, if present, can be viewed and reported at this time.</li> <li>• COMPLETED - Task successfully completed the analysis operation. Recommendation data can be viewed and reported.</li> <li>• ERROR - An error occurred during the analysis operation. Recommendations, if present, can be viewed and reported at this time.</li> </ul> |
| STATUS_MESSAGE        | VARCHAR2 (4000) |          | Informational message provided by the advisor, regarding the status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PCT_COMPLETION_TIME   | NUMBER          |          | Percent completion, in terms of time, of the task when it is executing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| PROGRESS_METRIC       | NUMBER          |          | Metric that measures the progress of the task in terms of quality. Each advisor may have its own metric.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| METRIC_UNITS          | VARCHAR2 (64)   |          | Unit of the metric used to measure progress                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ACTIVITY_COUNTER      | NUMBER          |          | Counter that is updated frequently by the advisor, denoting that useful work is being performed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| RECOMMENDATION_COUNT  | NUMBER          |          | Number of recommendations produced                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ERROR_MESSAGE         | VARCHAR2 (4000) |          | Informational message or an error message indicating the current operation or condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SOURCE                | VARCHAR2 (128)  |          | Optional name that identifies the creator of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| HOW_CREATED           | VARCHAR2 (30)   |          | Optional task or template on which the object was based                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| READ_ONLY             | VARCHAR2 (5)    |          | Indicates whether the task is read-only (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Column                        | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------|---------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SYSTEM_TASK                   | VARCHAR2 (5)  |          | Indicates whether the task is a system task ( <b>TRUE</b> ) or not ( <b>FALSE</b> ). The automatic SQL tuning task, <b>SYS_AUTO_SQL_TUNING_TASK</b> , is one example of a system task.                                                                                                                                                                                                                                      |
| ADVISOR_ID                    | NUMBER        | NOT NULL | Unique identifier for the advisor                                                                                                                                                                                                                                                                                                                                                                                           |
| STATUS#                       | NUMBER        |          | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                   |
| DBID                          | NUMBER        |          | The database ID that the task was using                                                                                                                                                                                                                                                                                                                                                                                     |
| DBNAME                        | VARCHAR2 (9)  |          | The name of the database that the task was analyzing                                                                                                                                                                                                                                                                                                                                                                        |
| DBVERSION                     | VARCHAR2 (17) |          | The version of the database that the task was analyzing                                                                                                                                                                                                                                                                                                                                                                     |
| ANALYSIS_VERSION              | VARCHAR2 (17) |          | The version of the database that executed the task                                                                                                                                                                                                                                                                                                                                                                          |
| BEGIN_SNAP_ID                 | NUMBER        |          | The snapshot ID that starts the analysis period                                                                                                                                                                                                                                                                                                                                                                             |
| BEGIN_TIME                    | TIMESTAMP (3) |          | The <b>SYSDATE</b> at the time the <b>BEGIN_SNAP_ID</b> was taken                                                                                                                                                                                                                                                                                                                                                           |
| END_SNAP_ID                   | NUMBER        |          | The snapshot ID that ends the analysis period                                                                                                                                                                                                                                                                                                                                                                               |
| END_TIME                      | TIMESTAMP (3) |          | The <b>SYSDATE</b> at the time the <b>END_SNAP_ID</b> was taken                                                                                                                                                                                                                                                                                                                                                             |
| REQUESTED_ANALYSIS            | VARCHAR2 (8)  |          | The type of ADDM analysis that was requested before task execution, as follows:<br>DATABASE - global ADDM<br>INSTANCE - local ADDM<br>PARTIAL - continental ADDM                                                                                                                                                                                                                                                            |
| ACTUAL_ANALYSIS               | VARCHAR2 (8)  |          | The type of ADDM analysis that was actually performed when the task was executed (either <b>DATABASE</b> , <b>INSTANCE</b> , or <b>PARTIAL</b> )                                                                                                                                                                                                                                                                            |
| DATABASE_TIME                 | NUMBER        |          | The total database time accumulated in the analysis period (and analyzed instances) in microseconds                                                                                                                                                                                                                                                                                                                         |
| ACTIVE_SESSIONS               | NUMBER        |          | The average active sessions during the analysis period (and analyzed sessions)                                                                                                                                                                                                                                                                                                                                              |
| METER_LEVEL                   | VARCHAR2 (6)  |          | Reserved for future use                                                                                                                                                                                                                                                                                                                                                                                                     |
| FDG_COUNT                     | NUMBER        |          | The number of findings for the ADDM task, which will appear in the list of findings in a default ADDM report                                                                                                                                                                                                                                                                                                                |
| DB_TYPE_DETECTED <sup>1</sup> | VARCHAR2 (10) |          | Indicates the open mode of the database that the task was analyzing, as detected by ADDM. Possible values: <ul style="list-style-type: none"> <li>• READ-ONLY</li> <li>• READ-WRITE</li> </ul>                                                                                                                                                                                                                              |
| DB_TYPE_ANALYZED <sup>1</sup> | VARCHAR2 (10) |          | Indicates the assumed open mode of the database that the task was analyzing. If the value of this column is different from the value of the <b>DB_TYPE_DETECTED</b> column, then ADDM ignored the detected open mode of the database and analyzed the task as if it occurred on a database with the assumed open mode. Possible values: <ul style="list-style-type: none"> <li>• READ-ONLY</li> <li>• READ-WRITE</li> </ul> |

| Column                         | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------|---------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CDB_TYPE_DETECTED <sup>1</sup> | VARCHAR2 (25) |      | Indicates the type of database that the task was analyzing, as detected by ADDM. Possible values: <ul style="list-style-type: none"> <li>• NON-CDB - A non-CDB</li> <li>• CDB ROOT - The root container in a CDB</li> <li>• PDB - A pluggable database (PDB) in a CDB</li> <li>• AUTONOMOUS DATA WAREHOUSE - A PDB that hosts an Oracle Autonomous Data Warehouse Cloud service</li> <li>• AUTONOMOUS OLTP - A PDB that hosts an Oracle Autonomous Transaction Processing service</li> </ul>                                                                                                                                                                                                      |
| CDB_TYPE_ANALYZED <sup>1</sup> | VARCHAR2 (25) |      | Indicates the assumed type of database that the task was analyzing. If the value of this column is different from the value of the CDB_TYPE_DETECTED column, then ADDM ignored the detected type of database and analyzed the task as if it occurred on the assumed type of database. Possible values: <ul style="list-style-type: none"> <li>• NON-CDB - A non-CDB</li> <li>• CDB ROOT - The root container in a CDB</li> <li>• PDB - A pluggable database (PDB) in a CDB</li> <li>• AUTONOMOUS DATA WAREHOUSE - A PDB that hosts an Oracle Autonomous Data Warehouse Cloud service</li> <li>• AUTONOMOUS OLTP - A PDB that hosts an Oracle Autonomous Transaction Processing service</li> </ul> |

<sup>1</sup> This column is available starting with Oracle Database 19c. If the task was analyzing a database at a release earlier than Oracle Database 19c, and that database was subsequently upgraded to Oracle Database 19c, then the value of this column is NULL.



**See Also:**

"USER\_ADDM\_TASKS"

## 5.20 DBA\_ADVISOR\_ACTIONS

DBA\_ADVISOR\_ACTIONS displays information about the actions associated with all recommendations in the database.

Each action is specified by the COMMAND and ATTR1 through ATTR6 columns. Each command defines how the attribute columns will be used.

### Related View

USER\_ADVISOR\_ACTIONS displays information about the actions associated with the recommendations owned by the current user. This view does not display the OWNER column.

| Column    | Datatype       | NULL     | Description            |
|-----------|----------------|----------|------------------------|
| OWNER     | VARCHAR2 (128) |          | Owner of the task      |
| TASK_ID   | NUMBER         | NOT NULL | Identifier of the task |
| TASK_NAME | VARCHAR2 (128) |          | Name of the task       |

| Column               | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                |
|----------------------|-----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EXECUTION_NAME       | VARCHAR2 (128)  |          | The name of the task execution with which this entry (row) is associated                                                                                                                                                                                                                   |
| REC_ID               | NUMBER          | NOT NULL | Recommendation associated with the action                                                                                                                                                                                                                                                  |
| ACTION_ID            | NUMBER          | NOT NULL | Unique identifier for the action                                                                                                                                                                                                                                                           |
| OBJECT_ID            | NUMBER          |          | Object associated with the action                                                                                                                                                                                                                                                          |
| COMMAND              | VARCHAR2 (64)   |          | Command to be executed<br><b>See Also:</b> DBA_ADVISOR_COMMANDS for a list of commands                                                                                                                                                                                                     |
| COMMAND_ID           | NUMBER          | NOT NULL | ID of the command to be executed<br><b>See Also:</b> DBA_ADVISOR_COMMANDS for a list of commands                                                                                                                                                                                           |
| FLAGS                | NUMBER          |          | Advisor-specific flags                                                                                                                                                                                                                                                                     |
| ATTR1                | VARCHAR2 (4000) |          | Parameters defining the command                                                                                                                                                                                                                                                            |
| ATTR2                | VARCHAR2 (4000) |          | Parameters defining the command                                                                                                                                                                                                                                                            |
| ATTR3                | VARCHAR2 (4000) |          | Parameters defining the command                                                                                                                                                                                                                                                            |
| ATTR4                | VARCHAR2 (4000) |          | Parameters defining the command                                                                                                                                                                                                                                                            |
| ATTR5                | CLOB            |          | Parameters defining the command; to be used if the text is significantly large (for example, a SQL statement defining a materialized view)                                                                                                                                                 |
| ATTR6                | CLOB            |          | Parameters defining the command; to be used if the text is significantly large (for example, a SQL statement defining a materialized view)                                                                                                                                                 |
| NUM_ATTR1            | NUMBER          |          | General numeric attribute                                                                                                                                                                                                                                                                  |
| NUM_ATTR2            | NUMBER          |          | General numeric attribute                                                                                                                                                                                                                                                                  |
| NUM_ATTR3            | NUMBER          |          | General numeric attribute                                                                                                                                                                                                                                                                  |
| NUM_ATTR4            | NUMBER          |          | General numeric attribute                                                                                                                                                                                                                                                                  |
| NUM_ATTR5            | NUMBER          |          | General numeric attribute                                                                                                                                                                                                                                                                  |
| MESSAGE              | VARCHAR2 (4000) |          | Message associated with the action                                                                                                                                                                                                                                                         |
| FILTERED             | VARCHAR2 (1)    |          | A value of Y means that the row in the view was filtered out by a directive (or a combination of directives). A value of N means that the row was not filtered.                                                                                                                            |
| RESULT_STATUS        | VARCHAR2 (25)   |          | Result status. Possible values: <ul style="list-style-type: none"> <li>• AUTOMATION PENDING</li> <li>• TIMED OUT</li> <li>• MISSING INFORMATION</li> <li>• COMPLETED WITH NO RESULTS</li> <li>• COMPLETED AND IMPLEMENTED</li> <li>• ENCOUNTERED ERROR</li> <li>• NOT AUTOMATED</li> </ul> |
| RESULT_LAST_MODIFIED | TIMESTAMP (3)   |          | Time at which result status was last modified                                                                                                                                                                                                                                              |
| RESULT_MESSAGE       | VARCHAR2 (4000) |          | Result message text                                                                                                                                                                                                                                                                        |

**See Also:**["USER\\_ADVISOR\\_ACTIONS"](#)

## 5.21 DBA\_ADVISOR\_COMMANDS

DBA\_ADVISOR\_COMMANDS displays information about the commands used by all advisors in the database for specifying recommendation actions.

In addition to the set of commands in the COMMAND column of V\$SESSION, the following additional commands are defined:

- RUN ADVISOR
- CHECK EXECUTION PLAN
- ALTER PARAMETER
- ENABLE TRACE

| Column       | Datatype      | NULL | Description               |
|--------------|---------------|------|---------------------------|
| COMMAND_ID   | NUMBER        |      | Identifier of the command |
| COMMAND_NAME | VARCHAR2 (64) |      | Name of the command       |

## 5.22 DBA\_ADVISOR\_DEF\_PARAMETERS

DBA\_ADVISOR\_DEF\_PARAMETERS displays all default task parameters and their current values in the database.

When a task or object is created, the parameters and their values are copied into the private parameter table.

| Column          | Datatype        | NULL     | Description                                                                                                                                                                                                       |
|-----------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADVISOR_NAME    | VARCHAR2 (128)  | NOT NULL | Name of the advisor that supports the parameter                                                                                                                                                                   |
| PARAMETER_NAME  | VARCHAR2 (128)  | NOT NULL | Name of the parameter                                                                                                                                                                                             |
| PARAMETER_VALUE | VARCHAR2 (4000) | NOT NULL | Value of the parameter. Numeric parameter values are converted to a string equivalent.<br>Possible keywords as values: <ul style="list-style-type: none"><li>• ALL</li><li>• UNLIMITED</li><li>• UNUSED</li></ul> |

| Column                | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------|-----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PARAMETER_TYPE        | VARCHAR2 (10)   |      | Datatype of the parameter: <ul style="list-style-type: none"> <li>NUMBER - Numeric value</li> <li>STRING - String value. If the string contains special characters, then it will be enclosed in single quotes.</li> <li>STRINGLIST - Comma-separated list of string elements. If a string element contains a comma or other special characters, then the element will be enclosed in single quotes.</li> <li>TABLE - Single table reference. A reference will contain a schema name, followed by an optional table name.<br/>If the table name is omitted or is the character %, then the table name is interpreted as a wildcard. SQL quoted identifiers are supported.</li> <li>TABLELIST - List of one or more comma-separated table references. A reference will contain schema name, followed by an optional table name.<br/>If the table name is omitted or is the character %, then the table name is interpreted as a wildcard. SQL quoted identifiers are supported.</li> </ul> |
| IS_DEFAULT            | VARCHAR2 (1)    |      | Indicates whether the parameter value is set to the advisor's default value (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| IS_OUTPUT             | VARCHAR2 (1)    |      | Indicates whether the task execution process sets the parameter value (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| IS_MODIFIABLE_ANYTIME | VARCHAR2 (1)    |      | Indicates whether the parameter value can be modified when the task is not in its initial state (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IS_SYSTEM_TASK_ONLY   | VARCHAR2 (1)    |      | Indicates whether the task is a system task (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DESCRIPTION           | VARCHAR2 (4000) |      | Optional description of the parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| EXECUTION_TYPE        | VARCHAR2 (128)  |      | Type of the last execution. This information is optional for single-execution tasks.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## 5.23 DBA\_ADVISOR\_DEFINITIONS

DBA\_ADVISOR\_DEFINITIONS displays the properties of all advisors in the database.

The view contains one row for each task, representing the current state of the task as well as execution-specific data such as progress monitoring and completion status.

| Column       | Datatype       | NULL     | Description                       |
|--------------|----------------|----------|-----------------------------------|
| ADVISOR_ID   | NUMBER         | NOT NULL | Unique identifier for the advisor |
| ADVISOR_NAME | VARCHAR2 (128) | NOT NULL | Name of the advisor               |



| Column   | Datatype | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROPERTY | NUMBER   | NOT NULL | Properties: <ul style="list-style-type: none"> <li>• Bit 0: - Indicates whether the advisor runs in <b>COMPREHENSIVE</b> mode (1) or not (0)</li> <li>• Bit 1: - Indicates whether the advisor runs in <b>LIMITED</b> mode (1) or not (0)</li> <li>• Bit 2: - Indicates whether the advisor is resumable (1) or not (0)</li> <li>• Bit 3: - Indicates whether the advisor accepts user directives (1) or not (0)</li> </ul> |

## 5.24 DBA\_ADVISOR\_DIR\_DEFINITIONS

DBA\_ADVISOR\_DIR\_DEFINITIONS provides a definition of the base directive.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ID             | NUMBER         | NOT NULL | Unique id for directive. The directive management engine automatically generates ID numbers. The identifier is unique among all directives regardless of the domain name and directive name.                                                                                                                                                                                                                                                                     |
| ADVISOR_ID     | NUMBER         | NOT NULL | Identifier number of the owner advisor.                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ADVISOR_NAME   | VARCHAR2 (128) | NOT NULL | The name of the advisor to which this directive belongs.                                                                                                                                                                                                                                                                                                                                                                                                         |
| DIRECTIVE_NAME | VARCHAR2 (128) | NOT NULL | Any value that further classifies this directive within a domain. The domain and the name form a unique key for the directive.                                                                                                                                                                                                                                                                                                                                   |
| DOMAIN_NAME    | VARCHAR2 (128) | NOT NULL | Domain or namespace name.                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| DESCRIPTION    | VARCHAR2 (256) | NOT NULL | An optional description that documents the purpose of the directive.                                                                                                                                                                                                                                                                                                                                                                                             |
| TYPE           | NUMBER         | NOT NULL | Further describes the use of the directive. Possible values are: <ol style="list-style-type: none"> <li>1. <b>Filter</b> - An Xpath filter</li> <li>2. <b>Single Value</b> - Evaluation returns a single string value</li> <li>3. <b>Multiple Values</b> - Evaluation returns one to many string values</li> <li>4. <b>Conditional</b> - Evaluation returns a single value based on an input key, similar to a <b>CASE</b> or <b>SWITCH</b> statement</li> </ol> |
| TYPE_NAME      | VARCHAR2 (15)  |          | A decoded version of the <b>TYPE</b> column.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TASK_STATUS    | VARCHAR2 (9)   |          | The status of the directive instances when a task is not in its initial state. Possible values are: <ul style="list-style-type: none"> <li>• IMMUTABLE</li> <li>• MUTABLE</li> </ul>                                                                                                                                                                                                                                                                             |
| INSTANCES      | VARCHAR2 (8)   |          | Indicates whether a directive will permit multiple instances. Possible values are: <ul style="list-style-type: none"> <li>• SINGLE</li> <li>• MULTIPLE</li> </ul>                                                                                                                                                                                                                                                                                                |

| Column   | Datatype | NULL     | Description                                  |
|----------|----------|----------|----------------------------------------------|
| METADATA | CLOB     | NOT NULL | A DTD that is used to process the directive. |

## 5.25 DBA\_ADVISOR\_DIR\_INSTANCES

DBA\_ADVISOR\_DIR\_INSTANCES provides information about all global instances for a directive.

| Column        | Datatype       | NULL     | Description                                                                                               |
|---------------|----------------|----------|-----------------------------------------------------------------------------------------------------------|
| DIRECTIVE_ID  | NUMBER         | NOT NULL | Unique id for directive. The directive management engine automatically generates ID numbers.              |
| INSTANCE_ID   | NUMBER         | NOT NULL | Unique id for the directive instance. The directive management engine automatically generates ID numbers. |
| INSTANCE_NAME | VARCHAR2 (128) | NOT NULL | A user-assigned name for the directive instance.                                                          |
| DATA          | CLOB           | NOT NULL | An XML document that gives meaningful default values for all parts of the directive.                      |

## 5.26 DBA\_ADVISOR\_DIR\_TASK\_INST

DBA\_ADVISOR\_DIR\_TASK\_INST provides information about all task directive instances.

### Related View

USER\_ADVISOR\_DIR\_TASK\_INST provides information about all task directive instances owned by the current user.

| Column        | Datatype       | NULL     | Description                                                                                               |
|---------------|----------------|----------|-----------------------------------------------------------------------------------------------------------|
| DIRECTIVE_ID  | NUMBER         | NOT NULL | Unique id for directive. The directive management engine automatically generates ID numbers.              |
| SEQ_ID        | NUMBER         | NOT NULL | Unique id for the directive instance. The directive management engine automatically generates ID numbers. |
| INSTANCE_NAME | VARCHAR2 (128) | NOT NULL | A user-assigned name for the directive instance.                                                          |
| USERNAME      | VARCHAR2 (128) | NOT NULL | Database user who owns the task instance.                                                                 |
| TASK_ID       | NUMBER         |          | An advisor task identifier to which the directive instance is associated                                  |
| TASK_NAME     | VARCHAR2 (128) |          | An advisor task to which the directive instance is associated.                                            |
| DATA          | CLOB           | NOT NULL | An XML document that gives meaningful default values for all parts of the directive.                      |



### See Also:

["USER\\_ADVISOR\\_DIR\\_TASK\\_INST"](#)

## 5.27 DBA\_ADVISOR\_EXEC\_PARAMETERS

DBA\_ADVISOR\_EXEC\_PARAMETERS displays the parameter values used for past executions of tasks.

It is more useful for advisors supporting multiple executions, such as SQL Performance Analyzer, where a parameter can have different values for different executions.

### Related View

USER\_ADVISOR\_EXEC\_PARAMETERS displays the parameter values used for past executions of tasks owned by the current user.

| Column                | Datatype        | NULL     | Description                                                                                                    |
|-----------------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------|
| OWNER                 | VARCHAR2 (128)  |          | Owner of the task                                                                                              |
| TASK_ID               | NUMBER          | NOT NULL | Unique identifier of the task                                                                                  |
| TASK_NAME             | VARCHAR2 (128)  |          | Name of the task                                                                                               |
| EXECUTION_NAME        | VARCHAR2 (128)  | NOT NULL | Name of the task execution with which this entry (row) is associated                                           |
| EXECUTION_TYPE        | VARCHAR2 (128)  |          | Type of the last execution. This information is optional for single-execution tasks.                           |
| PARAMETER_NAME        | VARCHAR2 (128)  | NOT NULL | Name of the parameter                                                                                          |
| PARAMETER_VALUE       | VARCHAR2 (4000) |          | Value of the parameter. Numeric parameter values are converted to a string equivalent.                         |
| PARAMETER_TYPE        | VARCHAR2 (10)   |          | Datatype of the parameter (see DBA_ADVISOR_PARAMETERS)                                                         |
| IS_DEFAULT            | VARCHAR2 (1)    |          | Indicates whether the parameter value is set to the advisor's default value (Y) or not (N)                     |
| IS_OUTPUT             | VARCHAR2 (1)    |          | Indicates whether the task execution process sets the parameter value (Y) or not (N)                           |
| IS_MODIFIABLE_ANYTIME | VARCHAR2 (1)    |          | Indicates whether the parameter value can be modified when the task is not in its initial state (Y) or not (N) |
| DESCRIPTION           | VARCHAR2 (4000) |          | Optional description of the parameter                                                                          |
| PARAMETER_FLAGS       | NUMBER          | NOT NULL | Reserved for internal use                                                                                      |
| PARAMETER_TYPE#       | NUMBER          | NOT NULL | Reserved for internal use                                                                                      |



### See Also:

"USER\_ADVISOR\_EXEC\_PARAMETERS"

## 5.28 DBA\_ADVISOR\_EXECUTION\_TYPES

DBA\_ADVISOR\_EXECUTION\_TYPES displays possible execution action for a given advisor.

Only advisors that support multiple executions of their tasks have entries in this view.

| Column                | Datatype        | NULL     | Description                                |
|-----------------------|-----------------|----------|--------------------------------------------|
| ADVISOR_NAME          | VARCHAR2 (128)  | NOT NULL | Name of the advisor                        |
| EXECUTION_TYPE        | VARCHAR2 (128)  | NOT NULL | Execution type supported by the advisor    |
| EXECUTION_DESCRIPTION | VARCHAR2 (4000) |          | Optional description of the execution type |

## 5.29 DBA\_ADVISOR\_EXECUTIONS

DBA\_ADVISOR\_EXECUTIONS displays metadata information for task executions.

For example, the SQL Performance Analyzer creates a minimum of three executions to perform a change impact analysis on a SQL workload. The first one collects performance data for the version of the workload before the change, the second one collects data for the version of the workload after the change, and the third one performs impact analysis. All of these executions belong to the same task and are grouped into this view. Similarly, the automatic SQL tuning task, SYS\_AUTO\_SQL\_TUNING\_TASK, creates a new execution for each tuning run.

### Related View

USER\_ADVISOR\_EXECUTIONS displays metadata information for task executions owned by the current user.

| Column                  | Datatype       | NULL     | Description                                                                                                                                                                                                     |
|-------------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                   | VARCHAR2 (128) |          | Owner of the task                                                                                                                                                                                               |
| TASK_ID                 | NUMBER         | NOT NULL | Unique identifier of the task                                                                                                                                                                                   |
| TASK_NAME               | VARCHAR2 (128) |          | Name of the task                                                                                                                                                                                                |
| EXECUTION_NAME          | VARCHAR2 (128) | NOT NULL | Name of the task execution with which this entry (row) is associated                                                                                                                                            |
| EXECUTION_ID            | NUMBER         | NOT NULL | Execution ID                                                                                                                                                                                                    |
| DESCRIPTION             | VARCHAR2 (256) |          | User-supplied description of the task                                                                                                                                                                           |
| EXECUTION_TYPE          | VARCHAR2 (128) |          | Type of the last execution (optional for single-execution tasks)                                                                                                                                                |
| EXECUTION_TYPE#         | NUMBER         |          | Reserved for internal use                                                                                                                                                                                       |
| EXECUTION_START         | DATE           |          | Execution start date and time                                                                                                                                                                                   |
| EXECUTION_LAST_MODIFIED | DATE           | NOT NULL | Last modified date and time for the execution                                                                                                                                                                   |
| EXECUTION_END           | DATE           |          | Execution end date and time                                                                                                                                                                                     |
| ADVISOR_NAME            | VARCHAR2 (128) |          | Advisor associated with the task                                                                                                                                                                                |
| REQUESTED_DOP           | NUMBER         |          | The degree of parallelism (DOP) value requested by the user (through the TEST_EXECUTE_DOP parameter). It can be any value greater or equal to zero.                                                             |
| ACTUAL_DOP              | NUMBER         |          | The actual degree of parallelism (DOP) with which the execution finished. If the requested DOP is greater than what is available on the system, the ACTUAL_DOP value can be lower than the REQUESTED_DOP value. |
| CONCURRENT_EXECUTION    | VARCHAR2 (3)   |          | Indicates whether concurrency was used for this execution (YES) or not (NO)                                                                                                                                     |
| ADVISOR_ID              | NUMBER         | NOT NULL | Unique identifier for the advisor                                                                                                                                                                               |

| Column         | Datatype        | NULL     | Description                                                                                                                                                                                   |
|----------------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS         | VARCHAR2 (11)   |          | Current operational status of the task: <ul style="list-style-type: none"> <li>• EXECUTING</li> <li>• COMPLETED</li> <li>• INTERRUPTED</li> <li>• CANCELLED</li> <li>• FATAL ERROR</li> </ul> |
| STATUS#        | NUMBER          | NOT NULL | Reserved for internal use                                                                                                                                                                     |
| STATUS_MESSAGE | VARCHAR2 (4000) |          | Informational message provided by the advisor regarding the status                                                                                                                            |
| ERROR_MESSAGE  | VARCHAR2 (4000) |          | Informational message or an error message indicating the current operation or condition                                                                                                       |



**See Also:**

"[USER\\_ADVISOR\\_EXECUTIONS](#)"

## 5.30 DBA\_ADVISOR\_FDG\_BREAKDOWN

DBA\_ADVISOR\_FDG\_BREAKDOWN describes the contribution from the different instances to the findings for each ADDM task.

This view is populated only with ADDM tasks that are analyzing multiple instances (that is, the ACTUAL\_ANALYSIS column in the task's row in DBA\_ADDM\_TASKS is set to DATABASE or PARTIAL).

### Related View

USER\_ADVISOR\_FDG\_BREAKDOWN describes the contribution from the different instances to the findings for each ADDM task owned by the current user.

| Column          | Datatype       | NULL     | Description                                                                                                |
|-----------------|----------------|----------|------------------------------------------------------------------------------------------------------------|
| TASK_ID         | NUMBER         | NOT NULL | Unique identifier of the task (see DBA_ADVISOR_TASKS and DBA_ADDM_TASKS)                                   |
| FINDING_ID      | NUMBER         | NOT NULL | Identifier of the finding to which this breakdown applies (see DBA_ADVISOR_FINDINGS and DBA_ADDM_FINDINGS) |
| INSTANCE_NUMBER | NUMBER         | NOT NULL | The number of the instance for the breakdown                                                               |
| IMPACT          | NUMBER         |          | The database time (in microseconds) of the finding in the instance                                         |
| PERC_IMPACT     | NUMBER         |          | Percentage of the contribution of the instance to the overall finding's impact                             |
| EXECUTION_NAME  | VARCHAR2 (128) |          | The name of the task execution with which this entry (row) is associated                                   |

**See Also:**["USER\\_ADVISOR\\_FDG\\_BREAKDOWN"](#)

## 5.31 DBA\_ADVISOR\_FINDING\_NAMES

DBA\_ADVISOR\_FINDING\_NAMES provides a list of all finding names registered with the Advisor Framework.

| Column       | Datatype        | NULL     | Description            |
|--------------|-----------------|----------|------------------------|
| ID           | NUMBER          |          | ID of the finding name |
| ADVISOR_NAME | VARCHAR2 (128)  | NOT NULL | Advisor name           |
| FINDING_NAME | VARCHAR2 (4000) |          | Finding name           |

## 5.32 DBA\_ADVISOR\_FINDINGS

DBA\_ADVISOR\_FINDINGS displays the findings discovered by all advisors in the database.

### Related View

USER\_ADVISOR\_FINDINGS displays the findings discovered by the advisors owned by the current user. This view does not display the OWNER column.

| Column         | Datatype        | NULL     | Description                                                                                                                                 |
|----------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128)  |          | Owner of the task                                                                                                                           |
| TASK_ID        | NUMBER          | NOT NULL | Identifier of the task                                                                                                                      |
| TASK_NAME      | VARCHAR2 (128)  |          | Name of the task                                                                                                                            |
| EXECUTION_NAME | VARCHAR2 (128)  |          | The name of the task execution with which this entry (row) is associated                                                                    |
| FINDING_ID     | NUMBER          | NOT NULL | Identifier of the finding                                                                                                                   |
| FINDING_NAME   | VARCHAR2 (4000) |          | Name of the finding                                                                                                                         |
| TYPE           | VARCHAR2 (11)   |          | Type of the finding: <ul style="list-style-type: none"> <li>• PROBLEM</li> <li>• SYMPTOM</li> <li>• ERROR</li> <li>• INFORMATION</li> </ul> |
| TYPE_ID        | NUMBER          | NOT NULL | Numeric ID for the value in column TYPE                                                                                                     |
| PARENT         | NUMBER          | NOT NULL | Identifier of the parent finding                                                                                                            |
| OBJECT_ID      | NUMBER          |          | Identifier of the associated object, if any                                                                                                 |
| IMPACT_TYPE    | VARCHAR2 (4000) |          | Impact of the finding on the system                                                                                                         |
| IMPACT         | NUMBER          |          | Impact value                                                                                                                                |
| MESSAGE        | VARCHAR2 (4000) |          | Message describing the finding                                                                                                              |
| MORE_INFO      | VARCHAR2 (4000) |          | Additional info associated with the finding                                                                                                 |

| Column   | Datatype     | NULL | Description                                                                                                                                                                   |
|----------|--------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILTERED | VARCHAR2 (1) |      | A value of <b>Y</b> means that the row in the view was filtered out by a directive (or a combination of directives). A value of <b>N</b> means that the row was not filtered. |
| FLAGS    | NUMBER       |      | For internal use only by advisor framework clients                                                                                                                            |

**See Also:**["USER\\_ADVISOR\\_FINDINGS"](#)

## 5.33 DBA\_ADVISOR\_JOURNAL

DBA\_ADVISOR\_JOURNAL displays the journal entries for all tasks in the database.

### Related View

USER\_ADVISOR\_JOURNAL displays the journal entries for the tasks owned by the current user. This view does not display the OWNER column.

| Column             | Datatype        | NULL     | Description                                                                                                                                                                |
|--------------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128)  |          | Owner of the task                                                                                                                                                          |
| TASK_ID            | NUMBER          | NOT NULL | Identifier of the task or workload object                                                                                                                                  |
| TASK_NAME          | VARCHAR2 (128)  |          | Name of the task or workload object                                                                                                                                        |
| EXECUTION_NAME     | VARCHAR2 (128)  |          | The name of the task execution with which this entry (row) is associated                                                                                                   |
| JOURNAL_ENTRY_SEQ  | NUMBER          | NOT NULL | Sequence number of the journal entry (unique for each task). This sequence number is used to order the data.                                                               |
| JOURNAL_ENTRY_TYPE | VARCHAR2 (12)   |          | Type of the task: <ul style="list-style-type: none"><li>• FATAL</li><li>• ERROR</li><li>• WARNING</li><li>• INFORMATION</li><li>• INFORMATION[2   3   4   5   6]</li></ul> |
| JOURNAL_ENTRY      | VARCHAR2 (4000) |          | Entry in the journal                                                                                                                                                       |

**See Also:**["USER\\_ADVISOR\\_JOURNAL"](#)

## 5.34 DBA\_ADVISOR\_LOG

DBA\_ADVISOR\_LOG displays information about the current state of all tasks in the database, as well as execution-specific data such as progress monitoring and completion status.

The view contains one row for each task.

### Related View

USER\_ADVISOR\_LOG displays information about the current state of the tasks owned by the current user. This view does not display the OWNER column.

| Column               | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                | VARCHAR2 (128)  |          | Owner of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TASK_ID              | NUMBER          | NOT NULL | Identifier of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TASK_NAME            | VARCHAR2 (128)  |          | Name of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EXECUTION_START      | DATE            |          | Execution start date and time of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| EXECUTION_END        | DATE            |          | Execution end date and time of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| STATUS               | VARCHAR2 (11)   |          | Current operational status of the task: <ul style="list-style-type: none"> <li>INITIAL - Initial state of the task; no recommendations are present</li> <li>EXECUTING - Task is currently running</li> <li>COMPLETED - Task successfully completed the analysis operation. Recommendation data can be viewed and reported.</li> <li>INTERRUPTED - Task analysis was interrupted by the user. Recommendation data, if present, can be viewed and reported at this time.</li> <li>CANCELLED</li> <li>FATAL ERROR - An irrecoverable error occurred during the analysis operation. All recommendation data is unusable.</li> </ul> |
| STATUS_MESSAGE       | VARCHAR2 (4000) |          | Informational message provided by the advisor regarding the status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| PCT_COMPLETION_TIME  | NUMBER          |          | Percent completion, in terms of time, of the task when it is executing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PROGRESS_METRIC      | NUMBER          |          | Metric that measures the progress of the task in terms of quality. Each advisor could have its own metric.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| METRIC_UNITS         | VARCHAR2 (64)   |          | Unit of the metric used to measure progress                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ACTIVITY_COUNTER     | NUMBER          |          | Counter that is updated frequently by the advisor, denoting that useful work is being performed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| RECOMMENDATION_COUNT | NUMBER          |          | Number of recommendations produced                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ERROR_MESSAGE        | VARCHAR2 (4000) |          | Informational message or an error message indicating the current operation or condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |



### See Also:

"USER\_ADVISOR\_LOG"



## 5.35 DBA\_ADVISOR\_OBJECT\_TYPES

DBA\_ADVISOR\_OBJECT\_TYPES displays information about the object types used by all advisors in the database.

In addition to the regular database object types (such as TABLE and INDEX), the following types are defined:

- SYSTEM
- I/O
- SGA
- PGA
- SHARED POOL
- BUFFER CACHE
- LIBRARY CACHE
- PROCESS
- SESSION
- ENQUEUE
- LATCH
- ROLLBACK SEGMENT
- FILE
- PARAMETER
- CURSOR
- SQL
- SQL WORKLOAD

| Column         | Datatype      | NULL | Description     |
|----------------|---------------|------|-----------------|
| OBJECT_TYPE_ID | NUMBER        |      | Type identifier |
| OBJECT_TYPE    | VARCHAR2 (64) |      | Type name       |

## 5.36 DBA\_ADVISOR\_OBJECTS

DBA\_ADVISOR\_OBJECTS displays information about the objects currently referenced by all advisors in the database.

Each row in the view pertains to an object instantiation.

### Related View

USER\_ADVISOR\_OBJECTS displays information about the objects currently referenced by the advisors owned by the current user. This view does not display the OWNER ATTR21, and ATTR22 columns.

| Column         | Datatype        | NULL     | Description                                                                                                                                              |
|----------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128)  |          | Owner of the object                                                                                                                                      |
| OBJECT_ID      | NUMBER          | NOT NULL | Identifier of the object                                                                                                                                 |
| TYPE           | VARCHAR2 (64)   |          | Name of the type                                                                                                                                         |
| TYPE_ID        | NUMBER          | NOT NULL | Type identifier number                                                                                                                                   |
| TASK_ID        | NUMBER          | NOT NULL | Task referencing the object                                                                                                                              |
| TASK_NAME      | VARCHAR2 (128)  |          | Name of the task                                                                                                                                         |
| EXECUTION_NAME | VARCHAR2 (128)  |          | The name of the task execution with which this entry (row) is associated                                                                                 |
| ATTR1          | VARCHAR2 (4000) |          | Attributes and identifier of the object                                                                                                                  |
| ATTR2          | VARCHAR2 (4000) |          | Attributes and identifier of the object                                                                                                                  |
| ATTR3          | VARCHAR2 (4000) |          | Attributes and identifier of the object                                                                                                                  |
| ATTR4          | CLOB            |          | Attributes and identifiers that cannot be expressed in the ATTR1, ATTR2, and ATTR3 columns                                                               |
| ATTR5          | VARCHAR2 (4000) |          | Attributes and identifier of the object                                                                                                                  |
| ATTR6          | RAW (2000)      |          | Attributes and identifier of the object                                                                                                                  |
| ATTR7          | NUMBER          |          | Attributes and identifier of the object                                                                                                                  |
| ATTR8          | NUMBER          |          | Attributes and identifier of the object                                                                                                                  |
| ATTR9          | NUMBER          |          | Attributes and identifier of the object                                                                                                                  |
| ATTR10         | NUMBER          |          | Attributes and identifier of the object                                                                                                                  |
| ATTR11         | NUMBER          |          | Attributes and identifier of the object                                                                                                                  |
| ATTR16         | VARCHAR2 (4000) |          | Attributes and identifier of the object                                                                                                                  |
| ATTR17         | VARCHAR2 (4000) |          | Attributes and identifier of the object                                                                                                                  |
| ATTR18         | VARCHAR2 (4000) |          | Attributes and identifier of the object                                                                                                                  |
| ATTR21         | DATE            |          | Attributes and identifier of the object                                                                                                                  |
| ATTR22         | DATE            |          | Attributes and identifier of the object                                                                                                                  |
| OTHER          | CLOB            |          | Other attributes and identifiers of the object                                                                                                           |
| ADV_SQL_ID     | VARCHAR2 (13)   |          | If the object type is <code>SQL</code> , then this column contains the SQL identifier of the SQL statement. Otherwise, the value of this column is null. |



#### Note:

The definition of the `ATTRn` columns depends on the advisors that are using the object. For example, the `SQL` object type defines the attribute columns as follows:

- `ATTR1` contains the SQL ID
- `ATTR2` contains the SQL address (in the cursor cache)
- `ATTR4` contains the SQL text

**See Also:**`"USER_ADVISOR_OBJECTS"`

## 5.37 DBA\_ADVISOR\_PARAMETERS

DBA\_ADVISOR\_PARAMETERS displays all task parameters and their current values in the database.

This data is accessible by all tasks.

### Related View

USER\_ADVISOR\_PARAMETERS displays the task parameters and their current values for the tasks owned by the current user. This view does not display the OWNER column.

| Column          | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128)  |          | Owner of the task or workload object                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TASK_ID         | NUMBER          | NOT NULL | Unique identifier number of the task or workload object                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TASK_NAME       | VARCHAR2 (128)  |          | Name of the task or workload object                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| PARAMETER_NAME  | VARCHAR2 (128)  | NOT NULL | Name of the parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| PARAMETER_VALUE | VARCHAR2 (4000) | NOT NULL | Value of the parameter. Numeric parameter values are converted to a string equivalent.<br>Possible keywords as values: <ul style="list-style-type: none"> <li>• ALL</li> <li>• UNLIMITED</li> <li>• UNUSED</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| PARAMETER_TYPE  | VARCHAR2 (10)   |          | Datatype of the parameter: <ul style="list-style-type: none"> <li>• NUMBER - Numeric value</li> <li>• STRING - String value. If the string contains special characters, then it will be enclosed in single quotes.</li> <li>• STRINGLIST - Comma-separated list of string elements. If a string element contains a comma or other special characters, then the element will be enclosed in single quotes.</li> <li>• TABLE - Single table reference. A reference will contain a schema name, followed by an optional table name.<br/>If the table name is omitted or is the character %, then the table name is interpreted as a wildcard. SQL quoted identifiers are supported.</li> <li>• TABLELIST - List of one or more comma-separated table references. A reference will contain schema name, followed by an optional table name.<br/>If the table name is omitted or is the character %, then the table name is interpreted as a wildcard. SQL quoted identifiers are supported.</li> </ul> |
| IS_DEFAULT      | VARCHAR2 (1)    |          | Indicates whether the parameter value is set to the advisor's default value (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Column                | Datatype        | NULL | Description                                                                                                    |
|-----------------------|-----------------|------|----------------------------------------------------------------------------------------------------------------|
| IS_OUTPUT             | VARCHAR2 (1)    |      | Indicates whether the task execution process sets the parameter value (Y) or not (N)                           |
| IS_MODIFIABLE_ANYTIME | VARCHAR2 (1)    |      | Indicates whether the parameter value can be modified when the task is not in its initial state (Y) or not (N) |
| DESCRIPTION           | VARCHAR2 (4000) |      | Optional description of the parameter                                                                          |
| EXECUTION_TYPE        | VARCHAR2 (128)  |      | For advisors supporting multiple executions, the type of execution this parameter pertains to                  |



#### See Also:

"USER\_ADVISOR\_PARAMETERS"

## 5.38 DBA\_ADVISOR\_RATIONALE

DBA\_ADVISOR\_RATIONALE displays information about the rationales for all recommendations in the database.

#### Related View

USER\_ADVISOR\_RATIONALE displays information about the rationales for the recommendations owned by the current user. This view does not display the OWNER column.

| Column         | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                        |
|----------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128)  |          | Owner of the task                                                                                                                                                                                                                                                                                                                  |
| TASK_ID        | NUMBER          | NOT NULL | Identifier of the task                                                                                                                                                                                                                                                                                                             |
| TASK_NAME      | VARCHAR2 (128)  |          | Name of the task                                                                                                                                                                                                                                                                                                                   |
| EXECUTION_NAME | VARCHAR2 (128)  |          | The name of the task execution with which this entry (row) is associated                                                                                                                                                                                                                                                           |
| REC_ID         | NUMBER          |          | Recommendation associated with the rationale                                                                                                                                                                                                                                                                                       |
| RATIONALE_ID   | NUMBER          | NOT NULL | Unique identifier for the rationale                                                                                                                                                                                                                                                                                                |
| IMPACT_TYPE    | VARCHAR2 (4000) |          | Impact on the system due to the problem described in the rationale. The impact can be described in terms of time, cost, or % degradation.                                                                                                                                                                                          |
| IMPACT         | NUMBER          |          | Calculated impact value                                                                                                                                                                                                                                                                                                            |
| MESSAGE        | VARCHAR2 (4000) |          | Message containing an overview of the rationale                                                                                                                                                                                                                                                                                    |
| OBJECT_ID      | NUMBER          |          | Identifier of an object specified in the DBA_ADVISOR_OBJECTS view                                                                                                                                                                                                                                                                  |
| TYPE           | VARCHAR2 (30)   |          | Type of the rationale; defines what data exists in the attribute columns and how to interpret it: <ul style="list-style-type: none"> <li>TEXT - Text sentence for descriptive messages. The ATTR1 column contains the text.</li> <li>CHART - Chart containing data to be displayed. The ATTR1 column contains the data.</li> </ul> |
| ATTR1          | VARCHAR2 (4000) |          | Parameters defining the rationale                                                                                                                                                                                                                                                                                                  |

| Column | Datatype        | NULL | Description                       |
|--------|-----------------|------|-----------------------------------|
| ATTR2  | VARCHAR2 (4000) |      | Parameters defining the rationale |
| ATTR3  | VARCHAR2 (4000) |      | Parameters defining the rationale |
| ATTR4  | VARCHAR2 (4000) |      | Parameters defining the rationale |
| ATTR5  | CLOB            |      | Parameters defining the rationale |

**See Also:**["USER\\_ADVISOR\\_RATIONALE"](#)

## 5.39 DBA\_ADVISOR\_RECOMMENDATIONS

DBA\_ADVISOR\_RECOMMENDATIONS displays the results of an analysis of all recommendations in the database.

A recommendation can have multiple actions associated with it. Actions are described in the DBA\_ADVISOR\_ACTIONS view. A recommendation also points to a set of rationales that present a justification/reasoning for that recommendation. These rationales are in the DBA\_ADVISOR\_RATIONALE view.

### Related View

USER\_ADVISOR\_RECOMMENDATIONS displays the results of an analysis of the recommendations owned by the current user. This view does not display the OWNER column.

| Column         | Datatype        | NULL     | Description                                                                                                                                                                                                      |
|----------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128)  |          | Owner of the task                                                                                                                                                                                                |
| REC_ID         | NUMBER          | NOT NULL | Unique identifier of the recommendation                                                                                                                                                                          |
| TASK_ID        | NUMBER          | NOT NULL | Task that owns the recommendation                                                                                                                                                                                |
| TASK_NAME      | VARCHAR2 (128)  |          | Name of the task                                                                                                                                                                                                 |
| EXECUTION_NAME | VARCHAR2 (128)  |          | The name of the task execution with which this entry (row) is associated                                                                                                                                         |
| FINDING_ID     | NUMBER          |          | Unique identifier of the finding                                                                                                                                                                                 |
| TYPE           | VARCHAR2 (30)   |          | Type of the recommendation                                                                                                                                                                                       |
| RANK           | NUMBER          |          | Ranking, in terms of importance, within the set of recommendations generated for the task                                                                                                                        |
| PARENT_REC_IDS | VARCHAR2 (4000) |          | Comma-separated list of the recommendation IDs of the parent recommendations. If this column is nonzero, then the recommendation depends on the parents, and cannot be accepted if the parents are not accepted. |

| Column            | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BENEFIT_TYPE      | VARCHAR2 (4000) |      | <p>Describes the benefit obtained by carrying out the recommendation</p> <p>If there is a set of parents for the recommendation, then the benefit is the cumulative benefit (the improvement in system performance when this and all prior parent recommendations are accepted).</p> <p>If there are no parents, then this is the improvement when the recommendation is accepted, independent of other recommendations.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| BENEFIT           | NUMBER          |      | <p>Calculated benefit value</p> <p>This column displays an estimate of the savings in total activity (or load) on the system if all actions of the recommendation are implemented.</p> <p>Recommendations are not additive, that is, the benefit from one recommendation may overlap with the benefit from another. For example, Oracle might recommend increasing the shared pool size, or reducing hard parses (by not using literals), and both recommendations might reduce the same part of the workload related to parsing.</p> <p>The benefit is given in both pure active sessions and as a percent of the average active sessions of the analysis time period. Therefore, if the benefit is 20% of active sessions, Oracle estimates that if you apply the actions on the same workload, the average active sessions on the server will be reduced by 20%. The <code>DBA_ADDM_TASKS</code> view displays the average active sessions for an ADDM task.</p> |
| ANNOTATION_STATUS | VARCHAR2 (11)   |      | <p>When a task is complete, the recommendations are marked <code>ACCEPT</code>. The status can be changed later using the <code>MARK_RECOMMENDATION</code> procedure:</p> <ul style="list-style-type: none"><li>• <code>ACCEPT</code> - Current recommendation is ready to implement. This recommendation can also be used as advice for future analysis operations.</li><li>• <code>REJECT</code> - Current recommendation is not acceptable to the user, and therefore will be excluded from any implementation scripts. This recommendation can also be used as advice for future analysis operations.</li><li>• <code>IGNORE</code> - Though not rejected, the current recommendation will be ignored when generating scripts and will never be used as advice to future analysis operations.</li></ul>                                                                                                                                                         |
| FLAGS             | NUMBER          |      | Advisor-specific flags                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| FILTERED          | VARCHAR2 (1)    |      | A value of <code>Y</code> means that the row in the view was filtered out by a directive (or a combination of directives). A value of <code>N</code> means that the row was not filtered.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| REC_TYPE_ID       | NUMBER          |      | Recommendation type ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

**See Also:**

- ["USER\\_ADVISOR\\_RECOMMENDATIONS"](#)
- ["DBA\\_ADDM\\_TASKS"](#)

## 5.40 DBA\_ADVISOR\_SQLA\_REC\_SUM

DBA\_ADVISOR\_SQLA\_REC\_SUM displays recommendation rollup information for all workload objects in the database after an Access Advisor analysis operation.

### Related View

USER\_ADVISOR\_SQLA\_REC\_SUM displays recommendation rollup information for the workload objects owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL | Description                                                                                                                              |
|----------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128) |      | Owner of the task                                                                                                                        |
| TASK_ID        | NUMBER         |      | Unique identifier of the task                                                                                                            |
| TASK_NAME      | VARCHAR2 (128) |      | Name of the task                                                                                                                         |
| REC_ID         | NUMBER         |      | Identifier of the recommendation                                                                                                         |
| TOTAL_STMTS    | NUMBER         |      | Total number of statements processed during analysis                                                                                     |
| TOTAL_PRECOST  | NUMBER         |      | Total cost of executing the statements in which the recommended object will be used, before the recommendations                          |
| TOTAL_POSTCOST | NUMBER         |      | Total cost of executing the statements in which the recommended object will be utilized, after the recommendations have been implemented |

**See Also:**

["USER\\_ADVISOR\\_SQLA\\_REC\\_SUM"](#)

## 5.41 DBA\_ADVISOR\_SQLA\_TABLES

DBA\_ADVISOR\_SQLA\_TABLES displays cross references between the workload statements and the tables referenced in the statement.

### Related View

USER\_ADVISOR\_SQLA\_TABLES displays cross references between the workload statements and the tables referenced in the statement for the current user. This view does not display the OWNER column.

| Column | Datatype       | NULL | Description                  |
|--------|----------------|------|------------------------------|
| OWNER  | VARCHAR2 (128) |      | Owner of the workload object |

| Column      | Datatype       | NULL | Description                                              |
|-------------|----------------|------|----------------------------------------------------------|
| TASK_ID     | NUMBER         |      | Unique identifier of the task                            |
| TASK_NAME   | VARCHAR2 (128) |      | Name of the task                                         |
| SQL_ID      | VARCHAR2 (13)  |      | SQL identifier of the parent cursor in the library cache |
| STMT_ID     | NUMBER         |      | Statement ID                                             |
| TABLE_OWNER | VARCHAR2 (128) |      | Owner of the table                                       |
| TABLE_NAME  | VARCHAR2 (128) |      | Table name                                               |

**See Also:**

"USER\_ADVISOR\_SQLA\_TABLES"

## 5.42 DBA\_ADVISOR\_SQLA\_WK\_MAP

DBA\_ADVISOR\_SQLA\_WK\_MAP displays the workload references for all tasks in the database.

Workload references are necessary to allow the SQL Access Advisor to find required workload data.

### Related View

USER\_ADVISOR\_SQLA\_WK\_MAP displays the workload references for the tasks owned by the current user. This view does not display the OWNER column.

| Column        | Datatype       | NULL | Description                                                                                                                     |
|---------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------|
| OWNER         | VARCHAR2 (128) |      | Owner of the task                                                                                                               |
| TASK_ID       | NUMBER         |      | Unique identifier of the task                                                                                                   |
| TASK_NAME     | VARCHAR2 (128) |      | Name of the task                                                                                                                |
| WORKLOAD_ID   | NUMBER         |      | Unique identifier of the workload object                                                                                        |
| WORKLOAD_NAME | VARCHAR2 (128) |      | Name of the workload                                                                                                            |
| IS_STS        | NUMBER         |      | Type of workload source: <ul style="list-style-type: none"><li>• 0 - SQL workload object</li><li>• 1 - SQL Tuning Set</li></ul> |

**See Also:**

"USER\_ADVISOR\_SQLA\_WK\_MAP"



## 5.43 DBA\_ADVISOR\_SQLA\_WK\_STMTS

DBA\_ADVISOR\_SQLA\_WK\_STMTS displays information about all workload objects in the database after an Access Advisor analysis operation.

### Related View

USER\_ADVISOR\_SQLA\_WK\_STMTS displays information about the workload objects owned by the current user after an Access Advisor analysis operation. This view does not display the OWNER column.

| Column              | Datatype       | NULL     | Description                                                                                                                                                                                                   |
|---------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128) |          | Owner of the task                                                                                                                                                                                             |
| TASK_NAME           | VARCHAR2 (128) |          | Name of the task                                                                                                                                                                                              |
| TASK_ID             | NUMBER         | NOT NULL | Unique identifier of the task                                                                                                                                                                                 |
| SQLSET_ID           | NUMBER         |          | ID of the SQL tuning set for the statement                                                                                                                                                                    |
| SQLSET_NAME         | VARCHAR2 (128) |          | Name of the SQL tuning set for the statement                                                                                                                                                                  |
| WORKLOAD_NAME       | VARCHAR2 (128) |          | Name of the workload                                                                                                                                                                                          |
| SQL_ID              | VARCHAR (13)   | NOT NULL | Generated identifier of the statement                                                                                                                                                                         |
| SQL_SEQ             | NUMBER         | NOT NULL | SQL sequence                                                                                                                                                                                                  |
| PLAN_HASH_VALUE     | NUMBER         | NOT NULL | Numerical representation of the SQL plan for the cursor. Comparing one PLAN_HASH_VALUE to another easily identifies whether or not two plans are the same (rather than comparing the two plans line-by-line). |
| PARSING_SCHEMA_NAME | VARCHAR2 (128) |          | Schema name that was used to originally build this child cursor                                                                                                                                               |
| USERNAME            | VARCHAR2 (128) |          | Name of the user executing the statement                                                                                                                                                                      |
| MODULE              | VARCHAR2 (64)  |          | Name of the module issuing the statement                                                                                                                                                                      |
| ACTION              | VARCHAR2 (64)  |          | Module action for the statement                                                                                                                                                                               |
| CPU_TIME            | NUMBER         |          | Total CPU count (in seconds) of the executing statement                                                                                                                                                       |
| BUFFER_GETS         | NUMBER         |          | Total number of buffer gets for the statement                                                                                                                                                                 |
| DISK_READS          | NUMBER         |          | Total disk-read I/O count for the statement                                                                                                                                                                   |
| ELAPSED_TIME        | NUMBER         |          | Total elapsed time (in seconds) of the executing statement                                                                                                                                                    |
| ROWS_PROCESSED      | NUMBER         |          | Total number of rows processed by the statement                                                                                                                                                               |
| EXECUTIONS          | NUMBER         |          | Total number of times the statement was executed                                                                                                                                                              |
| FIRST_LOAD_TIME     | DATE           |          | Load time of parent cursor                                                                                                                                                                                    |
| LAST_EXECUTION_DATE | DATE           |          | Date on which the statement was last executed                                                                                                                                                                 |
| PRIORITY            | NUMBER         |          | Business importance of the statement: <ul style="list-style-type: none"> <li>• 1 - High</li> <li>• 2 - Medium</li> <li>• 3 - Low</li> </ul>                                                                   |
| COMMAND_TYPE        | NUMBER         |          | Type of the command                                                                                                                                                                                           |
| STAT_PERIOD         | NUMBER         |          | Unused                                                                                                                                                                                                        |

| Column             | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------|----------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACTIVE_STAT_PERIOD | NUMBER   |      | Effective period of time (in seconds) during which the SQL statement was active                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SQL_TEXT           | CLOB     |      | Text of the SQL statement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| PRECOST            | NUMBER   |      | Cost of executing the statement in the workload prior to the recommendations                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| POSTCOST           | NUMBER   |      | Cost of executing the statement in the workload after the recommendations                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| IMPORTANCE         | NUMBER   |      | Advisor-calculated importance value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| REC_ID             | NUMBER   |      | Associated recommendation identifier                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| VALIDATED          | NUMBER   |      | Indicates whether the statement is valid for analysis: <ul style="list-style-type: none"> <li>0 - Statement will not be analyzed by the <code>EXECUTE_TASK</code> procedure. Typically, the statement references one or more tables that do not have valid statistics. To correct this problem, ensure that the tables have valid statistics and execute the <code>RESET_SQLWKLD</code> procedure on the current workload.</li> <li>1- Statement is eligible for analysis by the <code>EXECUTE_TASK</code> procedure</li> </ul> |



**See Also:**

"[USER\\_ADVISOR\\_SQLA\\_WK\\_STMTS](#)"

## 5.44 DBA\_ADVISOR\_SQLPLANS

DBA\_ADVISOR\_SQLPLANS displays the different SQL execution plans generated as part of an advisor analysis.

### Related View

USER\_ADVISOR\_SQLPLANS displays the different SQL execution plans owned by the current user generated as part of an advisor analysis.

| Column         | Datatype       | NULL     | Description                                                                             |
|----------------|----------------|----------|-----------------------------------------------------------------------------------------|
| TASK_NAME      | VARCHAR2 (128) |          | Advisor task name in which the SQL plan was generated (see DBA_ADVISOR_TASKS)           |
| TASK_ID        | NUMBER (38)    | NOT NULL | Advisor task ID in which the SQL plan was generated (see DBA_ADVISOR_TASKS)             |
| EXECUTION_NAME | VARCHAR2 (128) | NOT NULL | Advisor task execution in which the SQL plan was generated (see DBA_ADVISOR_EXECUTIONS) |
| SQL_ID         | VARCHAR2 (13)  | NOT NULL | Identifier for the relevant SQL statement                                               |
| OBJECT_ID      | NUMBER (38)    | NOT NULL | Advisor object ID identifying the relevant SQL statement (see DBA_ADVISOR_OBJECTS)      |

| Column          | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ATTRIBUTE       | VARCHAR2 (34)   |          | Text string identifying the type of the execution plan. The following values are used by the SQL Tuning Advisor: <ul style="list-style-type: none"> <li>Original - Original plan of the query</li> <li>Original with adjusted cost - Same as Original but with adjusted cost</li> <li>Using SQL profile - Plan with SQL profile applied</li> <li>Using new indices - Plan with indexes applied</li> </ul> |
| STATEMENT_ID    | VARCHAR2 (30)   |          | Optional statement identifier specified in the <code>EXPLAIN PLAN</code> statement                                                                                                                                                                                                                                                                                                                        |
| PLAN_HASH_VALUE | NUMBER          | NOT NULL | Numerical representation of the execution plan                                                                                                                                                                                                                                                                                                                                                            |
| PLAN_ID         | NUMBER          | NOT NULL | Plan identifier                                                                                                                                                                                                                                                                                                                                                                                           |
| TIMESTAMP       | DATE            |          | Date and time when the <code>EXPLAIN PLAN</code> statement was issued                                                                                                                                                                                                                                                                                                                                     |
| REMARKS         | VARCHAR2 (4000) |          | Place for comments that can be added to the steps of the execution plan                                                                                                                                                                                                                                                                                                                                   |
| OPERATION       | VARCHAR2 (30)   |          | Name of the operation performed at this step                                                                                                                                                                                                                                                                                                                                                              |
| OPTIONS         | VARCHAR2 (255)  |          | Options used for the operation performed at this step                                                                                                                                                                                                                                                                                                                                                     |
| OBJECT_NODE     | VARCHAR2 (128)  |          | Name of the database link used to reference the object                                                                                                                                                                                                                                                                                                                                                    |
| OBJECT_OWNER    | VARCHAR2 (128)  |          | Owner of the object                                                                                                                                                                                                                                                                                                                                                                                       |
| OBJECT_NAME     | VARCHAR2 (128)  |          | Name of the object                                                                                                                                                                                                                                                                                                                                                                                        |
| OBJECT_ALIAS    | VARCHAR2 (261)  |          | Object alias                                                                                                                                                                                                                                                                                                                                                                                              |
| OBJECT_INSTANCE | NUMBER (38)     |          | Numbered position of the object name in the original SQL statement                                                                                                                                                                                                                                                                                                                                        |
| OBJECT_TYPE     | VARCHAR2 (30)   |          | Descriptive modifier that further describes the type of object                                                                                                                                                                                                                                                                                                                                            |
| OPTIMIZER       | VARCHAR2 (255)  |          | Current mode of the optimizer                                                                                                                                                                                                                                                                                                                                                                             |
| SEARCH_COLUMNS  | NUMBER          |          | Number of index columns with start and stop keys (that is, the number of columns with matching predicates)                                                                                                                                                                                                                                                                                                |
| ID              | NUMBER (38)     | NOT NULL | Identification number for this step in the execution plan                                                                                                                                                                                                                                                                                                                                                 |
| PARENT_ID       | NUMBER (38)     |          | ID of the next step that operates on the results of this step                                                                                                                                                                                                                                                                                                                                             |
| DEPTH           | NUMBER (38)     |          | Depth                                                                                                                                                                                                                                                                                                                                                                                                     |
| POSITION        | NUMBER (38)     |          | Order of processing for steps with the same parent ID                                                                                                                                                                                                                                                                                                                                                     |
| COST            | NUMBER (38)     |          | Cost of the current operation estimated by the cost-based optimizer (CBO)                                                                                                                                                                                                                                                                                                                                 |
| CARDINALITY     | NUMBER (38)     |          | Number of rows returned by the current operation (estimated by the CBO)                                                                                                                                                                                                                                                                                                                                   |
| BYTES           | NUMBER (38)     |          | Number of bytes returned by the current operation                                                                                                                                                                                                                                                                                                                                                         |

| Column            | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------|-----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTHER_TAG         | VARCHAR2 (255)  |      | <p>Describes the function of the SQL text in the OTHER column. Values for OTHER_TAG are:</p> <ul style="list-style-type: none"> <li>SERIAL - SQL is the text of a locally-executed, serial query plan. Currently, SQL is not loaded in OTHER for this case.</li> <li>SERIAL_FROM_REMOTE - SQL text shown in the OTHER column will be executed at a remote site</li> <li>PARALLEL_COMBINED_WITH_PARENT - Parent of this operation is a DFO that performs both operations in the parallel execution plan</li> <li>PARALLEL_COMBINED_WITH_CHILD - Child of this operation is a DFO that performs both operations in the parallel execution plan.</li> <li>PARALLEL_TO_SERIAL - SQL text shown in the OTHER column is the top-level of the parallel plan.</li> <li>PARALLEL_TO_PARALLEL - SQL text shown in the OTHER column is executed and output in parallel</li> <li>PARALLEL_FROM_SERIAL - Operation consumes data from a serial operation and outputs it in parallel</li> </ul> |
| PARTITION_START   | VARCHAR2 (255)  |      | Start partition of a range of accessed partitions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PARTITION_STOP    | VARCHAR2 (255)  |      | Stop partition of a range of accessed partitions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PARTITION_ID      | NUMBER (38)     |      | Step that has computed the pair of values of the PARTITION_START and PARTITION_STOP columns                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| OTHER             | LONG            |      | Information about parallel execution servers and parallel queries                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DISTRIBUTION      | VARCHAR2 (30)   |      | Distribution method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CPU_COST          | NUMBER (38)     |      | User-defined CPU cost                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| IO_COST           | NUMBER (38)     |      | User-defined I/O cost                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TEMP_SPACE        | NUMBER (38)     |      | Temporary space usage of the operation (sort or hash-join) as estimated by the CBO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| ACCESS_PREDICATES | VARCHAR2 (4000) |      | Predicates used to locate rows in an access structure. For example, start or stop predicates for an index range scan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| FILTER_PREDICATES | VARCHAR2 (4000) |      | Predicates used to filter rows before producing them                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| PROJECTION        | VARCHAR2 (4000) |      | Expressions produced by the operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TIME              | NUMBER (38)     |      | Elapsed time (in seconds) of the operation as estimated by the CBO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| QBLOCK_NAME       | VARCHAR2 (128)  |      | Name of the query block                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Column    | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------|----------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTHER_XML | CLOB     |      | <p>Provides extra information specific to an execution step of the execution plan. The content of this column is structured using XML, which allows multiple pieces of information to be stored, including the following:</p> <ul style="list-style-type: none"><li>• Name of the schema against which the query was parsed</li><li>• Release number of the Oracle Database that produced the explain plan</li><li>• Hash value associated with the execution plan</li><li>• Name (if any) of the outline or the SQL profile used to build the execution plan</li><li>• Indication of whether or not dynamic statistics were used to produce the plan</li><li>• The outline data, a set of optimizer hints that can be used to regenerate the same plan</li><li>• Additional data that describes the relationship between rows in the plan table and subplans of adaptive plans</li></ul> |

**See Also:**["USER\\_ADVISOR\\_SQLPLANS"](#)

## 5.45 DBA\_ADVISOR\_SQLSTATS

DBA\_ADVISOR\_SQLSTATS displays execution statistics for the test-execution of different SQL plans during the advisor analysis.

### Related View

USER\_ADVISOR\_SQLSTATS displays execution statistics owned by the current user for the test-execution of different SQL plans during the advisor analysis.

| Column         | Datatype      | NULL     | Description                                                                                                               |
|----------------|---------------|----------|---------------------------------------------------------------------------------------------------------------------------|
| TASK_NAME      | VARCHAR2(128) |          | Advisor task name in which the SQL statement was executed (see DBA_ADVISOR_TASKS)                                         |
| TASK_ID        | NUMBER(38)    | NOT NULL | Advisor task ID in which the SQL statement was executed (see DBA_ADVISOR_TASKS)                                           |
| EXECUTION_NAME | VARCHAR2(128) | NOT NULL | Advisor task execution in which the SQL statement was executed (see DBA_ADVISOR_EXECUTIONS)                               |
| EXECUTION_TYPE | VARCHAR2(128) |          | Type of the advisor task execution in which the SQL statement was executed (see DBA_ADVISOR_EXECUTIONS)                   |
| OBJECT_ID      | NUMBER(38)    | NOT NULL | Advisor object ID identifying the relevant SQL statement (see DBA_ADVISOR_OBJECTS)                                        |
| PLAN_ID        | NUMBER        | NOT NULL | Plan ID number generated to uniquely identify a plan for a particular SQL statement (foreign key to DBA_ADVISOR_SQLPLANS) |

| Column                      | Datatype      | NULL     | Description                                                                                      |
|-----------------------------|---------------|----------|--------------------------------------------------------------------------------------------------|
| SQL_ID                      | VARCHAR2 (13) | NOT NULL | Identifier for the SQL statement executed                                                        |
| PLAN_HASH_VALUE             | NUMBER        | NOT NULL | Hash value of the SQL execution plan                                                             |
| ATTR1                       | NUMBER        |          | For internal use only                                                                            |
| CON_DBID                    | NUMBER        |          | The database ID of the pluggable database (PDB)                                                  |
| PARSE_TIME                  | NUMBER        |          | Parse time (in microseconds) measured for the SQL                                                |
| ELAPSED_TIME                | NUMBER        |          | Elapsed time (in microseconds) to execute the SQL and fetch all of its rows, after parsing       |
| CPU_TIME                    | NUMBER        |          | CPU time (in microseconds) to execute the SQL and fetch all of its rows, after parsing           |
| USER_IO_TIME                | NUMBER        |          | I/O time (in microseconds) to execute the SQL and fetch all of its rows, after parsing           |
| BUFFER_GETS                 | NUMBER        |          | Number of buffer gets measured for executing the SQL and fetching all of its rows                |
| DISK_READS                  | NUMBER        |          | Number of disk reads measured for executing the SQL and fetching all of its rows                 |
| DIRECT_WRITES               | NUMBER        |          | Number of direct writes measured for executing the SQL and fetching all of its rows              |
| PHYSICAL_READ_REQUESTS      | NUMBER        |          | Number of physical read I/O requests issued by the monitored SQL                                 |
| PHYSICAL_WRITE_REQUESTS     | NUMBER        |          | Number of physical write I/O requests issued by the monitored SQL                                |
| PHYSICAL_READ_BYTES         | NUMBER        |          | Number of bytes read from disks by the monitored SQL                                             |
| PHYSICAL_WRITE_BYTES        | NUMBER        |          | Number of bytes written to disks by the monitored SQL                                            |
| ROWS_PROCESSED              | NUMBER        |          | Number of rows returned by the SQL execution                                                     |
| FETCHES                     | NUMBER        |          | Number of fetches for the SQL execution                                                          |
| EXECUTIONS                  | NUMBER        |          | Execution count for the SQL. This column will always have a value of 1 or 0.                     |
| END_OF_FETCH_COUNT          | NUMBER        |          | Indicates whether the SQL was executed to end-of-fetch (1) or not (0)                            |
| OPTIMIZER_COST              | NUMBER        |          | Optimizer cost for the execution plan                                                            |
| OTHER                       | CLOB          |          | For internal use only                                                                            |
| TESTEXEC_TOTAL_EXECS        | NUMBER        |          | Total number of executions during test execute                                                   |
| IO_INTERCONNECT_BYTES       | NUMBER        |          | Number of I/O bytes exchanged between Oracle Database and the storage system                     |
| TESTEXEC_FIRST_EXEC_IGNORED | VARCHAR2 (1)  |          | Indicates whether the first execution in test execute is ignored (Y) or not (N)                  |
| CON_DBID                    | NUMBER        |          | The database ID of the PDB                                                                       |
| ATTR2                       | NUMBER        |          | For internal use only                                                                            |
| ATTR3                       | NUMBER        |          | For internal use only                                                                            |
| CACHED_GETS                 | NUMBER        |          | The total of the db block gets from cache statistic and the consistent gets from cache statistic |
| DIRECT_GETS                 | NUMBER        |          | The total of the db block gets direct statistic and the consistent gets direct statistic         |

| Column              | Datatype | NULL | Description                                                                            |
|---------------------|----------|------|----------------------------------------------------------------------------------------|
| EXECUTIONS_ORIGINAL | NUMBER   |      | Number of original executions from the SQL tuning set, independent of trial executions |
| OBJECT_FLAGS        | NUMBER   |      | Value of the flags from the execution of the SQL, such as timeout or error             |

**See Also:**

- ["USER\\_ADVISOR\\_SQLSTATS"](#)
- ["Statistics Descriptions"](#) for more information about statistics

## 5.46 DBA\_ADVISOR\_SQLW\_JOURNAL

DBA\_ADVISOR\_SQLW\_JOURNAL displays the journal entries for all workload objects in the database.

### Related View

USER\_ADVISOR\_SQLW\_JOURNAL displays the journal entries for the workload objects owned by the current user. This view does not display the OWNER column.

| Column             | Datatype        | NULL     | Description                                                                                                                                                                |
|--------------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128)  |          | Owner of the workload                                                                                                                                                      |
| WORKLOAD_ID        | NUMBER          | NOT NULL | Identifier number of the workload object                                                                                                                                   |
| WORKLOAD_NAME      | VARCHAR2 (128)  |          | Name of the workload object                                                                                                                                                |
| JOURNAL_ENTRY_SEQ  | NUMBER          | NOT NULL | Sequence number of the journal entry (unique for each workload). The sequence number is used to order the data.                                                            |
| JOURNAL_ENTRY_TYPE | VARCHAR2 (12)   |          | Type of the task: <ul style="list-style-type: none"><li>• FATAL</li><li>• ERROR</li><li>• WARNING</li><li>• INFORMATION</li><li>• INFORMATION[2   3   4   5   6]</li></ul> |
| JOURNAL_ENTRY      | VARCHAR2 (4000) |          | Entry in the journal                                                                                                                                                       |

**See Also:**

["USER\\_ADVISOR\\_SQLW\\_JOURNAL"](#)

## 5.47 DBA\_ADVISOR\_SQLW\_PARAMETERS

DBA\_ADVISOR\_SQLW\_PARAMETERS displays all workload parameters and their current values in the database.

### Related View

USER\_ADVISOR\_SQLW\_PARAMETERS displays the workload parameters and their current values owned by the current user. This view does not display the OWNER column.

| Column          | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128)  |          | Owner of the task or workload object                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| WORKLOAD_ID     | NUMBER          | NOT NULL | Unique identifier number of the workload object                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| WORKLOAD_NAME   | VARCHAR2 (128)  |          | Name of the workload object                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PARAMETER_NAME  | VARCHAR2 (128)  | NOT NULL | Name of the parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PARAMETER_VALUE | VARCHAR2 (4000) | NOT NULL | Value of the parameter. Numeric parameter values are converted to a string equivalent.<br>Possible keywords as values: <ul style="list-style-type: none"><li>• ALL</li><li>• UNLIMITED</li><li>• UNUSED</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PARAMETER_TYPE  | VARCHAR2 (10)   |          | Datatype of the parameter: <ul style="list-style-type: none"><li>• NUMBER - Numeric value</li><li>• STRING - String value. If the string contains special characters, then it will be enclosed in single quotes.</li><li>• STRINGLIST - Comma-separated list of string elements. If a string element contains a comma or other special characters, then the element will be enclosed in single quotes.</li><li>• TABLE - Single table reference. A reference contains a schema name, followed by an optional table name.<br/>If the table name is omitted or is the character %, then the table name is interpreted as a wildcard. SQL quoted identifiers are supported.</li><li>• TABLELIST - List of one or more comma-separated table references. A reference contains a schema name, followed by an optional table name.<br/>If the table name is omitted or is the character %, then the table name is interpreted as a wildcard. SQL quoted identifiers are supported.</li></ul> |
| DESCRIPTION     | VARCHAR2 (4000) |          | Parameter description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |



### See Also:

"USER\_ADVISOR\_SQLW\_PARAMETERS"



## 5.48 DBA\_ADVISOR\_SQLW\_STMTS

DBA\_ADVISOR\_SQLW\_STMTS displays rows that correspond to all statements in the workload.

All columns are guaranteed to be non-null.

### Related View

USER\_ADVISOR\_SQLW\_STMTS displays rows that correspond to the statements in the workload owned by the current user. This view does not display the OWNER column.

| Column              | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128) |          | Owner of the workload object                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| WORKLOAD_ID         | NUMBER         | NOT NULL | Unique identifier number of the workload object                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| WORKLOAD_NAME       | VARCHAR2 (128) |          | Name of the workload                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SQL_ID              | NUMBER         | NOT NULL | Generated identifier of the statement                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| HASH_VALUE          | NUMBER         |          | Hash value for the parent statement in the cache                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| USERNAME            | VARCHAR2 (128) |          | Name of the user executing the statement                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| MODULE              | VARCHAR2 (64)  |          | Name of the module issuing the statement                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ACTION              | VARCHAR2 (64)  |          | Module action for the statement                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CPU_TIME            | NUMBER         |          | Total CPU count (in seconds) of the executing statement                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| BUFFER_GETS         | NUMBER         |          | Total number of buffer gets for the statement                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DISK_READS          | NUMBER         |          | Total disk-read I/O count for the statement                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| ELAPSED_TIME        | NUMBER         |          | Total elapsed time (in seconds) of the executing statement                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ROWS_PROCESSED      | NUMBER         |          | Total number of rows processed by the statement                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| EXECUTIONS          | NUMBER         |          | Total number of times the statement was executed                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| OPTIMIZER_COST      | NUMBER         |          | Cost of executing the statement in the workload prior to the recommendations                                                                                                                                                                                                                                                                                                                                                                                                                |
| LAST_EXECUTION_DATE | DATE           |          | Date on which the statement was last executed                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PRIORITY            | NUMBER         |          | Priority of the statement: <ul style="list-style-type: none"> <li>1 - High</li> <li>2 - Medium</li> <li>3 - Low</li> </ul>                                                                                                                                                                                                                                                                                                                                                                  |
| COMMAND_TYPE        | NUMBER         |          | Type of the command                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| STAT_PERIOD         | NUMBER         |          | Unused                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SQL_TEXT            | CLOB           |          | Text of the SQL statement                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| VALID               | NUMBER         |          | Indicates whether the statement is valid for analysis: <ul style="list-style-type: none"> <li>0 - Statement will not be analyzed by the EXECUTE_TASK procedure. Typically, the statement references one or more tables that do not have valid statistics. To correct this problem, ensure that the tables have valid statistics and execute the RESET_SQLWKLDR procedure on the current workload.</li> <li>1 - Statement is eligible for analysis by the EXECUTE_TASK procedure.</li> </ul> |

**See Also:**["USER\\_ADVISOR\\_SQLW\\_STMTS"](#)

## 5.49 DBA\_ADVISOR\_SQLW\_SUM

DBA\_ADVISOR\_SQLW\_SUM displays an aggregated picture of all SQLWkld workload objects in the database.

### Related View

USER\_ADVISOR\_SQLW\_SUM displays an aggregated picture of the SQLWkld workload objects owned by the current user. This view does not display the OWNER column.

| Column          | Datatype        | NULL     | Description                                                                            |
|-----------------|-----------------|----------|----------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128)  |          | Owner of the workload object                                                           |
| WORKLOAD_ID     | NUMBER          | NOT NULL | Unique identifier number of the workload object                                        |
| WORKLOAD_NAME   | VARCHAR2 (128)  |          | Unique name of the workload                                                            |
| DESCRIPTION     | VARCHAR2 (256)  |          | User-specified description of the workload                                             |
| CREATE_DATE     | DATE            | NOT NULL | Date on which the workload object was created                                          |
| MODIFY_DATE     | DATE            | NOT NULL | Date of last update to the current workload                                            |
| NUM_SELECT_STMT | NUMBER          |          | Number of SELECT statements in the workload                                            |
| NUM_UPDATE_STMT | NUMBER          |          | Number of UPDATE statements in the workload                                            |
| NUM_DELETE_STMT | NUMBER          |          | Number of DELETE statements in the workload                                            |
| NUM_INSERT_STMT | NUMBER          |          | Number of INSERT statements in the workload                                            |
| NUM_MERGE_STMT  | NUMBER          |          | Number of MERGE statements in the workload                                             |
| SOURCE          | VARCHAR2 (128)  |          | Optional name that identifies the creator of the object                                |
| HOW_CREATED     | VARCHAR2 (30)   |          | Optional object or template on which the object was based                              |
| DATA_SOURCE     | VARCHAR2 (2000) |          | Workload data source                                                                   |
| READ_ONLY       | VARCHAR2 (5)    |          | Indicates whether or not the workload can be modified or deleted (TRUE) or not (FALSE) |

**See Also:**["USER\\_ADVISOR\\_SQLW\\_SUM"](#)

## 5.50 DBA\_ADVISOR\_SQLW\_TABLES

DBA\_ADVISOR\_SQLW\_TABLES displays cross references between the workload statements and the tables referenced in the statement.

### Related View

USER\_ADVISOR\_SQLW\_TABLES displays cross references between the workload statements and the tables referenced in the statement. This view does not display the OWNER column.

| Column        | Datatype       | NULL | Description                                     |
|---------------|----------------|------|-------------------------------------------------|
| OWNER         | VARCHAR2 (128) |      | Owner of the workload object                    |
| WORKLOAD_ID   | NUMBER         |      | Unique identifier number of the workload object |
| WORKLOAD_NAME | VARCHAR2 (128) |      | Name of the workload                            |
| SQL_ID        | NUMBER         |      | Identifier of the statement                     |
| TABLE_OWNER   | VARCHAR2 (128) |      | Owner of the table                              |
| TABLE_NAME    | VARCHAR2 (128) |      | Name of the table                               |



### See Also:

"USER\_ADVISOR\_SQLW\_TABLES"

## 5.51 DBA\_ADVISOR\_SQLW\_TEMPLATES

DBA\_ADVISOR\_SQLW\_TEMPLATES displays an aggregated picture of all SQLWkld template objects in the database.

### Related View

USER\_ADVISOR\_SQLW\_TEMPLATES displays an aggregated picture of the SQLWkld template objects owned by the current user. This view does not display the OWNER column.

| Column        | Datatype       | NULL     | Description                                                                              |
|---------------|----------------|----------|------------------------------------------------------------------------------------------|
| OWNER         | VARCHAR2 (128) |          | Owner of the workload object                                                             |
| WORKLOAD_ID   | NUMBER         | NOT NULL | Unique identifier number of the workload object                                          |
| WORKLOAD_NAME | VARCHAR2 (128) |          | Unique name of the workload                                                              |
| DESCRIPTION   | VARCHAR2 (256) |          | User-specified description of the workload                                               |
| CREATE_DATE   | DATE           | NOT NULL | Date on which the workload object was created                                            |
| MODIFY_DATE   | DATE           | NOT NULL | Date of last update to the current workload                                              |
| SOURCE        | VARCHAR2 (128) |          | Optional object or template on which the object was based                                |
| READ_ONLY     | VARCHAR2 (5)   |          | Indicates whether the workload template can be modified or deleted (TRUE) or not (FALSE) |

**See Also:**`"USER_ADVISOR_SQLW_TEMPLATES"`

## 5.52 DBA\_ADVISOR\_TASKS

DBA\_ADVISOR\_TASKS displays information about all tasks in the database.

The view contains one row for each task. Each task has a name that is unique to the owner. Task names are just informational and no uniqueness is enforced within any other namespace.

### Related View

USER\_ADVISOR\_TASKS displays information about the tasks owned by the current user. This view does not display the OWNER column.

| Column                | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                 | VARCHAR2 (128) |          | Owner of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TASK_ID               | NUMBER         | NOT NULL | Unique identifier of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TASK_NAME             | VARCHAR2 (128) |          | Name of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DESCRIPTION           | VARCHAR2 (256) |          | User-supplied description of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ADVISOR_NAME          | VARCHAR2 (128) |          | Advisor associated with the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CREATED               | DATE           | NOT NULL | Creation date of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| LAST_MODIFIED         | DATE           | NOT NULL | Date on which the task was last modified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PARENT_TASK_ID        | NUMBER         |          | Identifier of the parent task (if the task was created because of the recommendation of another task)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PARENT_RXEC_ID        | NUMBER         |          | Identifier of the recommendation within the parent task that resulted in the creation of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LAST_EXECUTION        | VARCHAR2 (128) |          | Name of the current or last task execution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EXECUTION_TYPE        | VARCHAR2 (128) |          | Type of the last execution. This information is optional for single-execution tasks.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| EXECUTION_TYPE#       | NUMBER         |          | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EXECUTION_DESCRIPTION | VARCHAR2 (256) |          | Optional description of the last execution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EXECUTION_START       | DATE           |          | Execution start date and time of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EXECUTION_END         | DATE           |          | Execution end date and time of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| STATUS                | VARCHAR2 (11)  |          | Current operational status of the task: <ul style="list-style-type: none"> <li>INITIAL - Initial state of the task; no recommendations are present</li> <li>EXECUTING - Task is currently running</li> <li>INTERRUPTED - Task analysis was interrupted by the user. Recommendation data, if present, can be viewed and reported at this time.</li> <li>COMPLETED - Task successfully completed the analysis operation. Recommendation data can be viewed and reported.</li> <li>ERROR - An error occurred during the analysis operation. Recommendations, if present, can be viewed and reported at this time.</li> </ul> |

| Column               | Datatype        | NULL     | Description                                                                                                                                                                                  |
|----------------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS_MESSAGE       | VARCHAR2 (4000) |          | Informational message provided by the advisor regarding the status                                                                                                                           |
| PCT_COMPLETION_TIME  | NUMBER          |          | Percent completion, in terms of time, of the task when it is executing                                                                                                                       |
| PROGRESS_METRIC      | NUMBER          |          | Metric that measures the progress of the task in terms of quality. Each advisor may have its own metric.                                                                                     |
| METRIC_UNITS         | VARCHAR2 (64)   |          | Unit of the metric used to measure progress                                                                                                                                                  |
| ACTIVITY_COUNTER     | NUMBER          |          | Counter that is updated frequently by the advisor, denoting that useful work is being performed                                                                                              |
| RECOMMENDATION_COUNT | NUMBER          |          | Number of recommendations produced                                                                                                                                                           |
| ERROR_MESSAGE        | VARCHAR2 (4000) |          | Informational message or an error message indicating the current operation or condition                                                                                                      |
| SOURCE               | VARCHAR2 (128)  |          | Optional name that identifies the creator of the task                                                                                                                                        |
| HOW_CREATED          | VARCHAR2 (30)   |          | Optional task or template on which the object was based                                                                                                                                      |
| READ_ONLY            | VARCHAR2 (5)    |          | Indicates whether the task is read-only ( <b>TRUE</b> ) or not ( <b>FALSE</b> )                                                                                                              |
| SYSTEM_TASK          | VARCHAR2 (5)    |          | Indicates whether the task is a system task ( <b>TRUE</b> ) or not ( <b>FALSE</b> ). The automatic SQL tuning task, <code>SYS_AUTO_SQL_TUNING_TASK</code> , is one example of a system task. |
| ADVISOR_ID           | NUMBER          | NOT NULL | Unique identifier for the advisor                                                                                                                                                            |
| STATUS#              | NUMBER          |          | Reserved for internal use                                                                                                                                                                    |



**See Also:**

["USER\\_ADVISOR\\_TASKS"](#)

## 5.53 DBA\_ADVISOR\_TEMPLATES

DBA\_ADVISOR\_TEMPLATES displays information about all templates in the database.

### Related View

USER\_ADVISOR\_TEMPLATES displays information about the templates owned by the current user. This view does not display the `OWNER` column.

| Column       | Datatype       | NULL     | Description                           |
|--------------|----------------|----------|---------------------------------------|
| OWNER        | VARCHAR2 (128) |          | Owner of the task                     |
| TASK_ID      | NUMBER         | NOT NULL | Unique identifier of the task         |
| TASK_NAME    | VARCHAR2 (128) |          | Name of the task                      |
| DESCRIPTION  | VARCHAR2 (256) |          | User-supplied description of the task |
| ADVISOR_NAME | VARCHAR2 (128) |          | Advisor associated with the task      |
| CREATED      | DATE           | NOT NULL | Creation date of the task             |

| Column        | Datatype       | NULL     | Description                                                                 |
|---------------|----------------|----------|-----------------------------------------------------------------------------|
| LAST_MODIFIED | DATE           | NOT NULL | Date on which the task was last modified                                    |
| SOURCE        | VARCHAR2 (128) |          | Optional task or template on which the template was based                   |
| READ_ONLY     | VARCHAR2 (5)   |          | Indicates whether the task can be modified or deleted (TRUE) or not (FALSE) |



**See Also:**

"USER\_ADVISOR\_TEMPLATES"

## 5.54 DBA\_ADVISOR\_USAGE

DBA\_ADVISOR\_USAGE displays the usage information for each type of advisor in the database.

| Column            | Datatype       | NULL     | Description                     |
|-------------------|----------------|----------|---------------------------------|
| ADVISOR_ID        | NUMBER         | NOT NULL | Type of the advisor             |
| ADVISOR_NAME      | VARCHAR2 (128) | NOT NULL | Name of the advisor             |
| LAST_EXEC_TIME    | DATE           | NOT NULL | Date of the last execution      |
| NUM_EXECS         | NUMBER         | NOT NULL | Cumulative number of executions |
| NUM_DB_REPORTS    | NUMBER         | NOT NULL | Cumulative number of reports    |
| FIRST_REPORT_TIME | DATE           |          | Time of the first report        |
| LAST_REPORT_TIME  | DATE           |          | Time of the last report         |

## 5.55 DBA\_AIM\_PERF\_FEATURES

DBA\_AIM\_PERF\_FEATURES describes table columns on which Automatic In-Memory (AIM) performance features are enabled.

| Column                   | Datatype       | NULL     | Description                                                                                                               |
|--------------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------|
| OWNER_NAME               | VARCHAR2 (128) | NOT NULL | Table owner                                                                                                               |
| TABLE_NAME               | VARCHAR2 (128) | NOT NULL | Table name                                                                                                                |
| COLUMN_NAME              | VARCHAR2 (128) | NOT NULL | Name of the column on which AIM performance features are enabled                                                          |
| OPTIMIZED_ARITHMETIC     | CHAR (1)       |          | Indicates whether the column is optimized for arithmetic operations (Y) or not (N)                                        |
| BLOOMFILTER_OPTIMIZATION | CHAR (1)       |          | Indicates whether queries on the column use cached hash values to probe the bloom filter during hash joins (Y) or not (N) |
| VECTOR_OPTIMIZATION      | CHAR (1)       |          | Indicates whether data is stored in the column using vector optimization (Y) or not (N)                                   |
| JOIN_GROUP               | CHAR (1)       |          | Indicates whether the column is part of a join group that was created by AIM (Y) or not (N)                               |

| Column        | Datatype | NULL | Description                                                          |
|---------------|----------|------|----------------------------------------------------------------------|
| CREATION_DATE | DATE     |      | Date and time at which the AIM performance features were implemented |

**Note:**

This view is available starting with Oracle Database 23ai.

## 5.56 DBA\_ALERT\_HISTORY

DBA\_ALERT\_HISTORY describes a time-limited history of alerts which are no longer outstanding.

| Column            | Datatype                     | NULL     | Description                                                                                   |
|-------------------|------------------------------|----------|-----------------------------------------------------------------------------------------------|
| SEQUENCE_ID       | NUMBER                       | NOT NULL | Alert sequence number                                                                         |
| REASON_ID         | NUMBER                       |          | ID of the alert reason                                                                        |
| OWNER             | VARCHAR2 (128)               |          | Owner of the object on which the alert was issued                                             |
| OBJECT_NAME       | VARCHAR2 (513)               |          | Name of the object                                                                            |
| SUBOBJECT_NAME    | VARCHAR2 (128)               |          | Name of the subobject (for example: partition)                                                |
| OBJECT_TYPE       | VARCHAR2 (64)                |          | Type of the object (for example: table, tablespace)                                           |
| REASON            | VARCHAR2 (4000)              |          | Reason for the alert                                                                          |
| TIME_SUGGESTED    | TIMESTAMP (6) WITH TIME ZONE |          | Time when the alert was last updated                                                          |
| CREATION_TIME     | TIMESTAMP (6) WITH TIME ZONE |          | Time when the alert was first created                                                         |
| SUGGESTED_ACTION  | VARCHAR2 (4000)              |          | Advice of the recommended action                                                              |
| ADVISOR_NAME      | VARCHAR2 (128)               |          | Name of the advisor to be invoked for more information                                        |
| METRIC_VALUE      | NUMBER                       |          | Value of the related metrics                                                                  |
| MESSAGE_TYPE      | VARCHAR2 (12)                |          | Message type: <ul style="list-style-type: none"> <li>Notification</li> <li>Warning</li> </ul> |
| MESSAGE_GROUP     | VARCHAR2 (64)                |          | Name of the message group to which the alert belongs                                          |
| MESSAGE_LEVEL     | NUMBER                       |          | Severity message level (1 to 32)                                                              |
| HOSTING_CLIENT_ID | VARCHAR2 (64)                |          | ID of the client or security group to which the alert relates                                 |
| MODULE_ID         | VARCHAR2 (64)                |          | ID of the module that originated the alert                                                    |
| PROCESS_ID        | VARCHAR2 (128)               |          | Process ID                                                                                    |
| HOST_ID           | VARCHAR2 (256)               |          | DNS host name of the originating host                                                         |
| HOST_NW_ADDR      | VARCHAR2 (256)               |          | IP or other network address of the originating host                                           |
| INSTANCE_NAME     | VARCHAR2 (16)                |          | Originating instance name                                                                     |
| INSTANCE_NUMBER   | NUMBER                       |          | Originating instance number                                                                   |
| USER_ID           | VARCHAR2 (128)               |          | User ID                                                                                       |

| Column               | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EXECUTION_CONTEXT_ID | VARCHAR2 (128) |      | Execution Context ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| ERROR_INSTANCE_ID    | VARCHAR2 (142) |      | ID of an error instance plus a sequence number                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| RESOLUTION           | VARCHAR2 (7)   |      | Resolution: <ul style="list-style-type: none"> <li>Cleared</li> <li>N/A</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                  |
| PDB_NAME             | VARCHAR2 (128) |      | PDB name                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID               | NUMBER         |      | The ID of the container to which the data pertains.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire multitenant container database (CDB). This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 5.57 DBA\_ALERT\_HISTORY\_DETAIL

DBA\_ALERT\_HISTORY\_DETAIL describes a time-limited history of cleared and outstanding alerts.

| Column            | Datatype                     | NULL     | Description                                                                                   |
|-------------------|------------------------------|----------|-----------------------------------------------------------------------------------------------|
| SEQUENCE_ID       | NUMBER                       | NOT NULL | Alert sequence number                                                                         |
| REASON_ID         | NUMBER                       |          | ID of the alert reason                                                                        |
| OWNER             | VARCHAR2 (128)               |          | Owner of the object on which alert is issued                                                  |
| OBJECT_NAME       | VARCHAR2 (513)               |          | Name of the object                                                                            |
| SUBOBJECT_NAME    | VARCHAR2 (128)               |          | Name of the subobject (for example: partition)                                                |
| OBJECT_TYPE       | VARCHAR2 (64)                |          | Type of the object (for example: table, tablespace)                                           |
| REASON            | VARCHAR2 (4000)              |          | Reason for the alert                                                                          |
| TIME_SUGGESTED    | TIMESTAMP (6) WITH TIME ZONE |          | Time when the alert was last updated                                                          |
| CREATION_TIME     | TIMESTAMP (6) WITH TIME ZONE |          | Time when the alert was first created                                                         |
| SUGGESTED_ACTION  | VARCHAR2 (4000)              |          | Advice of the recommended action                                                              |
| ADVISOR_NAME      | VARCHAR2 (128)               |          | Name of the advisor to be invoked for more information                                        |
| METRIC_VALUE      | NUMBER                       |          | Value of the related metrics                                                                  |
| MESSAGE_TYPE      | VARCHAR2 (12)                |          | Message type: <ul style="list-style-type: none"> <li>Notification</li> <li>Warning</li> </ul> |
| MESSAGE_GROUP     | VARCHAR2 (64)                |          | Name of the message group to which the alert belongs                                          |
| MESSAGE_LEVEL     | NUMBER                       |          | Severity level (1 to 32)                                                                      |
| HOSTING_CLIENT_ID | VARCHAR2 (64)                |          | ID of the client or security group to which the alert relates                                 |
| MODULE_ID         | VARCHAR2 (64)                |          | ID of the module that originated the alert                                                    |



| Column                  | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROCESS_ID              | VARCHAR2 (128) |          | Process id                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| HOST_ID                 | VARCHAR2 (256) |          | DNS host name of the originating host                                                                                                                                                                                                                                                                                                                                                                                                                    |
| HOST_NW_ADDR            | VARCHAR2 (256) |          | IP or other network address of originating host                                                                                                                                                                                                                                                                                                                                                                                                          |
| INSTANCE_NAME           | VARCHAR2 (16)  |          | Originating instance name                                                                                                                                                                                                                                                                                                                                                                                                                                |
| INSTANCE_NUMBER         | NUMBER         |          | Originating instance number                                                                                                                                                                                                                                                                                                                                                                                                                              |
| USER_ID                 | VARCHAR2 (128) |          | User ID                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EXECUTION_CONTEXT_ID    | VARCHAR2 (128) |          | Execution Context ID                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ERROR_INSTANCE_ID       | VARCHAR2 (142) |          | ID of an error instance plus a sequence number                                                                                                                                                                                                                                                                                                                                                                                                           |
| RESOLUTION              | VARCHAR2 (11)  |          | Resolution: <ul style="list-style-type: none"> <li>• Cleared</li> <li>• Outstanding</li> <li>• N/A</li> </ul>                                                                                                                                                                                                                                                                                                                                            |
| STATE_TRANSITION_NUMBER | NUMBER         | NOT NULL | Sequence number of the state transition for the alert                                                                                                                                                                                                                                                                                                                                                                                                    |
| PDB_NAME                | VARCHAR2 (128) |          | PDB name                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID                  | NUMBER         |          | The ID of the container to which the data pertains.<br>Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 5.58 DBA\_ALL\_TABLES

DBA\_ALL\_TABLES describes all object tables and relational tables in the database. Its columns are the same as those in ALL\_ALL\_TABLES.



**See Also:**

"ALL\_ALL\_TABLES"

## 5.59 DBA\_ANALYTIC\_VIEW\_AGGR\_DIMS

DBA\_ANALYTIC\_VIEW\_AGGR\_DIMS describes the aggregation function dimensions of all analytic views in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_AGGR\_DIMS.



**See Also:**

"ALL\_ANALYTIC\_VIEW\_AGGR\_DIMS"

## 5.60 DBA\_ANALYTIC\_VIEW\_AGGR\_FNS

DBA\_ANALYTIC\_VIEW\_AGGR\_FNS describes the aggregation functions of all analytic views in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_AGGR\_FNS.



**See Also:**

["ALL\\_ANALYTIC\\_VIEW\\_AGGR\\_FNS"](#)

## 5.61 DBA\_ANALYTIC\_VIEW\_AGGR\_FNS\_AE

DBA\_ANALYTIC\_VIEW\_AGGR\_FNS\_AE describes the aggregation functions of all analytic views (across all editions) in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_AGGR\_FNS\_AE.



**See Also:**

["ALL\\_ANALYTIC\\_VIEW\\_AGGR\\_FNS\\_AE"](#)

## 5.62 DBA\_ANALYTIC\_VIEW\_AGR\_DIMS

DBA\_ANALYTIC\_VIEW\_AGR\_DIMS describes the aggregation function dimensions of all analytic views in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_AGR\_DIMS.



**See Also:**

["ALL\\_ANALYTIC\\_VIEW\\_AGR\\_DIMS"](#)

## 5.63 DBA\_ANALYTIC\_VIEW\_AGR\_DIMS\_AE

DBA\_ANALYTIC\_VIEW\_AGR\_DIMS\_AE describes the aggregation function dimensions of all analytic views (across all editions) in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_AGR\_DIMS\_AE.



**See Also:**

["ALL\\_ANALYTIC\\_VIEW\\_AGR\\_DIMS\\_AE"](#)

## 5.64 DBA\_ANALYTIC\_VIEW\_ATTR\_CLASS

DBA\_ANALYTIC\_VIEW\_ATTR\_CLASS describes the attribute classifications of all analytic views in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_ATTR\_CLASS.



**See Also:**

"ALL\_ANALYTIC\_VIEW\_ATTR\_CLASS"

## 5.65 DBA\_ANALYTIC\_VIEW\_ATTR\_CLS

DBA\_ANALYTIC\_VIEW\_ATTR\_CLS is identical to DBA\_ANALYTIC\_VIEW\_ATTR\_CLASS.



**See Also:**

"DBA\_ANALYTIC\_VIEW\_ATTR\_CLASS"

## 5.66 DBA\_ANALYTIC\_VIEW\_ATTR\_CLS\_AE

DBA\_ANALYTIC\_VIEW\_ATTR\_CLS\_AE describes the attribute classifications of all analytic views (across all editions) in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_ATTR\_CLS\_AE.



**See Also:**

"ALL\_ANALYTIC\_VIEW\_ATTR\_CLS\_AE"

## 5.67 DBA\_ANALYTIC\_VIEW\_BASE\_MEAS

DBA\_ANALYTIC\_VIEW\_BASE\_MEAS is identical to DBA\_ANALYTIC\_VIEW\_BASE\_MEAS.



**See Also:**

"DBA\_ANALYTIC\_VIEW\_BASE\_MEAS"

## 5.68 DBA\_ANALYTIC\_VIEW\_BAS\_MEAS\_AE

DBA\_ANALYTIC\_VIEW\_BAS\_MEAS\_AE describes the base measures in all analytic views (across all editions) in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_BAS\_MEAS\_AE.



**See Also:**

["ALL\\_ANALYTIC\\_VIEW\\_BAS\\_MEAS\\_AE"](#)

## 5.69 DBA\_ANALYTIC\_VIEW\_BASE\_MEAS

DBA\_ANALYTIC\_VIEW\_BASE\_MEAS describes the base measures in all analytic views in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_BASE\_MEAS.



**See Also:**

["ALL\\_ANALYTIC\\_VIEW\\_BASE\\_MEAS"](#)

## 5.70 DBA\_ANALYTIC\_VIEW\_CALC\_MEAS

DBA\_ANALYTIC\_VIEW\_CALC\_MEAS describes the calculated measures in all analytic views in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_CALC\_MEAS.



**See Also:**

["ALL\\_ANALYTIC\\_VIEW\\_CALC\\_MEAS"](#)

## 5.71 DBA\_ANALYTIC\_VIEW\_CLASS

DBA\_ANALYTIC\_VIEW\_CLASS describes the classifications of all analytic views in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_CLASS.



**See Also:**

["ALL\\_ANALYTIC\\_VIEW\\_CLASS"](#)

## 5.72 DBA\_ANALYTIC\_VIEW\_CLASS\_AE

DBA\_ANALYTIC\_VIEW\_CLASS\_AE describes the classifications of all analytic views (across all editions) in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_CLASS\_AE.



**See Also:**

"ALL\_ANALYTIC\_VIEW\_CLASS\_AE"

## 5.73 DBA\_ANALYTIC\_VIEW\_CLC\_MEAS

DBA\_ANALYTIC\_VIEW\_CLC\_MEAS is identical to DBA\_ANALYTIC\_VIEW\_CALC\_MEAS.



**See Also:**

"DBA\_ANALYTIC\_VIEW\_CALC\_MEAS"

## 5.74 DBA\_ANALYTIC\_VIEW\_CLC\_MEAS\_AE

DBA\_ANALYTIC\_VIEW\_CLC\_MEAS\_AE describes the calculated measures in all analytic views (across all editions) in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_CLC\_MEAS\_AE.



**See Also:**

"ALL\_ANALYTIC\_VIEW\_CLC\_MEAS\_AE"

## 5.75 DBA\_ANALYTIC\_VIEW\_COLUMNS

DBA\_ANALYTIC\_VIEW\_COLUMNS describes the columns of all analytic views in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_COLUMNS.



**See Also:**

"ALL\_ANALYTIC\_VIEW\_COLUMNS"

## 5.76 DBA\_ANALYTIC\_VIEW\_COLUMNS\_AE

DBA\_ANALYTIC\_VIEW\_COLUMNS\_AE describes the columns of all analytic views (across all editions) in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_COLUMNS\_AE.



**See Also:**

["ALL\\_ANALYTIC\\_VIEW\\_COLUMNS\\_AE"](#)

## 5.77 DBA\_ANALYTIC\_VIEW\_DIM\_ATTRS

DBA\_ANALYTIC\_VIEW\_DIM\_ATTRS is identical to DBA\_ANALYTIC\_VIEW\_DIM\_ATTRS.



**See Also:**

["DBA\\_ANALYTIC\\_VIEW\\_DIM\\_ATTRS"](#)

## 5.78 DBA\_ANALYTIC\_VIEW\_DIM\_ATTRS\_AE

DBA\_ANALYTIC\_VIEW\_DIM\_ATTRS\_AE describes the attributes of the attribute dimensions in all analytic views (across all editions) in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_DIM\_ATTRS\_AE.



**See Also:**

["ALL\\_ANALYTIC\\_VIEW\\_DIM\\_ATTRS\\_AE"](#)

## 5.79 DBA\_ANALYTIC\_VIEW\_DIM\_ATTRS

DBA\_ANALYTIC\_VIEW\_DIM\_ATTRS describes the attributes of all attribute dimensions in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_DIM\_ATTRS.



**See Also:**

["ALL\\_ANALYTIC\\_VIEW\\_DIM\\_ATTRS"](#)

## 5.80 DBA\_ANALYTIC\_VIEW\_DIM\_CLASS

DBA\_ANALYTIC\_VIEW\_DIM\_CLASS describes the classifications of the attribute dimensions in all analytic views in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_DIM\_CLASS.



### See Also:

"ALL\_ANALYTIC\_VIEW\_DIM\_CLASS"

## 5.81 DBA\_ANALYTIC\_VIEW\_DIM\_CLS

DBA\_ANALYTIC\_VIEW\_DIM\_CLS is identical to DBA\_ANALYTIC\_VIEW\_DIM\_CLASS.



### See Also:

"DBA\_ANALYTIC\_VIEW\_DIM\_CLASS"

## 5.82 DBA\_ANALYTIC\_VIEW\_DIM\_CLS\_AE

DBA\_ANALYTIC\_VIEW\_DIM\_CLS\_AE describes the classifications of the attribute dimensions in all analytic views (across all editions) in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_DIM\_CLS\_AE.



### See Also:

"ALL\_ANALYTIC\_VIEW\_DIM\_CLS\_AE"

## 5.83 DBA\_ANALYTIC\_VIEW\_DIMENSIONS

DBA\_ANALYTIC\_VIEW\_DIMENSIONS describes the attribute dimensions in all analytic views in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_DIMENSIONS.



### See Also:

"ALL\_ANALYTIC\_VIEW\_DIMENSIONS"

## 5.84 DBA\_ANALYTIC\_VIEW\_DIMS

DBA\_ANALYTIC\_VIEW\_DIMS is identical to DBA\_ANALYTIC\_VIEW\_DIMENSIONS.



**See Also:**

["DBA\\_ANALYTIC\\_VIEW\\_DIMENSIONS"](#)

## 5.85 DBA\_ANALYTIC\_VIEW\_DIMS\_AE

DBA\_ANALYTIC\_VIEW\_DIMS\_AE describes the attribute dimensions in all analytic views (across all editions) in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_DIMS\_AE.



**See Also:**

["ALL\\_ANALYTIC\\_VIEW\\_DIMS\\_AE"](#)

## 5.86 DBA\_ANALYTIC\_VIEW\_FACT\_COLS

DBA\_ANALYTIC\_VIEW\_FACT\_COLS describes the fact columns of all analytic views in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_FACT\_COLS.



**See Also:**

["ALL\\_ANALYTIC\\_VIEW\\_FACT\\_COLS"](#)

## 5.87 DBA\_ANALYTIC\_VIEW\_FCT\_COLS

DBA\_ANALYTIC\_VIEW\_FCT\_COLS is identical to DBA\_ANALYTIC\_VIEW\_FACT\_COLS.



**See Also:**

["DBA\\_ANALYTIC\\_VIEW\\_FACT\\_COLS"](#)



## 5.88 DBA\_ANALYTIC\_VIEW\_FCT\_COLS\_AE

DBA\_ANALYTIC\_VIEW\_FCT\_COLS\_AE describes the fact columns of all analytic views (across all editions) in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_FCT\_COLS\_AE.



### See Also:

["ALL\\_ANALYTIC\\_VIEW\\_FCT\\_COLS\\_AE"](#)

## 5.89 DBA\_ANALYTIC\_VIEW\_HIER\_CLASS

DBA\_ANALYTIC\_VIEW\_HIER\_CLASS describes the classifications of the hierarchies in all analytic views in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_HIER\_CLASS.



### See Also:

["ALL\\_ANALYTIC\\_VIEW\\_HIER\\_CLASS"](#)

## 5.90 DBA\_ANALYTIC\_VIEW\_HIER\_CLS

DBA\_ANALYTIC\_VIEW\_HIER\_CLS is identical to DBA\_ANALYTIC\_VIEW\_HIER\_CLASS.



### See Also:

["DBA\\_ANALYTIC\\_VIEW\\_HIER\\_CLASS"](#)

## 5.91 DBA\_ANALYTIC\_VIEW\_HIER\_CLS\_AE

DBA\_ANALYTIC\_VIEW\_HIER\_CLS\_AE describes the classifications of the hierarchies in all analytic views (across all editions) in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_HIER\_CLS\_AE.



### See Also:

["ALL\\_ANALYTIC\\_VIEW\\_HIER\\_CLS\\_AE"](#)

## 5.92 DBA\_ANALYTIC\_VIEW\_HIERS

DBA\_ANALYTIC\_VIEW\_HIERS describes the hierarchies in all analytic views in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_HIERS.



**See Also:**

["ALL\\_ANALYTIC\\_VIEW\\_HIERS"](#)

## 5.93 DBA\_ANALYTIC\_VIEW\_HIERS\_AE

DBA\_ANALYTIC\_VIEW\_HIERS\_AE describes the hierarchies in all analytic views (across all editions) in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_HIERS\_AE.



**See Also:**

["ALL\\_ANALYTIC\\_VIEW\\_HIERS\\_AE"](#)

## 5.94 DBA\_ANALYTIC\_VIEW\_KEYS

DBA\_ANALYTIC\_VIEW\_KEYS describes the key columns of the attribute dimensions in all analytic views in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_KEYS.



**See Also:**

["ALL\\_ANALYTIC\\_VIEW\\_KEYS"](#)

## 5.95 DBA\_ANALYTIC\_VIEW\_KEYS\_AE

DBA\_ANALYTIC\_VIEW\_KEYS\_AE describes the key columns of the attribute dimensions in all analytic views (across all editions) in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_KEYS\_AE.



**See Also:**

["ALL\\_ANALYTIC\\_VIEW\\_KEYS\\_AE"](#)

## 5.96 DBA\_ANALYTIC\_VIEW\_LEVEL\_CLASS

DBA\_ANALYTIC\_VIEW\_LEVEL\_CLASS describes the level classifications of all analytic views in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_LEVEL\_CLASS.



**See Also:**

"ALL\_ANALYTIC\_VIEW\_LEVEL\_CLASS"

## 5.97 DBA\_ANALYTIC\_VIEW\_LEVELS

DBA\_ANALYTIC\_VIEW\_LEVELS describes the levels in the hierarchies in all analytic views in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_LEVELS.



**See Also:**

"ALL\_ANALYTIC\_VIEW\_LEVELS"

## 5.98 DBA\_ANALYTIC\_VIEW\_LEVELS\_AE

DBA\_ANALYTIC\_VIEW\_LEVELS\_AE describes the levels in the hierarchies in all analytic views (across all editions) in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_LEVELS\_AE.



**See Also:**

"ALL\_ANALYTIC\_VIEW\_LEVELS\_AE"

## 5.99 DBA\_ANALYTIC\_VIEW\_LVL\_CLS

DBA\_ANALYTIC\_VIEW\_LVL\_CLS is identical to DBA\_ANALYTIC\_VIEW\_LEVEL\_CLASS.



**See Also:**

"DBA\_ANALYTIC\_VIEW\_LEVEL\_CLASS"

## 5.100 DBA\_ANALYTIC\_VIEW\_LVL\_CLS\_AE

DBA\_ANALYTIC\_VIEW\_LVL\_CLS\_AE describes the level classifications of all analytic views (across all editions) in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_LVL\_CLS\_AE.



### See Also:

"ALL\_ANALYTIC\_VIEW\_LVL\_CLS\_AE"

## 5.101 DBA\_ANALYTIC\_VIEW\_LVLGRPS

DBA\_ANALYTIC\_VIEW\_LVLGRPS describes the analytic view measure and level groups of all analytic views in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_LVLGRPS.



### See Also:

"ALL\_ANALYTIC\_VIEW\_LVLGRPS"

## 5.102 DBA\_ANALYTIC\_VIEW\_LVLGRPS\_AE

DBA\_ANALYTIC\_VIEW\_LVLGRPS\_AE describes the analytic view measure and level groups of all analytic views (across all editions) in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_LVLGRPS\_AE.



### See Also:

"ALL\_ANALYTIC\_VIEW\_LVLGRPS\_AE"

## 5.103 DBA\_ANALYTIC\_VIEW\_MEAS\_CLASS

DBA\_ANALYTIC\_VIEW\_MEAS\_CLASS describes the classifications of the measures of all analytic views in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_MEAS\_CLASS.



### See Also:

"ALL\_ANALYTIC\_VIEW\_MEAS\_CLASS"

## 5.104 DBA\_ANALYTIC\_VIEW\_MEAS\_CLS

DBA\_ANALYTIC\_VIEW\_MEAS\_CLS is identical to DBA\_ANALYTIC\_VIEW\_MEAS\_CLASS.



**See Also:**

["DBA\\_ANALYTIC\\_VIEW\\_MEAS\\_CLASS"](#)

## 5.105 DBA\_ANALYTIC\_VIEW\_MEAS\_CLS\_AE

DBA\_ANALYTIC\_VIEW\_MEAS\_CLS\_AE describes the classifications of the measures of all analytic views (across all editions) in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEW\_MEAS\_CLS\_AE.



**See Also:**

["ALL\\_ANALYTIC\\_VIEW\\_MEAS\\_CLS\\_AE"](#)

## 5.106 DBA\_ANALYTIC\_VIEWS

DBA\_ANALYTIC\_VIEWS describes all analytic views in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEWS.



**See Also:**

["ALL\\_ANALYTIC\\_VIEWS"](#)

## 5.107 DBA\_ANALYTIC\_VIEWS\_AE

DBA\_ANALYTIC\_VIEWS\_AE describes all analytic views (across all editions) in the database. Its columns are the same as those in ALL\_ANALYTIC\_VIEWS\_AE.



**See Also:**

["ALL\\_ANALYTIC\\_VIEWS\\_AE"](#)

## 5.108 DBA\_ANNOTATION\_VALUES

DBA\_ANNOTATION\_VALUES displays the values for all schema annotations in the database. Its columns are the same as those in ALL\_ANNOTATION\_VALUES.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_ANNOTATION\\_VALUES"](#)

## 5.109 DBA\_ANNOTATIONS

DBA\_ANNOTATIONS displays all schema annotations in the database. Its columns are the same as those in ALL\_ANNOTATIONS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_ANNOTATIONS"](#)

## 5.110 DBA\_ANNOTATIONS\_USAGE

DBA\_ANNOTATIONS\_USAGE provides usage information about all schema annotations in the database. Its columns are the same as those in ALL\_ANNOTATIONS\_USAGE.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**["ALL\\_ANNOTATIONS\\_USAGE"](#)

## 5.111 DBA\_APP\_ERRORS

DBA\_APP\_ERRORS displays errors raised when an application PDB synchronizes with an application in the application root.

This view displays errors raised during the last synchronization for each application.

| Column            | Datatype        | NULL     | Description                                                            |
|-------------------|-----------------|----------|------------------------------------------------------------------------|
| APP_NAME          | VARCHAR2 (128)  |          | Name of the application whose statement was captured                   |
| APP_STATEMENT     | CLOB            |          | Application statement                                                  |
| ERRORNUM          | NUMBER          |          | Error number for the statement                                         |
| ERRORMSG          | VARCHAR2 (4000) |          | Error message for the statement                                        |
| SYNC_TIME         | DATE            | NOT NULL | Sync time for the statement                                            |
| SYSTEM_IGNOREABLE | VARCHAR2 (1)    |          | Indicates whether the error is a system-ignorable error (Y) or not (N) |
| USER_IGNOREABLE   | VARCHAR2 (1)    |          | Indicates whether the error is a user-ignorable error (Y) or not (N)   |

## 5.112 DBA\_APP\_ERRORS\_HISTORY

DBA\_APP\_ERRORS\_HISTORY displays the history of errors raised when an application PDB synchronizes with an application in the application root.

This view displays errors raised during the last 10 synchronizations for each application.

| Column            | Datatype        | NULL     | Description                                                            |
|-------------------|-----------------|----------|------------------------------------------------------------------------|
| APP_NAME          | VARCHAR2 (128)  |          | Name of the application whose statement was captured                   |
| APP_STATEMENT     | CLOB            |          | Application statement                                                  |
| ERRORNUM          | NUMBER          |          | Error number for the statement                                         |
| ERRORMSG          | VARCHAR2 (4000) |          | Error message for the statement                                        |
| SYNC_TIME         | TIMESTAMP (6)   | NOT NULL | Sync time for the statement                                            |
| SYSTEM_IGNOREABLE | VARCHAR2 (1)    |          | Indicates whether the error is a system-ignorable error (Y) or not (N) |
| USER_IGNOREABLE   | VARCHAR2 (1)    |          | Indicates whether the error is a user-ignorable error (Y) or not (N)   |

## 5.113 DBA\_APP\_PATCHES

DBA\_APP\_PATCHES describes all the application patches in the Application Container.

| Column            | Datatype        | NULL | Description                               |
|-------------------|-----------------|------|-------------------------------------------|
| APP_NAME          | VARCHAR2 (128)  |      | Name of the application                   |
| PATCH_NUMBER      | NUMBER          |      | Patch number                              |
| PATCH_MIN_VERSION | VARCHAR2 (30)   |      | Minimum application version for the patch |
| PATCH_STATUS      | VARCHAR2 (10)   |      | Status of the patch                       |
| PATCH_COMMENT     | VARCHAR2 (4000) |      | Comment associated with the patch         |
| PATCH_CHECKSUM    | NUMBER          |      | Checksum for the patch                    |

## 5.114 DBA\_APP\_PDB\_STATUS

DBA\_APP\_PDB\_STATUS provides information about applications in all the application PDBs in the current application container. It provides this information when queried in the application root.

The view should be queried in the application root.

This view can be used to show which version of an application has been synced to which application PDBs.

| Column      | Datatype       | NULL | Description                |
|-------------|----------------|------|----------------------------|
| CON_UID     | NUMBER         |      | Unique ID of the PDB       |
| APP_NAME    | VARCHAR2 (128) |      | Name of the application    |
| APP_ID      | NUMBER         |      | Id of the application      |
| APP_VERSION | VARCHAR2 (30)  |      | Version of the application |
| APP_STATUS  | VARCHAR2 (12)  |      | Status of the application  |

## 5.115 DBA\_APP\_STATEMENTS

DBA\_APP\_STATEMENTS describes all statements from all the applications in the Application Container.

| Column        | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                        |
|---------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGIN_CON_ID | NUMBER         |          | The ID of the container where the data originates.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li><i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i>=1 if the row originates in root)</li> </ul> |
| STATEMENT_ID  | NUMBER         |          | Statement ID                                                                                                                                                                                                                                                                                                                                                                       |
| CAPTURE_TIME  | DATE           | NOT NULL | Time of capture of the application statement                                                                                                                                                                                                                                                                                                                                       |
| APP_STATEMENT | CLOB           |          | Application statement                                                                                                                                                                                                                                                                                                                                                              |
| APP_NAME      | VARCHAR2 (128) |          | Name of the application whose statement was captured                                                                                                                                                                                                                                                                                                                               |
| APP_STATUS    | VARCHAR2 (12)  |          | Status of the application when the statement was captured                                                                                                                                                                                                                                                                                                                          |



| Column         | Datatype | NULL     | Description                                                        |
|----------------|----------|----------|--------------------------------------------------------------------|
| PATCH_NUMBER   | NUMBER   |          | Patch number of patch installation when the statement was captured |
| VERSION_NUMBER | NUMBER   |          | Version number when the statement was captured                     |
| SESSION_ID     | NUMBER   |          | Unique session ID when the statement was captured                  |
| OPCODE         | NUMBER   | NOT NULL | Operation code indicating the statement type                       |

## 5.116 DBA\_APP\_VERSIONS

DBA\_APP\_VERSIONS displays information about all application versions installed in an application container.

| Column                 | Datatype        | NULL | Description                                                            |
|------------------------|-----------------|------|------------------------------------------------------------------------|
| APP_NAME               | VARCHAR2 (128)  |      | Name of the application                                                |
| APP_VERSION            | VARCHAR2 (30)   |      | Version of the application                                             |
| APP_VERSION_COMMENT    | VARCHAR2 (4000) |      | Comment associated with the application version                        |
| APP_VERSION_CHECKSUM   | NUMBER          |      | Checksum for the application version                                   |
| APP_ROOT_CLONE_NAME    | VARCHAR2 (64)   |      | Name of the application root clone that corresponds to the application |
| APP_VERSION_BEGIN_TIME | DATE            |      | Begin time of the most recent sync of the application                  |
| APP_VERSION_END_TIME   | DATE            |      | End time of the most recent sync of the application                    |
| APP_VERSION_NUMBER     | NUMBER          |      | Version number of the application version                              |



### See Also:

*Oracle Multitenant Administrator's Guide* for more information about application containers

## 5.117 DBA\_APPLICATION\_ROLES

DBA\_APPLICATION\_ROLES describes all the roles that have authorization policy functions defined.

### Related View

USER\_APPLICATION\_ROLES describes all the roles for the current user that have authorization policy functions defined.

| Column  | Datatype       | NULL     | Description                      |
|---------|----------------|----------|----------------------------------|
| ROLE    | VARCHAR2 (128) | NOT NULL | Name of the application role     |
| SCHEMA  | VARCHAR2 (128) | NOT NULL | Schema of the authorized package |
| PACKAGE | VARCHAR2 (128) | NOT NULL | Name of the authorized package   |

**See Also:**["USER\\_APPLICATION\\_ROLES"](#)

## 5.118 DBA\_APPLICATIONS

DBA\_APPLICATIONS provides information about the applications in the current application container.

| Column              | Datatype       | NULL | Description                                                  |
|---------------------|----------------|------|--------------------------------------------------------------|
| APP_NAME            | VARCHAR2 (128) |      | Name of the application                                      |
| APP_ID              | NUMBER         |      | ID of the application                                        |
| APP_VERSION         | VARCHAR2 (30)  |      | Version of the application                                   |
| APP_STATUS          | VARCHAR2 (12)  |      | Status of the application                                    |
| APP_IMPLICIT        | VARCHAR2 (1)   |      | Indicates whether the application is implicit (Y) or not (N) |
| APP_CAPTURE_SERVICE | VARCHAR2 (64)  |      | Service name used for the capture                            |
| APP_CAPTURE_MODULE  | VARCHAR2 (64)  |      | Module name used for the capture                             |

## 5.119 DBA\_APPLY

DBA\_APPLY displays information about all apply processes in the database. Its columns are the same as those in ALL\_APPLY.

**See Also:**["ALL\\_APPLY"](#)

## 5.120 DBA\_APPLY\_CHANGE\_HANDLERS

DBA\_APPLY\_CHANGE\_HANDLERS displays information about the change handlers on all tables in the database. Its columns are the same as those in ALL\_APPLY\_CHANGE\_HANDLERS.

**See Also:**["ALL\\_APPLY\\_CHANGE\\_HANDLERS"](#)

## 5.121 DBA\_APPLY\_CONFLICT\_COLUMNS

DBA\_APPLY\_CONFLICT\_COLUMNS displays information about the conflict handlers on all tables in the database. Its columns are the same as those in ALL\_APPLY\_CONFLICT\_COLUMNS.



**See Also:**

["ALL\\_APPLY\\_CONFLICT\\_COLUMNS"](#)

## 5.122 DBA\_APPLY\_DML\_CONF\_HANDLERS

DBA\_APPLY\_DML\_CONF\_HANDLERS provides details about DML conflict handlers. Its columns are the same as those in ALL\_APPLY\_DML\_CONF\_HANDLERS.



**See Also:**

["ALL\\_APPLY\\_DML\\_CONF\\_HANDLERS"](#)

## 5.123 DBA\_APPLY\_DML\_HANDLERS

DBA\_APPLY\_DML\_HANDLERS displays information about the DML handlers on all tables in the database. Its columns are the same as those in ALL\_APPLY\_DML\_HANDLERS.



**See Also:**

["ALL\\_APPLY\\_DML\\_HANDLERS"](#)

## 5.124 DBA\_APPLY\_ENQUEUE

DBA\_APPLY\_ENQUEUE displays information about the apply enqueue actions for all rules in the database. Its columns are the same as those in ALL\_APPLY\_ENQUEUE.



**See Also:**

["ALL\\_APPLY\\_ENQUEUE"](#)

## 5.125 DBA\_APPLY\_ERROR

DBA\_APPLY\_ERROR displays information about the error transactions generated by all apply processes in the database. Its columns are the same as those in ALL\_APPLY\_ERROR.



### See Also:

"ALL\_APPLY\_ERROR"

## 5.126 DBA\_APPLY\_ERROR\_MESSAGES

DBA\_APPLY\_ERROR\_MESSAGES displays information about the individual messages in all of the error transactions generated by all apply processes in the database. Its columns are the same as those in ALL\_APPLY\_ERROR\_MESSAGES.

For XStream inbound servers, each message in an error transaction is an LCR.



### Note:

- Messages that were spilled from memory to hard disk do not appear in this view.
- This view does not contain information related to XStream outbound servers.



### See Also:

"ALL\_APPLY\_ERROR\_MESSAGES"

## 5.127 DBA\_APPLY\_EXECUTE

DBA\_APPLY\_EXECUTE displays information about the apply execute actions for all rules in the database. Its columns are the same as those in ALL\_APPLY\_EXECUTE.



### See Also:

"ALL\_APPLY\_EXECUTE"

## 5.128 DBA\_APPLY\_HANDLE\_COLLISIONS

DBA\_APPLY\_HANDLE\_COLLISIONS provides details about apply handlers for collisions at the table level. Its columns are the same as those in ALL\_APPLY\_HANDLE\_COLLISIONS.



### See Also:

"ALL\_APPLY\_HANDLE\_COLLISIONS"

## 5.129 DBA\_APPLY\_INSTANTIATED\_GLOBAL

DBA\_APPLY\_INSTANTIATED\_GLOBAL displays information about databases for which an instantiation SCN has been set. Its columns are the same as those in ALL\_APPLY\_INSTANTIATED\_GLOBAL.



### See Also:

"ALL\_APPLY\_INSTANTIATED\_GLOBAL"

## 5.130 DBA\_APPLY\_INSTANTIATED\_OBJECTS

DBA\_APPLY\_INSTANTIATED\_OBJECTS displays information about objects for which an instantiation SCN has been set. Its columns are the same as those in ALL\_APPLY\_INSTANTIATED\_OBJECTS.



### See Also:

"ALL\_APPLY\_INSTANTIATED\_OBJECTS"

## 5.131 DBA\_APPLY\_INSTANTIATED\_SCHEMAS

DBA\_APPLY\_INSTANTIATED\_SCHEMAS displays information about schemas for which an instantiation SCN has been set. Its columns are the same as those in ALL\_APPLY\_INSTANTIATED\_SCHEMAS.



### See Also:

"ALL\_APPLY\_INSTANTIATED\_SCHEMAS"

## 5.132 DBA\_APPLY\_KEY\_COLUMNS

DBA\_APPLY\_KEY\_COLUMNS displays information about the substitute key columns for all tables in the database. Its columns are the same as those in ALL\_APPLY\_KEY\_COLUMNS.



**See Also:**

["ALL\\_APPLY\\_KEY\\_COLUMNS"](#)

## 5.133 DBA\_APPLY\_OBJECT\_DEPENDENCIES

DBA\_APPLY\_OBJECT\_DEPENDENCIES displays information about the object dependencies for all apply processes in the database.

| Column              | Datatype       | NULL     | Description                |
|---------------------|----------------|----------|----------------------------|
| OBJECT_OWNER        | VARCHAR2 (128) | NOT NULL | Owner of the object        |
| OBJECT_NAME         | VARCHAR2 (128) | NOT NULL | Name of the object         |
| PARENT_OBJECT_OWNER | VARCHAR2 (128) | NOT NULL | Parent of the object owner |
| PARENT_OBJECT_NAME  | VARCHAR2 (128) | NOT NULL | Parent of the named object |

## 5.134 DBA\_APPLY\_PARAMETERS

DBA\_APPLY\_PARAMETERS displays information about the parameters for all apply processes in the database. Its columns are the same as those in ALL\_APPLY\_PARAMETERS.



**See Also:**

["ALL\\_APPLY\\_PARAMETERS"](#)

## 5.135 DBA\_APPLY\_PROGRESS

DBA\_APPLY\_PROGRESS displays information about the progress made by all apply processes in the database. Its columns are the same as those in ALL\_APPLY\_PROGRESS.



**See Also:**

["ALL\\_APPLY\\_PROGRESS"](#)

## 5.136 DBA\_APPLY\_REPERROR\_HANDLERS

DBA\_APPLY\_REPERROR\_HANDLERS provides details about apply reperror handlers. Its columns are the same as those in ALL\_APPLY\_REPERROR\_HANDLERS.



**See Also:**

"ALL\_APPLY\_REPERROR\_HANDLERS"

## 5.137 DBA\_APPLY\_SPILL\_TXN

DBA\_APPLY\_SPILL\_TXN displays information about the transactions spilled from memory to hard disk by all apply processes in the database.

| Column                    | Datatype       | NULL     | Description                                                                                                     |
|---------------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------|
| APPLY_NAME                | VARCHAR2 (128) | NOT NULL | Name of the apply process that spilled one or more transactions                                                 |
| XIDUSN                    | NUMBER         | NOT NULL | Transaction ID undo segment number                                                                              |
| XIDSLT                    | NUMBER         | NOT NULL | Transaction ID slot number                                                                                      |
| XIDSQN                    | NUMBER         | NOT NULL | Transaction ID sequence number                                                                                  |
| PDB_ID                    | NUMBER         |          | PDB ID number                                                                                                   |
| FIRST_SCN                 | NUMBER         | NOT NULL | SCN of the first message in the transaction                                                                     |
| MESSAGE_COUNT             | NUMBER         |          | Number of messages spilled for the transaction                                                                  |
| FIRST_MESSAGE_CREATE_TIME | DATE           |          | Source creation time of the first message in the transaction                                                    |
| SPILL_CREATION_TIME       | DATE           |          | Time the first message was spilled                                                                              |
| FIRST_POSITION            | RAW (64)       |          | Position of the first message in this transaction. This column is populated only for an XStream inbound server. |
| TRANSACTION_ID            | VARCHAR2 (128) |          | Transaction ID of the spilled transaction                                                                       |

## 5.138 DBA\_APPLY\_TABLE\_COLUMNS

DBA\_APPLY\_TABLE\_COLUMNS displays, for all tables in the database, information about the nonkey table columns for which apply process conflict detection has been stopped for update and delete operations. Its columns are the same as those in ALL\_APPLY\_TABLE\_COLUMNS.



**See Also:**

"ALL\_APPLY\_TABLE\_COLUMNS"

## 5.139 DBA\_APPLY\_VALUE\_DEPENDENCIES

DBA\_APPLY\_VALUE\_DEPENDENCIES displays information about the value dependencies for all apply processes in the database.

| Column          | Datatype       | NULL     | Description            |
|-----------------|----------------|----------|------------------------|
| DEPENDENCY_NAME | VARCHAR2 (128) | NOT NULL | Name of the dependency |
| OBJECT_OWNER    | VARCHAR2 (128) | NOT NULL | Owner of the object    |
| OBJECT_NAME     | VARCHAR2 (128) | NOT NULL | Name of the object     |
| COLUMN_NAME     | VARCHAR2 (128) | NOT NULL | Name of the column     |
| COLUMN_POSITION | NUMBER         |          | Position of the column |

## 5.140 DBA\_AQ\_AGENT\_PRIVS

DBA\_AQ\_AGENT\_PRIVS displays information about the registered AQ agents that are mapped to all users in the database.

### Related View

USER\_AQ\_AGENT\_PRIVS displays information about the registered AQ agents that are mapped to the current user. This view does not display the DB\_USERNAME column.

| Column       | Datatype       | NULL     | Description                                                                        |
|--------------|----------------|----------|------------------------------------------------------------------------------------|
| AGENT_NAME   | VARCHAR2 (128) | NOT NULL | Name of the AQ agent                                                               |
| DB_USERNAME  | VARCHAR2 (128) |          | Name of the database user that the agent maps to                                   |
| HTTP_ENABLED | VARCHAR2 (4)   |          | Indicates whether the agent is allowed to access AQ through HTTP (YES) or not (NO) |
| SMTP_ENABLED | VARCHAR2 (4)   |          | Indicates whether the agent is allowed to access AQ through SMTP (YES) or not (NO) |



**See Also:**

"USER\_AQ\_AGENT\_PRIVS"

## 5.141 DBA\_AQ\_AGENTS

DBA\_AQ\_AGENTS displays information about all registered AQ agents in the database.

| Column       | Datatype       | NULL     | Description                                                                        |
|--------------|----------------|----------|------------------------------------------------------------------------------------|
| AGENT_NAME   | VARCHAR2 (128) | NOT NULL | Name of the AQ agent                                                               |
| HTTP_ENABLED | VARCHAR2 (4)   |          | Indicates whether the agent is allowed to access AQ through HTTP (YES) or not (NO) |
| SMTP_ENABLED | VARCHAR2 (4)   |          | Indicates whether the agent is allowed to access AQ through SMTP (YES) or not (NO) |



## 5.142 DBA\_ARGUMENTS

DBA\_ARGUMENTS lists the arguments of the functions and procedures that are available in the database. Its columns are the same as those in ALL\_ARGUMENTS.



### See Also:

- ["ALL\\_ARGUMENTS"](#)
- ["DBA\\_PROCEEDURES"](#) for information about the functions and procedures that are available in the database

## 5.143 DBA\_ASSEMBLIES

DBA\_ASSEMBLIES provides information about all assemblies in the database. Its columns are the same as those in ALL\_ASSEMBLIES.



### See Also:

- ["ALL\\_ASSEMBLIES"](#)

## 5.144 DBA\_ASSOCIATIONS

DBA\_ASSOCIATIONS describes all user-defined statistics in the database. Its columns are the same as those in ALL\_ASSOCIATIONS.



### See Also:

- ["ALL\\_ASSOCIATIONS"](#)

## 5.145 DBA\_ATTRIBUTE\_DIM\_ATTR\_CLASS

DBA\_ATTRIBUTE\_DIM\_ATTR\_CLASS describes the attribute classifications of all attribute dimensions in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_ATTR\_CLASS.



### See Also:

- ["ALL\\_ATTRIBUTE\\_DIM\\_ATTR\\_CLASS"](#)

## 5.146 DBA\_ATTRIBUTE\_DIM\_ATTR\_CLS

DBA\_ATTRIBUTE\_DIM\_ATTR\_CLS is identical to DBA\_ATTRIBUTE\_DIM\_ATTR\_CLASS.



**See Also:**

["DBA\\_ATTRIBUTE\\_DIM\\_ATTR\\_CLASS"](#)

## 5.147 DBA\_ATTRIBUTE\_DIM\_ATTR\_CLS\_AE

DBA\_ATTRIBUTE\_DIM\_ATTR\_CLS\_AE describes the attribute classifications of all attribute dimensions (across all editions) in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_ATTR\_CLS\_AE.



**See Also:**

["ALL\\_ATTRIBUTE\\_DIM\\_ATTR\\_CLS\\_AE"](#)

## 5.148 DBA\_ATTRIBUTE\_DIM\_ATTRS

DBA\_ATTRIBUTE\_DIM\_ATTRS describes the attributes of all attribute dimensions in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_ATTRS.



**See Also:**

["ALL\\_ATTRIBUTE\\_DIM\\_ATTRS"](#)

## 5.149 DBA\_ATTRIBUTE\_DIM\_ATTRS\_AE

DBA\_ATTRIBUTE\_DIM\_ATTRS\_AE describes the attributes of all attribute dimensions (across all editions) in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_ATTRS\_AE.



**See Also:**

["ALL\\_ATTRIBUTE\\_DIM\\_ATTRS\\_AE"](#)

## 5.150 DBA\_ATTRIBUTE\_DIM\_CLASS

DBA\_ATTRIBUTE\_DIM\_CLASS describes the classifications of all attribute dimensions in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_CLASS.



**See Also:**

"ALL\_ATTRIBUTE\_DIM\_CLASS"

## 5.151 DBA\_ATTRIBUTE\_DIM\_CLASS\_AE

DBA\_ATTRIBUTE\_DIM\_CLASS\_AE describes the classifications of all attribute dimensions (across all editions) in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_CLASS\_AE.



**See Also:**

"ALL\_ATTRIBUTE\_DIM\_CLASS\_AE"

## 5.152 DBA\_ATTRIBUTE\_DIM\_JN\_PTHS

DBA\_ATTRIBUTE\_DIM\_JN\_PTHS is identical to DBA\_ATTRIBUTE\_DIM\_JOIN\_PATHS.



**See Also:**

"DBA\_ATTRIBUTE\_DIM\_JOIN\_PATHS"

## 5.153 DBA\_ATTRIBUTE\_DIM\_JN\_PTHS\_AE

DBA\_ATTRIBUTE\_DIM\_JN\_PTHS\_AE describes the join paths for all attribute dimensions (across all editions) in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_JN\_PTHS\_AE.



**See Also:**

"ALL\_ATTRIBUTE\_DIM\_JN\_PTHS\_AE"

## 5.154 DBA\_ATTRIBUTE\_DIM\_JOIN\_PATHS

DBA\_ATTRIBUTE\_DIM\_JOIN\_PATHS describes the join paths for all attribute dimensions in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_JOIN\_PATHS.



**See Also:**

["ALL\\_ATTRIBUTE\\_DIM\\_JOIN\\_PATHS"](#)

## 5.155 DBA\_ATTRIBUTE\_DIM\_KEYS

DBA\_ATTRIBUTE\_DIM\_KEYS describes the keys of all attribute dimensions in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_KEYS.



**See Also:**

["ALL\\_ATTRIBUTE\\_DIM\\_KEYS"](#)

## 5.156 DBA\_ATTRIBUTE\_DIM\_KEYS\_AE

DBA\_ATTRIBUTE\_DIM\_KEYS\_AE describes the keys of all attribute dimensions (across all editions) in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_KEYS\_AE.



**See Also:**

["ALL\\_ATTRIBUTE\\_DIM\\_KEYS\\_AE"](#)

## 5.157 DBA\_ATTRIBUTE\_DIM\_LEVEL\_ATTRS

DBA\_ATTRIBUTE\_DIM\_LEVEL\_ATTRS describes the attributes of the levels of all attribute dimensions in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_LEVEL\_ATTRS.



**See Also:**

["ALL\\_ATTRIBUTE\\_DIM\\_LEVEL\\_ATTRS"](#)

## 5.158 DBA\_ATTRIBUTE\_DIM\_LEVELS

DBA\_ATTRIBUTE\_DIM\_LEVELS describes the levels of all attribute dimensions in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_LEVELS.



**See Also:**

["ALL\\_ATTRIBUTE\\_DIM\\_LEVELS"](#)

## 5.159 DBA\_ATTRIBUTE\_DIM\_LEVELS\_AE

DBA\_ATTRIBUTE\_DIM\_LEVELS\_AE describes the levels of all attribute dimensions (across all editions) in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_LEVELS\_AE.



**See Also:**

["ALL\\_ATTRIBUTE\\_DIM\\_LEVELS\\_AE"](#)

## 5.160 DBA\_ATTRIBUTE\_DIM\_LVL\_ATTRS

DBA\_ATTRIBUTE\_DIM\_LVL\_ATTRS is identical to DBA\_ATTRIBUTE\_DIM\_LEVEL\_ATTRS.



**See Also:**

["DBA\\_ATTRIBUTE\\_DIM\\_LEVEL\\_ATTRS"](#)

## 5.161 DBA\_ATTRIBUTE\_DIM\_LVL\_ATTRS\_AE

DBA\_ATTRIBUTE\_DIM\_LVL\_ATTRS\_AE describes the attributes of the levels of all attribute dimensions (across all editions) in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_LVL\_ATTRS\_AE.



**See Also:**

["ALL\\_ATTRIBUTE\\_DIM\\_LVL\\_ATTRS\\_AE"](#)

## 5.162 DBA\_ATTRIBUTE\_DIM\_LVL\_CLASS

DBA\_ATTRIBUTE\_DIM\_LVL\_CLASS describes the level classifications of all attribute dimensions in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_LVL\_CLASS.



**See Also:**

["ALL\\_ATTRIBUTE\\_DIM\\_LVL\\_CLASS"](#)

## 5.163 DBA\_ATTRIBUTE\_DIM\_LVL\_CLS

DBA\_ATTRIBUTE\_DIM\_LVL\_CLS is identical to DBA\_ATTRIBUTE\_DIM\_LVL\_CLASS.



**See Also:**

["DBA\\_ATTRIBUTE\\_DIM\\_LVL\\_CLASS"](#)

## 5.164 DBA\_ATTRIBUTE\_DIM\_LVL\_CLS\_AE

DBA\_ATTRIBUTE\_DIM\_LVL\_CLS\_AE describes the level classifications of all attribute dimensions (across all editions) in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_LVL\_CLS\_AE.



**See Also:**

["ALL\\_ATTRIBUTE\\_DIM\\_LVL\\_CLS\\_AE"](#)

## 5.165 DBA\_ATTRIBUTE\_DIM\_ORD\_ATTRS

DBA\_ATTRIBUTE\_DIM\_ORD\_ATTRS is identical to DBA\_ATTRIBUTE\_DIM\_ORDER\_ATTRS.



**See Also:**

["DBA\\_ATTRIBUTE\\_DIM\\_ORDER\\_ATTRS"](#)

## 5.166 DBA\_ATTRIBUTE\_DIM\_ORD\_ATTRS\_AE

DBA\_ATTRIBUTE\_DIM\_ORD\_ATTRS\_AE describes the order attributes of all attribute dimensions (across all editions) in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_ORD\_ATTRS\_AE.



**See Also:**

["ALL\\_ATTRIBUTE\\_DIM\\_ORD\\_ATTRS\\_AE"](#)

## 5.167 DBA\_ATTRIBUTE\_DIM\_ORDER\_ATTRS

DBA\_ATTRIBUTE\_DIM\_ORDER\_ATTRS describes the order attributes of all attribute dimensions in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_ORDER\_ATTRS.



**See Also:**

["ALL\\_ATTRIBUTE\\_DIM\\_ORDER\\_ATTRS"](#)

## 5.168 DBA\_ATTRIBUTE\_DIM\_TABLES

DBA\_ATTRIBUTE\_DIM\_TABLES describes the tables used by all attribute dimensions in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_TABLES.



**See Also:**

["ALL\\_ATTRIBUTE\\_DIM\\_TABLES"](#)

## 5.169 DBA\_ATTRIBUTE\_DIM\_TABLES\_AE

DBA\_ATTRIBUTE\_DIM\_TABLES\_AE describes the tables used by all attribute dimensions (across all editions) in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_TABLES\_AE.



**See Also:**

["ALL\\_ATTRIBUTE\\_DIM\\_TABLES\\_AE"](#)

## 5.170 DBA\_ATTRIBUTE\_DIMENSIONS

DBA\_ATTRIBUTE\_DIMENSIONS describes all attribute dimensions in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIMENSIONS.



### See Also:

"ALL\_ATTRIBUTE\_DIMENSIONS"

## 5.171 DBA\_ATTRIBUTE\_DIMENSIONS\_AE

DBA\_ATTRIBUTE\_DIMENSIONS\_AE describes all attribute dimensions (across all editions) in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_DIMENSIONS\_AE.



### See Also:

"ALL\_ATTRIBUTE\_DIMENSIONS\_AE"

## 5.172 DBA\_ATTRIBUTE\_TRANSFORMATIONS

DBA\_ATTRIBUTE\_TRANSFORMATIONS describes the transformation functions for all transformations in the database. Its columns are the same as those in ALL\_ATTRIBUTE\_TRANSFORMATIONS.



### See Also:

"ALL\_ATTRIBUTE\_TRANSFORMATIONS"

## 5.173 DBA\_AUDIT\_EXISTS

DBA\_AUDIT\_EXISTS displays audit trail entries produced by AUDIT EXISTS and AUDIT NOT EXISTS.



### Note:

This view is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored and are viewable with this view. See *Oracle Database Security Guide* for more information about how this desupport works.



| Column      | Datatype       | NULL | Description                                                                                                                                                                     |
|-------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OS_USERNAME | VARCHAR2 (255) |      | Operating system login username of the user whose actions were audited                                                                                                          |
| USERNAME    | VARCHAR2 (128) |      | Name (not ID number) of the user whose actions were audited                                                                                                                     |
| USERHOST    | VARCHAR2 (128) |      | Client host machine name                                                                                                                                                        |
| TERMINAL    | VARCHAR2 (255) |      | Identifier of the user's terminal                                                                                                                                               |
| TIMESTAMP   | DATE           |      | Date and time of the creation of the audit trail entry (date and time of user login for entries created by <code>AUDIT SESSION</code> ) in the local database session time zone |
| OWNER       | VARCHAR2 (128) |      | Intended creator of the non-existent object                                                                                                                                     |
| OBJ_NAME    | VARCHAR2 (128) |      | Name of the object affected by the action                                                                                                                                       |
| ACTION_NAME | VARCHAR2 (28)  |      | Name of the action type corresponding to the numeric code in the <code>ACTION</code> column in <code>DBA_AUDIT_TRAIL</code>                                                     |
| NEW_OWNER   | VARCHAR2 (128) |      | Owner of the object named in the <code>NEW_NAME</code> column                                                                                                                   |
| NEW_NAME    | VARCHAR2 (128) |      | New name of an object after a <code>RENAME</code> or the name of the underlying object                                                                                          |

| Column        | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJ_PRIVILEGE | VARCHAR2 (32)  |      | <p>Object privileges granted or revoked by a <b>GRANT</b> or <b>REVOKE</b> statement. The value of this column is a 32-character string of <b>Y</b> and dash (-) characters. Each character corresponds to a numbered privilege in the following list. The left-most character corresponds to privilege 0, the next character corresponds to privilege 1, and so on. The right-most character corresponds to privilege 31.</p> <ul style="list-style-type: none"> <li>0 - ALTER</li> <li>1 - AUDIT</li> <li>2 - COMMENT</li> <li>3 - DELETE</li> <li>4 - GRANT</li> <li>5 - INDEX</li> <li>6 - INSERT</li> <li>7 - LOCK</li> <li>8 - CREATE</li> <li>9 - SELECT</li> <li>10 - UPDATE</li> <li>11 - REFERENCES</li> <li>12 - EXECUTE</li> <li>13 - VIEW</li> <li>14 - DROP</li> <li>15 - ANALYZE</li> <li>16 - CREATE</li> <li>17 - READ</li> <li>18 - WRITE</li> <li>19 - KEEP SEQUENCE</li> <li>20 - ENQUEUE</li> <li>21 - DEQUEUE</li> <li>22 - UNDER</li> <li>23 - ON COMMIT</li> <li>24 - REWRITE</li> <li>25 - UPSERT</li> <li>26 - DEBUG</li> <li>27 - FLASHBACK</li> <li>28 - MERGE</li> <li>29 - USE</li> <li>30 - FLASHBACK ARCHIVE</li> <li>31 - DIRECTORY EXECUTE</li> </ul> <p>A <b>Y</b> indicates that the privilege was granted or revoked by the statement. A dash indicates that the privilege was not affected by the statement. For example, the following value indicates that the <b>MERGE</b> privilege was granted or revoked by the statement:</p> <p>-----Y---</p> |
| SYS_PRIVILEGE | VARCHAR2 (40)  |      | System privileges granted or revoked by a <b>GRANT</b> or <b>REVOKE</b> statement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| GRANTEE       | VARCHAR2 (128) |      | Name of the grantee specified in a <b>GRANT</b> or <b>REVOKE</b> statement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| Column             | Datatype                     | NULL     | Description                                                                                                                                                                   |
|--------------------|------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SESSIONID          | NUMBER                       | NOT NULL | Numeric ID for each Oracle session                                                                                                                                            |
| ENTRYID            | NUMBER                       | NOT NULL | Numeric ID for each audit trail entry in the session                                                                                                                          |
| STATEMENTID        | NUMBER                       | NOT NULL | Numeric ID for each statement run                                                                                                                                             |
| RETURNCODE         | NUMBER                       | NOT NULL | Oracle error code generated by the action. Some useful values: <ul style="list-style-type: none"> <li>0 - Action succeeded</li> <li>2004 - Security violation</li> </ul>      |
| CLIENT_ID          | VARCHAR2 (128)               |          | Client identifier in each Oracle session                                                                                                                                      |
| ECONTEXT_ID        | VARCHAR2 (64)                |          | Application execution context identifier                                                                                                                                      |
| SESSION_CPU        | NUMBER                       |          | Amount of CPU time used by each Oracle session                                                                                                                                |
| EXTENDED_TIMESTAMP | TIMESTAMP (6) WITH TIME ZONE |          | Timestamp of the creation of the audit trail entry (timestamp of user login for entries created by <code>AUDIT SESSION</code> ) in UTC (Coordinated Universal Time) time zone |
| PROXY_SESSIONID    | NUMBER                       |          | Proxy session serial number, if an enterprise user has logged in through the proxy mechanism                                                                                  |
| GLOBAL_UID         | VARCHAR2 (32)                |          | Global user identifier for the user, if the user has logged in as an enterprise user                                                                                          |
| INSTANCE_NUMBER    | NUMBER                       |          | Instance number as specified by the <code>INSTANCE_NUMBER</code> initialization parameter                                                                                     |
| OS_PROCESS         | VARCHAR2 (16)                |          | Operating System process identifier of the Oracle process                                                                                                                     |
| TRANSACTIONID      | RAW (8)                      |          | Transaction identifier of the transaction in which the object is accessed or modified                                                                                         |
| SCN                | NUMBER                       |          | System change number (SCN) of the query                                                                                                                                       |
| SQL_BIND           | NVARCHAR2 (2000)             |          | Bind variable data of the query                                                                                                                                               |
| SQL_TEXT           | NVARCHAR2 (2000)             |          | SQL text of the query                                                                                                                                                         |
| OBJ_EDITION_NAME   | VARCHAR2 (128)               |          | Name of the edition containing the audited object                                                                                                                             |

**Note:**

The `SQL_BIND` and `SQL_TEXT` columns are only populated if the `AUDIT_TRAIL` initialization parameter is set to `db, extended`.

**See Also:**

"`AUDIT_TRAIL`"

## 5.174 DBA\_AUDIT\_MGMT\_CLEAN\_EVENTS

DBA\_AUDIT\_MGMT\_CLEAN\_EVENTS displays information about the history of audit trail cleanup or purge events.

Periodically, you should delete the contents of this view so that it will not grow too large.



### Note:

This view is intended for use with traditional auditing (pre-Oracle Database 12c auditing) only, not for unified auditing.

- See *Oracle Database Security Guide* for more information about unified auditing.
- See *Oracle Database Upgrade Guide* for more information about migrating to unified auditing.

| Column       | Datatype                     | NULL     | Description                                                                                                                                                                                                                                                                                                   |
|--------------|------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AUDIT_TRAIL  | VARCHAR2 (28)                |          | Audit trail that was cleaned at the time of the event: <ul style="list-style-type: none"><li>• STANDARD AUDIT TRAIL</li><li>• FGA AUDIT TRAIL</li><li>• STANDARD AND FGA AUDIT TRAIL</li><li>• OS AUDIT TRAIL</li><li>• XML AUDIT TRAIL</li><li>• OS AND XML AUDIT TRAIL</li><li>• ALL AUDIT TRAILS</li></ul> |
| RAC_INSTANCE | NUMBER                       | NOT NULL | Instance number indicating the Oracle RAC instance that was cleaned up at the time of the event; 0 implies not applicable                                                                                                                                                                                     |
| CLEANUP_TIME | TIMESTAMP (6) WITH TIME ZONE |          | Timestamp when the cleanup event completed                                                                                                                                                                                                                                                                    |
| DELETE_COUNT | NUMBER                       |          | Number of audit records or audit files that were deleted at the time of the event                                                                                                                                                                                                                             |
| WAS_FORCED   | VARCHAR2 (3)                 |          | Indicates whether a forced cleanup occurred (YES) or not (NO); forced cleanup bypasses the last archive timestamp set                                                                                                                                                                                         |



### Note:

In a read-only database, including an Oracle Active Data Guard physical standby database, this view is not populated. Instead, a summary of cleanup events is written to the respective database instance's alert log file.

## 5.175 DBA\_AUDIT\_MGMT\_CLEANUP\_JOBS

DBA\_AUDIT\_MGMT\_CLEANUP\_JOBS displays information about the configured audit trail purge jobs.



### Note:

This view is populated in any Oracle Database where auditing is enabled, regardless of whether pre-Oracle Database 12c auditing or unified auditing is enabled for the database.

- See *Oracle Database Security Guide* for more information about unified auditing.
- See *Oracle Database Upgrade Guide* for more information about migrating to unified auditing.

| Column                     | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JOB_NAME                   | VARCHAR2 (100) | NOT NULL | Name of the audit trail purge job                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| JOB_STATUS                 | VARCHAR2 (8)   |          | Current status of the audit trail purge job (ENABLED) or (DISABLED)                                                                                                                                                                                                                                                                                                                                                                                                           |
| AUDIT_TRAIL                | VARCHAR2 (28)  |          | Audit trail for which the audit trail purge job is configured: <ul style="list-style-type: none"> <li>• STANDARD AUDIT TRAIL</li> <li>• FGA AUDIT TRAIL</li> <li>• STANDARD AND FGA AUDIT TRAIL</li> <li>• OS AUDIT TRAIL</li> <li>• XML AUDIT TRAIL</li> <li>• OS AND XML AUDIT TRAIL</li> <li>• ALL AUDIT TRAILS</li> <li>• UNIFIED AUDIT TRAIL</li> </ul>                                                                                                                  |
| JOB_FREQUENCY              | VARCHAR2 (100) |          | Frequency at which the audit trail purge job runs                                                                                                                                                                                                                                                                                                                                                                                                                             |
| USE_LAST_ARCHIVE_TIMESTAMP | VARCHAR2 (3)   |          | Indicates whether the audit trail purge job invocation uses the last archive timestamp. The last archive timestamp is shown in the LAST_ARCHIVE_TS column of the DBA_AUDIT_MGMT_LAST_ARCH_TS view. Possible values: <ul style="list-style-type: none"> <li>• YES - Indicates that the audit trail purge job invocation uses the last archive timestamp</li> <li>• NO - Indicates that the audit trail purge job invocation does not use the last archive timestamp</li> </ul> |
| JOB_CONTAINER              | VARCHAR2 (7)   |          | In a CDB, indicates whether audit trail purge job will be performed only in the current container or in all the containers. Possible values: <ul style="list-style-type: none"> <li>• CURRENT - Indicates that audit trail purge job will be performed only in the current container</li> <li>• ALL - Indicates that audit trail purge job will be performed in all the containers</li> </ul> In a non-CDB, the value in this column is always CURRENT.                       |

**See Also:**

"DBA\_AUDIT\_MGMT\_LAST\_ARCH\_TS"

## 5.176 DBA\_AUDIT\_MGMT\_CONFIG\_PARAMS

DBA\_AUDIT\_MGMT\_CONFIG\_PARAMS displays information about the currently configured audit trail properties that are used by the DBMS\_AUDIT\_MGMT PL/SQL package.

**Note:**

This view is populated in any Oracle Database where auditing is enabled, regardless of whether pre-Oracle Database 12c auditing or unified auditing is enabled for the database.

- See *Oracle Database Security Guide* for more information about unified auditing.
- See *Oracle Database Upgrade Guide* for more information about migrating to unified auditing.

| Column          | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                             |
|-----------------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PARAMETER_NAME  | VARCHAR2 (1024) | NOT NULL | Name of the property                                                                                                                                                                                                                                                                                                                    |
| PARAMETER_VALUE | VARCHAR2 (4000) |          | Value of the property                                                                                                                                                                                                                                                                                                                   |
| AUDIT_TRAIL     | VARCHAR2 (28)   |          | Audit trails for which the property is configured: <ul style="list-style-type: none"><li>• STANDARD AUDIT TRAIL</li><li>• FGA AUDIT TRAIL</li><li>• STANDARD AND FGA AUDIT TRAIL</li><li>• OS AUDIT TRAIL</li><li>• XML AUDIT TRAIL</li><li>• OS AND XML AUDIT TRAIL</li><li>• ALL AUDIT TRAILS</li><li>• UNIFIED AUDIT TRAIL</li></ul> |

**Note:**

In a read-only database, including an Oracle Active Data Guard physical standby database, this view is not populated when the DBMS\_AUDIT\_MGMT.SET\_AUDIT\_TRAIL PL/SQL procedure is invoked. If the procedure was used when the database was in read-only mode, use DBMS\_AUDIT\_MGMT.GET\_AUDIT\_TRAIL to check the value of the property.

 **See Also:**

*Oracle Database PL/SQL Packages and Types Reference* for more information about the parameters specified with the `DBMS_AUDIT_MGMT.SET_AUDIT_TRAIL_PROPERTY` procedure

## 5.177 DBA\_AUDIT\_MGMT\_LAST\_ARCH\_TS

`DBA_AUDIT_MGMT_LAST_ARCH_TS` displays information about the last archive timestamps set for audit trail cleanup or purges.

 **Note:**

This view is populated in any Oracle Database where auditing is enabled, regardless of whether pre-Oracle Database 12c auditing or unified auditing is enabled for the database.

- See *Oracle Database Security Guide* for more information about unified auditing.
- See *Oracle Database Upgrade Guide* for more information about migrating to unified auditing.

| Column          | Datatype                     | NULL     | Description                                                                                                                                                                                                                                           |
|-----------------|------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AUDIT_TRAIL     | VARCHAR2 (20)                |          | Audit trail for which the last archive timestamp applies: <ul style="list-style-type: none"><li>• STANDARD AUDIT TRAIL</li><li>• FGA AUDIT TRAIL</li><li>• OS AUDIT TRAIL</li><li>• XML AUDIT TRAIL</li><li>• UNIFIED AUDIT TRAIL</li></ul>           |
| RAC_INSTANCE    | NUMBER                       | NOT NULL | Oracle RAC instance number for which the last archive timestamp applies; 0 implies not applicable                                                                                                                                                     |
| LAST_ARCHIVE_TS | TIMESTAMP (6) WITH TIME ZONE |          | Timestamp of the last audit record or audit file that has been archived                                                                                                                                                                               |
| DATABASE_ID     | NUMBER                       | NOT NULL | Database ID of the audit records to clean up                                                                                                                                                                                                          |
| CONTAINER_GUID  | VARCHAR2 (33)                | NOT NULL | GUID of the container of the audit records to clean up                                                                                                                                                                                                |
| DB_UNIQUE_NAME  | VARCHAR2 (257)               | NOT NULL | Unique database name of the audited database, which is defined by the <code>DB_UNIQUE_NAME</code> initialization parameter. This value is useful for differentiating between the primary and standby databases in an Oracle Data Guard configuration. |

**Note:**

In a read-only database, including an Oracle Active Data Guard physical standby database, this view is not populated when `DBMS_AUDIT_MGMT.SET_LAST_ARCHIVE_TIMESTAMP` is invoked. In such a case, use `DBMS_AUDIT_MGMT.GET_LAST_ARCHIVE_TIMESTAMP` to check for the timestamp, if it was configured for the database instance.

**See Also:**

*Oracle Database PL/SQL Packages and Types Reference* for more information about `DBMS_AUDIT_MGMT` subprograms

## 5.178 DBA\_AUDIT\_OBJECT

`DBA_AUDIT_OBJECT` displays audit trail records for all objects in the database.

**Note:**

This view is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored and are viewable with this view. See *Oracle Database Security Guide* for more information about how this desupport works.

**Related View**

`USER_AUDIT_OBJECT` displays audit trail records for the objects accessible to the current user.

| Column      | Datatype       | NULL | Description                                                                                                                                                                     |
|-------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OS_USERNAME | VARCHAR2 (255) |      | Operating system login username of the user whose actions were audited                                                                                                          |
| USERNAME    | VARCHAR2 (128) |      | Name (not ID number) of the user whose actions were audited                                                                                                                     |
| USERHOST    | VARCHAR2 (128) |      | Client host machine name                                                                                                                                                        |
| TERMINAL    | VARCHAR2 (255) |      | Identifier of the user's terminal                                                                                                                                               |
| TIMESTAMP   | DATE           |      | Date and time of the creation of the audit trail entry (date and time of user login for entries created by <code>AUDIT SESSION</code> ) in the local database session time zone |
| OWNER       | VARCHAR2 (128) |      | Creator of the object affected by the action                                                                                                                                    |
| OBJ_NAME    | VARCHAR2 (128) |      | Name of the object affected by the action                                                                                                                                       |
| ACTION_NAME | VARCHAR2 (28)  |      | Name of the action type corresponding to the numeric code in the <code>ACTION</code> column in <code>DBA_AUDIT_TRAIL</code>                                                     |



| Column             | Datatype                     | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------|------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NEW_OWNER          | VARCHAR2 (128)               |          | Owner of the object named in the NEW_NAME column                                                                                                                                                                                                                                                                                                                                                |
| NEW_NAME           | VARCHAR2 (128)               |          | New name of an object after a RENAME or the name of the underlying object                                                                                                                                                                                                                                                                                                                       |
| SES_ACTIONS        | VARCHAR2 (19)                |          | Session summary (a string of 16 characters, one for each action type in the order ALTER, AUDIT, COMMENT, DELETE, GRANT, INDEX, INSERT, LOCK, RENAME, SELECT, UPDATE, REFERENCES, and EXECUTE). Positions 14, 15, and 16 are reserved for future use. The characters are: <ul style="list-style-type: none"> <li>- - None</li> <li>S - Success</li> <li>F - Failure</li> <li>B - Both</li> </ul> |
| COMMENT_TEXT       | VARCHAR2 (4000)              |          | Text comment on the audit trail                                                                                                                                                                                                                                                                                                                                                                 |
| SESSIONID          | NUMBER                       | NOT NULL | Numeric ID for each Oracle session                                                                                                                                                                                                                                                                                                                                                              |
| ENTRYID            | NUMBER                       | NOT NULL | Numeric ID for each audit trail entry in the session                                                                                                                                                                                                                                                                                                                                            |
| STATEMENTID        | NUMBER                       | NOT NULL | Numeric ID for each statement run                                                                                                                                                                                                                                                                                                                                                               |
| RETURNCODE         | NUMBER                       | NOT NULL | Oracle error code generated by the action. Some useful values: <ul style="list-style-type: none"> <li>0 - Action succeeded</li> <li>2004 - Security violation</li> </ul>                                                                                                                                                                                                                        |
| PRIV_USED          | VARCHAR2 (40)                |          | System privilege used to execute the action                                                                                                                                                                                                                                                                                                                                                     |
| CLIENT_ID          | VARCHAR2 (128)               |          | Client identifier in each Oracle session                                                                                                                                                                                                                                                                                                                                                        |
| ECONTEXT_ID        | VARCHAR2 (64)                |          | Application execution context identifier                                                                                                                                                                                                                                                                                                                                                        |
| SESSION_CPU        | NUMBER                       |          | Amount of CPU time used by each Oracle session                                                                                                                                                                                                                                                                                                                                                  |
| EXTENDED_TIMESTAMP | TIMESTAMP (6) WITH TIME ZONE |          | Timestamp of the creation of the audit trail entry (timestamp of user login for entries created by AUDIT SESSION) in UTC (Coordinated Universal Time) time zone                                                                                                                                                                                                                                 |
| PROXY_SESSIONID    | NUMBER                       |          | Proxy session serial number, if an enterprise user has logged in through the proxy mechanism                                                                                                                                                                                                                                                                                                    |
| GLOBAL_UID         | VARCHAR2 (32)                |          | Global user identifier for the user, if the user has logged in as an enterprise user                                                                                                                                                                                                                                                                                                            |
| INSTANCE_NUMBER    | NUMBER                       |          | Instance number as specified by the INSTANCE_NUMBER initialization parameter                                                                                                                                                                                                                                                                                                                    |
| OS_PROCESS         | VARCHAR2 (16)                |          | Operating System process identifier of the Oracle process                                                                                                                                                                                                                                                                                                                                       |
| TRANSACTIONID      | RAW (8)                      |          | Transaction identifier of the transaction in which the object is accessed or modified                                                                                                                                                                                                                                                                                                           |
| SCN                | NUMBER                       |          | System change number (SCN) of the query                                                                                                                                                                                                                                                                                                                                                         |
| SQL_BIND           | NVARCHAR2 (2000)             |          | Bind variable data of the query                                                                                                                                                                                                                                                                                                                                                                 |
| SQL_TEXT           | NVARCHAR2 (2000)             |          | SQL text of the query                                                                                                                                                                                                                                                                                                                                                                           |
| OBJ_EDITION_NAME   | VARCHAR2 (128)               |          | Name of the edition containing the audited object                                                                                                                                                                                                                                                                                                                                               |

**Note:**

The `SQL_BIND` and `SQL_TEXT` columns are only populated if the `AUDIT_TRAIL` initialization parameter is set to `db, extended`.

**See Also:**

- ["AUDIT\\_TRAIL"](#)
- ["USER\\_AUDIT\\_OBJECT"](#)

## 5.179 DBA\_AUDIT\_POLICIES

`DBA_AUDIT_POLICIES` describes all fine-grained auditing policies in the database. Its columns are the same as those in `ALL_AUDIT_POLICIES`.

**Note:**

This view is populated only in an Oracle Database where unified auditing is not enabled. When unified auditing is enabled in Oracle Database, the audit records are populated in the new audit trail and can be viewed from `UNIFIED_AUDIT_TRAIL`.

- See *Oracle Database Security Guide* for more information about unified auditing.
- See *Oracle Database Upgrade Guide* for more information about migrating to unified auditing.

**See Also:**

["ALL\\_AUDIT\\_POLICIES"](#)

## 5.180 DBA\_AUDIT\_POLICY\_COLUMNS

DBA\_AUDIT\_POLICY\_COLUMNS describes all fine-grained auditing policy columns in the database. Its columns are the same as those in ALL\_AUDIT\_POLICY\_COLUMNS.

### Note:

This view is populated only in an Oracle Database where unified auditing is not enabled. When unified auditing is enabled in Oracle Database, the audit records are populated in the new audit trail and can be viewed from UNIFIED\_AUDIT\_TRAIL.

- See *Oracle Database Security Guide* for more information about unified auditing.
- See *Oracle Database Upgrade Guide* for more information about migrating to unified auditing.

### See Also:

"ALL\_AUDIT\_POLICY\_COLUMNS"

## 5.181 DBA\_AUDIT\_SESSION

DBA\_AUDIT\_SESSION displays all audit trail records concerning CONNECT and DISCONNECT.

### Note:

This view is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored and are viewable with this view. See *Oracle Database Security Guide* for more information about how this desupport works.

### Related View

USER\_AUDIT\_SESSION displays the audit trail records concerning connections and disconnections of the current user.

| Column      | Datatype       | NULL | Description                                                            |
|-------------|----------------|------|------------------------------------------------------------------------|
| OS_USERNAME | VARCHAR2 (255) |      | Operating system login username of the user whose actions were audited |
| USERNAME    | VARCHAR2 (128) |      | Name (not ID number) of the user whose actions were audited            |
| USERHOST    | VARCHAR2 (128) |      | Client host machine name                                               |
| TERMINAL    | VARCHAR2 (255) |      | Identifier of the user's terminal                                      |

| Column             | Datatype                     | NULL     | Description                                                                                                                                                                     |
|--------------------|------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TIMESTAMP          | DATE                         |          | Date and time of the creation of the audit trail entry (date and time of user login for entries created by <code>AUDIT_SESSION</code> ) in the local database session time zone |
| ACTION_NAME        | VARCHAR2 (28)                |          | Name of the action type corresponding to the numeric code in the <code>ACTION</code> column in <code>DBA_AUDIT_TRAIL</code>                                                     |
| LOGOFF_TIME        | DATE                         |          | Date and time of user log off                                                                                                                                                   |
| LOGOFF_LREAD       | NUMBER                       |          | Logical reads for the session                                                                                                                                                   |
| LOGOFF_PREAD       | NUMBER                       |          | Physical reads for the session                                                                                                                                                  |
| LOGOFF_LWRITE      | NUMBER                       |          | Logical writes for the session                                                                                                                                                  |
| LOGOFF_DLOCK       | VARCHAR2 (40)                |          | Deadlocks detected during the session                                                                                                                                           |
| SESSIONID          | NUMBER                       | NOT NULL | Numeric ID for each Oracle session                                                                                                                                              |
| RETURNCODE         | NUMBER                       | NOT NULL | Oracle error code generated by the action. Some useful values: <ul style="list-style-type: none"> <li>• 0 - Action succeeded</li> <li>• 2004 - Security violation</li> </ul>    |
| CLIENT_ID          | VARCHAR2 (128)               |          | Client identifier in each Oracle session                                                                                                                                        |
| SESSION_CPU        | NUMBER                       |          | Amount of CPU time used by each Oracle session (in centiseconds)                                                                                                                |
| EXTENDED_TIMESTAMP | TIMESTAMP (6) WITH TIME ZONE |          | Timestamp of the creation of the audit trail entry (timestamp of user login for entries created by <code>AUDIT_SESSION</code> ) in UTC (Coordinated Universal Time) time zone   |
| PROXY_SESSIONID    | NUMBER                       |          | Proxy session serial number, if an enterprise user has logged in through the proxy mechanism                                                                                    |
| GLOBAL_UID         | VARCHAR2 (32)                |          | Global user identifier for the user, if the user has logged in as an enterprise user                                                                                            |
| INSTANCE_NUMBER    | NUMBER                       |          | Instance number as specified by the <code>INSTANCE_NUMBER</code> initialization parameter                                                                                       |
| OS_PROCESS         | VARCHAR2 (16)                |          | Operating System process identifier of the Oracle process                                                                                                                       |



#### See Also:

"[USER\\_AUDIT\\_SESSION](#)"

## 5.182 DBA\_AUDIT\_STATEMENT

DBA\_AUDIT\_STATEMENT displays audit trail records for all GRANT, REVOKE, AUDIT, NOAUDIT, and ALTER SYSTEM statements in the database.



### Note:

This view is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored and are viewable with this view. See *Oracle Database Security Guide* for more information about how this desupport works.

### Related View

USER\_AUDIT\_STATEMENT displays audit trail records for the GRANT, REVOKE, AUDIT, NOAUDIT, and ALTER SYSTEM statements issued by the current user.

| Column      | Datatype       | NULL | Description                                                                                                                                                       |
|-------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OS_USERNAME | VARCHAR2 (255) |      | Operating system login username of the user whose actions were audited                                                                                            |
| USERNAME    | VARCHAR2 (128) |      | Name (not ID number) of the user whose actions were audited                                                                                                       |
| USERHOST    | VARCHAR2 (128) |      | Client host machine name                                                                                                                                          |
| TERMINAL    | VARCHAR2 (255) |      | Identifier of the user's terminal                                                                                                                                 |
| TIMESTAMP   | DATE           |      | Date and time of the creation of the audit trail entry (date and time of user login for entries created by AUDIT SESSION) in the local database session time zone |
| OWNER       | VARCHAR2 (128) |      | Creator of the object affected by the action                                                                                                                      |
| OBJ_NAME    | VARCHAR2 (128) |      | Name of the object affected by the action                                                                                                                         |
| ACTION_NAME | VARCHAR2 (28)  |      | Name of the action type corresponding to the numeric code in the ACTION column in DBA_AUDIT_TRAIL                                                                 |
| NEW_NAME    | VARCHAR2 (128) |      | New name of an object after a RENAME or the name of the underlying object                                                                                         |

| Column        | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------|---------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJ_PRIVILEGE | VARCHAR2 (32) |      | <p>Object privileges granted or revoked by a <code>GRANT</code> or <code>REVOKE</code> statement. The value of this column is a 32-character string of <code>Y</code> and dash (<code>-</code>) characters. Each character corresponds to a numbered privilege in the following list. The left-most character corresponds to privilege 0, the next character corresponds to privilege 1, and so on. The right-most character corresponds to privilege 31.</p> <ul style="list-style-type: none"> <li>0 - ALTER</li> <li>1 - AUDIT</li> <li>2 - COMMENT</li> <li>3 - DELETE</li> <li>4 - GRANT</li> <li>5 - INDEX</li> <li>6 - INSERT</li> <li>7 - LOCK</li> <li>8 - CREATE</li> <li>9 - SELECT</li> <li>10 - UPDATE</li> <li>11 - REFERENCES</li> <li>12 - EXECUTE</li> <li>13 - VIEW</li> <li>14 - DROP</li> <li>15 - ANALYZE</li> <li>16 - CREATE</li> <li>17 - READ</li> <li>18 - WRITE</li> <li>19 - KEEP SEQUENCE</li> <li>20 - ENQUEUE</li> <li>21 - DEQUEUE</li> <li>22 - UNDER</li> <li>23 - ON COMMIT</li> <li>24 - REWRITE</li> <li>25 - UPSERT</li> <li>26 - DEBUG</li> <li>27 - FLASHBACK</li> <li>28 - MERGE</li> <li>29 - USE</li> <li>30 - FLASHBACK ARCHIVE</li> <li>31 - DIRECTORY EXECUTE</li> </ul> <p>A <code>Y</code> indicates that the privilege was granted or revoked by the statement. A dash indicates that the privilege was not affected by the statement. For example, the following value indicates that the <code>MERGE</code> privilege was granted or revoked by the statement:</p> <p>-----Y---</p> |
| SYS_PRIVILEGE | VARCHAR2 (40) |      | System privileges granted or revoked by a <code>GRANT</code> or <code>REVOKE</code> statement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ADMIN_OPTION  | VARCHAR2 (1)  |      | Signifies the role or system privilege was granted with the <code>ADMIN</code> option                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| Column             | Datatype                     | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------|------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GRANTEE            | VARCHAR2 (128)               |          | Name of the grantee specified in a GRANT or REVOKE statement                                                                                                                                                                                                                                                                                                                                    |
| AUDIT_OPTION       | VARCHAR2 (40)                |          | Auditing option set with the AUDIT statement                                                                                                                                                                                                                                                                                                                                                    |
| SES_ACTIONS        | VARCHAR2 (19)                |          | Session summary (a string of 16 characters, one for each action type in the order ALTER, AUDIT, COMMENT, DELETE, GRANT, INDEX, INSERT, LOCK, RENAME, SELECT, UPDATE, REFERENCES, and EXECUTE). Positions 14, 15, and 16 are reserved for future use. The characters are: <ul style="list-style-type: none"> <li>- - None</li> <li>S - Success</li> <li>F - Failure</li> <li>B - Both</li> </ul> |
| COMMENT_TEXT       | VARCHAR2 (4000)              |          | Text comment on the audit trail, inserted by the application                                                                                                                                                                                                                                                                                                                                    |
| SESSIONID          | NUMBER                       | NOT NULL | Numeric ID for each Oracle session                                                                                                                                                                                                                                                                                                                                                              |
| ENTRYID            | NUMBER                       | NOT NULL | Numeric ID for each audit trail entry in the session                                                                                                                                                                                                                                                                                                                                            |
| STATEMENTID        | NUMBER                       | NOT NULL | Numeric ID for each statement run                                                                                                                                                                                                                                                                                                                                                               |
| RETURNCODE         | NUMBER                       | NOT NULL | Oracle error code generated by the action. Some useful values: <ul style="list-style-type: none"> <li>0 - Action succeeded</li> <li>2004 - Security violation</li> </ul>                                                                                                                                                                                                                        |
| PRIV_USED          | VARCHAR2 (40)                |          | System privilege used to execute the action                                                                                                                                                                                                                                                                                                                                                     |
| CLIENT_ID          | VARCHAR2 (128)               |          | Client identifier in each Oracle session                                                                                                                                                                                                                                                                                                                                                        |
| ECONTEXT_ID        | VARCHAR2 (64)                |          | Application execution context identifier                                                                                                                                                                                                                                                                                                                                                        |
| SESSION_CPU        | NUMBER                       |          | Amount of CPU time used by each Oracle session                                                                                                                                                                                                                                                                                                                                                  |
| EXTENDED_TIMESTAMP | TIMESTAMP (6) WITH TIME ZONE |          | Timestamp of the creation of the audit trail entry (timestamp of user login for entries created by AUDIT SESSION) in UTC (Coordinated Universal Time) time zone                                                                                                                                                                                                                                 |
| PROXY_SESSIONID    | NUMBER                       |          | Proxy session serial number, if an enterprise user has logged in through the proxy mechanism                                                                                                                                                                                                                                                                                                    |
| GLOBAL_UID         | VARCHAR2 (32)                |          | Global user identifier for the user, if the user has logged in as an enterprise user                                                                                                                                                                                                                                                                                                            |
| INSTANCE_NUMBER    | NUMBER                       |          | Instance number as specified by the INSTANCE_NUMBER initialization parameter                                                                                                                                                                                                                                                                                                                    |
| OS_PROCESS         | VARCHAR2 (16)                |          | Operating System process identifier of the Oracle process                                                                                                                                                                                                                                                                                                                                       |
| TRANSACTIONID      | RAW (8)                      |          | Transaction identifier of the transaction in which the object is accessed or modified                                                                                                                                                                                                                                                                                                           |
| SCN                | NUMBER                       |          | System change number (SCN) of the query                                                                                                                                                                                                                                                                                                                                                         |
| SQL_BIND           | NVARCHAR2 (2000)             |          | Bind variable data of the query                                                                                                                                                                                                                                                                                                                                                                 |
| SQL_TEXT           | NVARCHAR2 (2000)             |          | SQL text of the query                                                                                                                                                                                                                                                                                                                                                                           |
| OBJ_EDITION_NAME   | VARCHAR2 (128)               |          | Name of the edition containing the audited object                                                                                                                                                                                                                                                                                                                                               |

**Note:**

The `SQL_BIND` and `SQL_TEXT` columns are only populated if the `AUDIT_TRAIL` initialization parameter is set to `db, extended`.

**See Also:**

- `"AUDIT_TRAIL"`
- `"USER_AUDIT_STATEMENT"`

## 5.183 DBA\_AUDIT\_TRAIL

`DBA_AUDIT_TRAIL` displays all standard audit trail entries.

**Note:**

This view is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored and are viewable with this view. See *Oracle Database Security Guide* for more information about how this desupport works.

### Related View

`USER_AUDIT_TRAIL` displays the standard audit trail entries related to the current user.

| Column      | Datatype       | NULL     | Description                                                                                                                                                                     |
|-------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OS_USERNAME | VARCHAR2 (255) |          | Operating system login username of the user whose actions were audited                                                                                                          |
| USERNAME    | VARCHAR2 (128) |          | Name (not ID number) of the user whose actions were audited                                                                                                                     |
| USERHOST    | VARCHAR2 (128) |          | Client host machine name                                                                                                                                                        |
| TERMINAL    | VARCHAR2 (255) |          | Identifier of the user's terminal                                                                                                                                               |
| TIMESTAMP   | DATE           |          | Date and time of the creation of the audit trail entry (date and time of user login for entries created by <code>AUDIT_SESSION</code> ) in the local database session time zone |
| OWNER       | VARCHAR2 (128) |          | Creator of the object affected by the action                                                                                                                                    |
| OBJ_NAME    | VARCHAR2 (128) |          | Name of the object affected by the action                                                                                                                                       |
| ACTION      | NUMBER         | NOT NULL | Numeric action type code. The corresponding name of the action type is in the <code>ACTION_NAME</code> column.                                                                  |
| ACTION_NAME | VARCHAR2 (28)  |          | Name of the action type corresponding to the numeric code in the <code>ACTION</code> column                                                                                     |



| Column        | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NEW_OWNER     | VARCHAR2 (128) |      | Owner of the object named in the NEW_NAME column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| NEW_NAME      | VARCHAR2 (128) |      | New name of the object after a RENAME or the name of the underlying object                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| OBJ_PRIVILEGE | VARCHAR2 (32)  |      | <p>Object privileges granted or revoked by a GRANT or REVOKE statement. The value of this column is a 32-character string of Y and dash (-) characters. Each character corresponds to a numbered privilege in the following list. The left-most character corresponds to privilege 0, the next character corresponds to privilege 1, and so on. The right-most character corresponds to privilege 31.</p> <p>0 - ALTER<br/> 1 - AUDIT<br/> 2 - COMMENT<br/> 3 - DELETE<br/> 4 - GRANT<br/> 5 - INDEX<br/> 6 - INSERT<br/> 7 - LOCK<br/> 8 - CREATE<br/> 9 - SELECT<br/> 10 - UPDATE<br/> 11 - REFERENCES<br/> 12 - EXECUTE<br/> 13 - VIEW<br/> 14 - DROP<br/> 15 - ANALYZE<br/> 16 - CREATE<br/> 17 - READ<br/> 18 - WRITE<br/> 19 - KEEP SEQUENCE<br/> 20 - ENQUEUE<br/> 21 - DEQUEUE<br/> 22 - UNDER<br/> 23 - ON COMMIT<br/> 24 - REWRITE<br/> 25 - UPSERT<br/> 26 - DEBUG<br/> 27 - FLASHBACK<br/> 28 - MERGE<br/> 29 - USE<br/> 30 - FLASHBACK ARCHIVE<br/> 31 - DIRECTORY EXECUTE</p> <p>A Y indicates that the privilege was granted or revoked by the statement. A dash indicates that the privilege was not affected by the statement. For example, the following value indicates that the MERGE privilege was granted or revoked by the statement:</p> <p>-----Y---</p> |

| Column        | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SYS_PRIVILEGE | VARCHAR2 (40)   |          | System privileges granted or revoked by a GRANT or REVOKE statement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ADMIN_OPTION  | VARCHAR2 (1)    |          | Indicates whether the role or system privilege was granted with the ADMIN option                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| GRANTEE       | VARCHAR2 (128)  |          | Name of the grantee specified in a GRANT or REVOKE statement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| AUDIT_OPTION  | VARCHAR2 (40)   |          | Auditing option set with the AUDIT statement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SES_ACTIONS   | VARCHAR2 (19)   |          | Session summary (a string of 16 characters, one for each action type in the order ALTER, AUDIT, COMMENT, DELETE, GRANT, INDEX, INSERT, LOCK, RENAME, SELECT, UPDATE, REFERENCES, and EXECUTE). Positions 14, 15, and 16 are reserved for future use. The characters are: <ul style="list-style-type: none"> <li>- - None</li> <li>S - Success</li> <li>F - Failure</li> <li>B - Both</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| LOGOFF_TIME   | DATE            |          | Date and time of user log off                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| LOGOFF_LREAD  | NUMBER          |          | Logical reads for the session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| LOGOFF_PREAD  | NUMBER          |          | Physical reads for the session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| LOGOFF_LWRITE | NUMBER          |          | Logical writes for the session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| LOGOFF_DLOCK  | VARCHAR2 (40)   |          | Deadlocks detected during the session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| COMMENT_TEXT  | VARCHAR2 (4000) |          | Text comment on the audit trail entry, providing more information about the statement audited<br>Also indicates how the user or remote call was authenticated. The method can be one of the following: <ul style="list-style-type: none"> <li>DATABASE - Authentication was done by password</li> <li>NETWORK - Authentication was done by Oracle Net Services or strong authentication</li> <li>PROXY - Client was authenticated by another user; the name of the proxy user follows the method type</li> </ul> When an object is accessed remotely over a database link, the COMMENT_TEXT column also captures the information about the database link. For example: <pre> DBLINK_INFO: (SOURCE_GLOBAL_NAME=view02.regress.rdbms.dev .us.example.com, DBLINK_NAME=VIEW05_LINK.REGRESS.RDBMS.DEV.US .EXAMPLE.COM, SOURCE_AUDIT_SESSIONID=250805) </pre> |
| SESSIONID     | NUMBER          | NOT NULL | Numeric ID for each Oracle session. Each user session gets a unique session ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ENTRYID       | NUMBER          | NOT NULL | Numeric ID for each audit trail entry in the session. The entry ID is an index of a session's audit entries that starts at 1 and increases to the number of entries that are written.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Column             | Datatype                     | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------|------------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATEMENTID        | NUMBER                       | NOT NULL | <i>n</i> th statement in the user session. The first SQL statement gets a value of 1 and the value is incremented for each subsequent SQL statement. Note that one SQL statement can create more than one audit trail entry (for example, when more than one object is audited from the same SQL statement), and in this case the statement ID remains the same for that statement and the entry ID increases for each audit trail entry created by the statement. |
| RETURNCODE         | NUMBER                       | NOT NULL | Oracle error code generated by the action. Some useful values: <ul style="list-style-type: none"> <li>0 - Action succeeded</li> <li>2004 - Security violation</li> </ul>                                                                                                                                                                                                                                                                                           |
| PRIV_USED          | VARCHAR2 (40)                |          | System privilege used to execute the action                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CLIENT_ID          | VARCHAR2 (128)               |          | Client identifier in each Oracle session                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ECONTEXT_ID        | VARCHAR2 (64)                |          | Application execution context identifier                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SESSION_CPU        | NUMBER                       |          | Amount of CPU time used by each Oracle session (in centiseconds)                                                                                                                                                                                                                                                                                                                                                                                                   |
| EXTENDED_TIMESTAMP | TIMESTAMP (6) WITH TIME ZONE |          | Timestamp of the creation of the audit trail entry (timestamp of user login for entries created by <code>AUDIT SESSION</code> ) in UTC (Coordinated Universal Time) time zone                                                                                                                                                                                                                                                                                      |
| PROXY_SESSIONID    | NUMBER                       |          | Proxy session serial number, if an enterprise user has logged in through the proxy mechanism                                                                                                                                                                                                                                                                                                                                                                       |
| GLOBAL_UID         | VARCHAR2 (32)                |          | Global user identifier for the user, if the user has logged in as an enterprise user                                                                                                                                                                                                                                                                                                                                                                               |
| INSTANCE_NUMBER    | NUMBER                       |          | Instance number as specified by the <code>INSTANCE_NUMBER</code> initialization parameter                                                                                                                                                                                                                                                                                                                                                                          |
| OS_PROCESS         | VARCHAR2 (16)                |          | Operating System process identifier of the Oracle process                                                                                                                                                                                                                                                                                                                                                                                                          |
| TRANSACTIONID      | RAW (8)                      |          | Transaction identifier of the transaction in which the object is accessed or modified                                                                                                                                                                                                                                                                                                                                                                              |
| SCN                | NUMBER                       |          | System change number (SCN) of the creation of the audit trail entry                                                                                                                                                                                                                                                                                                                                                                                                |
| SQL_BIND           | NVARCHAR2 (2000)             |          | Bind variable data of the query                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SQL_TEXT           | NVARCHAR2 (2000)             |          | SQL text of the query                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| OBJ_EDITION_NAME   | VARCHAR2 (128)               |          | Name of the edition containing the audited object                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DBID               | NUMBER                       |          | Database identifier of the audited database                                                                                                                                                                                                                                                                                                                                                                                                                        |
| RLS_INFO           | CLOB                         |          | Stores virtual private database (VPD) policy names and predicates separated by delimiter.<br>To format the output into individual rows, use the <code>DBMS_AUDIT_UTIL.DECODE_RLS_INFO_ATRAIL_STD</code> function.                                                                                                                                                                                                                                                  |
| CURRENT_USER       | VARCHAR2 (128)               |          | Effective user for the statement execution                                                                                                                                                                                                                                                                                                                                                                                                                         |

**Note:**

The `SQL_BIND` and `SQL_TEXT` columns are only populated if the `AUDIT_TRAIL` initialization parameter is set to `db, extended`.

**See Also:**

- ["AUDIT\\_TRAIL"](#)
- ["USER\\_AUDIT\\_TRAIL"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_AUDIT_UTIL.DECODE_RLS_INFO_ATTRAIL_XML` function.

## 5.184 DBA\_AUTO\_CLUSTERING\_CONFIG

`DBA_AUTO_CLUSTERING_CONFIG` displays the current configuration parameter settings for automatic clustering.

| Column                       | Datatype                                 | NULL     | Description                                                 |
|------------------------------|------------------------------------------|----------|-------------------------------------------------------------|
| <code>PARAMETER_NAME</code>  | <code>VARCHAR2(128)</code>               | NOT NULL | Name of the configuration parameter                         |
| <code>PARAMETER_VALUE</code> | <code>VARCHAR2(4000)</code>              |          | Value of the configuration parameter                        |
| <code>LAST_UPDATED</code>    | <code>TIMESTAMP(6) WITH TIME ZONE</code> |          | Date and time at which the parameter value was last updated |
| <code>UPDATED_BY</code>      | <code>VARCHAR2(128)</code>               |          | User who last updated the parameter value                   |
| <code>DESCRIPTION</code>     | <code>VARCHAR2(73)</code>                |          | Brief description of the parameter                          |

**Note:**

This view is available starting with Oracle Database 23ai.

## 5.185 DBA\_AUTO\_CLUSTERING\_RECOMMENDATIONS

`DBA_AUTO_CLUSTERING_RECOMMENDATIONS` displays recommendations associated with automatic clustering.

| Column                         | Datatype                   | NULL     | Description                                                     |
|--------------------------------|----------------------------|----------|-----------------------------------------------------------------|
| <code>TABLE_OWNER</code>       | <code>VARCHAR2(128)</code> | NOT NULL | Owner of the table                                              |
| <code>TABLE_NAME</code>        | <code>VARCHAR2(128)</code> | NOT NULL | Name of the table                                               |
| <code>RECOMMENDATION_ID</code> | <code>RAW(16)</code>       | NOT NULL | Unique ID representing the recommendation                       |
| <code>SQLSET_OWNER</code>      | <code>VARCHAR2(128)</code> |          | Owner of the SQL tuning set that is used for the recommendation |

| Column                | Datatype                     | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------|------------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQLSET_NAME           | VARCHAR2 (128)               |          | Name of the SQL tuning set that is used for the recommendation                                                                                                                                                                                                                                                                                                                                         |
| CLUSTERING_METHOD     | VARCHAR2 (8)                 |          | Recommended clustering method for the table.<br>Possible values: <ul style="list-style-type: none"> <li>SINGLE - Single table clustering (clustering is based on columns from a single table)</li> <li>JOIN - Join clustering (clustering is based on columns from two or more tables that are joined together)</li> </ul> A null value means there is no recommended clustering method for the table. |
| CLUSTERING_DDL        | VARCHAR2 (4000)              |          | Not currently used                                                                                                                                                                                                                                                                                                                                                                                     |
| ZONEMAP_DDL           | VARCHAR2 (4000)              |          | Not currently used                                                                                                                                                                                                                                                                                                                                                                                     |
| APPLY_MODE            | VARCHAR2 (16)                |          | Mode for the application of the recommendation.<br>Possible values: <ul style="list-style-type: none"> <li>FULL - Data clustered using online redefinition</li> <li>INCREMENTAL - Data clustered incrementally</li> </ul>                                                                                                                                                                              |
| APPLY_START_TIMESTAMP | TIMESTAMP (6) WITH TIME ZONE |          | Date and time at which the application of the recommendation started<br>A null value means the recommendation was not applied.                                                                                                                                                                                                                                                                         |
| APPLY_END_TIMESTAMP   | TIMESTAMP (6) WITH TIME ZONE |          | Date and time at which the application of the recommendation finished<br>A null value means either the recommendation was not applied or the application of the recommendation is not finished.                                                                                                                                                                                                        |
| STATUS                | VARCHAR2 (16)                | NOT NULL | Verification or application status. Possible values: <ul style="list-style-type: none"> <li>ACCEPTED</li> <li>FAILED</li> <li>IMPLEMENTED</li> <li>REJECTED</li> <li>UNVERIFIED</li> </ul>                                                                                                                                                                                                             |

**Note:**

This view is available starting with Oracle Database 23ai.

## 5.186 DBA\_AUTO\_INDEX\_CONFIG

DBA\_AUTO\_INDEX\_CONFIG displays the current configuration parameter settings for automatic indexing.

You can set automatic indexing configuration parameters by using the DBMS\_AUTO\_INDEX.CONFIGURE procedure.

| Column         | Datatype       | NULL     | Description                         |
|----------------|----------------|----------|-------------------------------------|
| PARAMETER_NAME | VARCHAR2 (128) | NOT NULL | Name of the configuration parameter |

| Column          | Datatype        | NULL | Description                                         |
|-----------------|-----------------|------|-----------------------------------------------------|
| PARAMETER_VALUE | VARCHAR2 (4000) |      | Value of the configuration parameter                |
| LAST_MODIFIED   | TIMESTAMP (6)   |      | Time at which the parameter value was last modified |
| MODIFIED_BY     | VARCHAR2 (128)  |      | User who last modified the parameter value          |



#### See Also:

*Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_AUTO_INDEX.CONFIGURE` procedure

## 5.187 DBA\_AUTO\_MV\_ANALYSIS\_ACTIONS

`DBA_AUTO_MV_ANALYSIS_ACTIONS` displays information about analysis and tuning activities associated with automatic materialized views.

Each action is specified by the `COMMAND` and attribute (`ATTR1` through `ATTR6`) columns. Each command defines how the attribute columns will be used.

| Column         | Datatype        | NULL     | Description                                                                                                                                |
|----------------|-----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128)  |          | Owner of the task                                                                                                                          |
| TASK_ID        | NUMBER          | NOT NULL | Identifier of the task                                                                                                                     |
| TASK_NAME      | VARCHAR2 (128)  |          | Name of the task<br>The value of this column is always <code>SYS_AUTO_MV_TASK</code> .                                                     |
| EXECUTION_NAME | VARCHAR2 (128)  |          | The name of the task execution with which this entry (row) is associated                                                                   |
| REC_ID         | NUMBER          | NOT NULL | Recommendation associated with the action                                                                                                  |
| ACTION_ID      | NUMBER          | NOT NULL | Unique identifier for the action                                                                                                           |
| OBJECT_ID      | NUMBER          |          | Object associated with the action                                                                                                          |
| COMMAND        | VARCHAR2 (64)   |          | Command to be executed<br><b>See Also:</b> <code>DBA_ADVISOR_COMMANDS</code> for a list of commands                                        |
| COMMAND_ID     | NUMBER          | NOT NULL | ID of the command to be executed<br><b>See Also:</b> <code>DBA_ADVISOR_COMMANDS</code> for a list of commands                              |
| FLAGS          | NUMBER          |          | Advisor-specific flags                                                                                                                     |
| ATTR1          | VARCHAR2 (4000) |          | Parameters defining the command                                                                                                            |
| ATTR2          | VARCHAR2 (4000) |          | Parameters defining the command                                                                                                            |
| ATTR3          | VARCHAR2 (4000) |          | Parameters defining the command                                                                                                            |
| ATTR4          | VARCHAR2 (4000) |          | Parameters defining the command                                                                                                            |
| ATTR5          | CLOB            |          | Parameters defining the command; to be used if the text is significantly large (for example, a SQL statement defining a materialized view) |

| Column               | Datatype        | NULL | Description                                                                                                                                                                                                                                                                  |
|----------------------|-----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ATTR6                | CLOB            |      | Parameters defining the command; to be used if the text is significantly large (for example, a SQL statement defining a materialized view)                                                                                                                                   |
| NUM_ATTR1            | NUMBER          |      | General numeric attribute                                                                                                                                                                                                                                                    |
| NUM_ATTR2            | NUMBER          |      | General numeric attribute                                                                                                                                                                                                                                                    |
| NUM_ATTR3            | NUMBER          |      | General numeric attribute                                                                                                                                                                                                                                                    |
| NUM_ATTR4            | NUMBER          |      | General numeric attribute                                                                                                                                                                                                                                                    |
| NUM_ATTR5            | NUMBER          |      | General numeric attribute                                                                                                                                                                                                                                                    |
| MESSAGE              | VARCHAR2 (4000) |      | Message associated with the action                                                                                                                                                                                                                                           |
| FILTERED             | VARCHAR2 (1)    |      | A value of Y means that the row in the view was filtered out by a directive (or a combination of directives). A value of N means that the row was not filtered.                                                                                                              |
| RESULT_STATUS        | VARCHAR2 (25)   |      | Result status. Possible values: <ul style="list-style-type: none"> <li>AUTOMATION PENDING</li> <li>TIMED OUT</li> <li>MISSING INFORMATION</li> <li>COMPLETED WITH NO RESULTS</li> <li>COMPLETED AND IMPLEMENTED</li> <li>ENCOUNTERED ERROR</li> <li>NOT AUTOMATED</li> </ul> |
| RESULT_LAST_MODIFIED | TIMESTAMP (3)   |      | Time at which result status was last modified                                                                                                                                                                                                                                |
| RESULT_MESSAGE       | VARCHAR2 (4000) |      | Result message text                                                                                                                                                                                                                                                          |

## 5.188 DBA\_AUTO\_MV\_ANALYSIS\_EXECUTIONS

DBA\_AUTO\_MV\_ANALYSIS\_EXECUTIONS displays information about analysis and tuning executions associated with automatic materialized views.

| Column                  | Datatype       | NULL     | Description                                                              |
|-------------------------|----------------|----------|--------------------------------------------------------------------------|
| OWNER                   | VARCHAR2 (128) |          | Owner of the task                                                        |
| TASK_ID                 | NUMBER         | NOT NULL | Unique identifier of the task                                            |
| TASK_NAME               | VARCHAR2 (128) |          | Name of the task<br>The value of this column is always SYS_AUTO_MV_TASK. |
| EXECUTION_NAME          | VARCHAR2 (128) | NOT NULL | Name of the task execution with which this entry (row) is associated     |
| EXECUTION_ID            | NUMBER         | NOT NULL | Execution ID                                                             |
| DESCRIPTION             | VARCHAR2 (256) |          | User-supplied description of the task                                    |
| EXECUTION_TYPE          | VARCHAR2 (128) |          | Type of the last execution (optional for single-execution tasks)         |
| EXECUTION_TYPE#         | NUMBER         |          | Reserved for internal use                                                |
| EXECUTION_START         | DATE           |          | Execution start date and time                                            |
| EXECUTION_LAST_MODIFIED | DATE           | NOT NULL | Last modified date and time for the execution                            |
| EXECUTION_END           | DATE           |          | Execution end date and time                                              |

| Column               | Datatype        | NULL     | Description                                                                                                                                                                                                                               |
|----------------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REQUESTED_DOP        | NUMBER          |          | The degree of parallelism (DOP) value requested by the user (through the <code>TEST_EXECUTE_DOP</code> parameter). It can be any value greater or equal to zero.                                                                          |
| ACTUAL_DOP           | NUMBER          |          | The actual degree of parallelism (DOP) with which the execution finished. If the requested DOP is greater than what is available on the system, the <code>ACTUAL_DOP</code> value can be lower than the <code>REQUESTED_DOP</code> value. |
| CONCURRENT_EXECUTION | VARCHAR2 (3)    |          | Indicates whether concurrency was used for this execution (YES) or not (NO)                                                                                                                                                               |
| ADVISOR_NAME         | VARCHAR2 (128)  |          | Advisor associated with the task                                                                                                                                                                                                          |
| ADVISOR_ID           | NUMBER          | NOT NULL | Unique identifier for the advisor                                                                                                                                                                                                         |
| STATUS               | VARCHAR2 (11)   |          | Current operational status of the task: <ul style="list-style-type: none"> <li>• EXECUTING</li> <li>• COMPLETED</li> <li>• INTERRUPTED</li> <li>• CANCELLED</li> <li>• FATAL ERROR</li> </ul>                                             |
| STATUS#              | NUMBER          | NOT NULL | Reserved for internal use                                                                                                                                                                                                                 |
| STATUS_MESSAGE       | VARCHAR2 (4000) |          | Informational message provided by the advisor regarding the status                                                                                                                                                                        |
| ERROR_MESSAGE        | VARCHAR2 (4000) |          | Informational message or an error message indicating the current operation or condition                                                                                                                                                   |

## 5.189 DBA\_AUTO\_MV\_ANALYSIS\_RECOMMENDATIONS

`DBA_AUTO_MV_ANALYSIS_RECOMMENDATIONS` displays recommendations associated with automatic materialized views.

| Column          | Datatype       | NULL     | Description                                                                            |
|-----------------|----------------|----------|----------------------------------------------------------------------------------------|
| TASK_NAME       | VARCHAR2 (128) |          | Name of the task<br>The value of this column is always <code>SYS_AUTO_MV_TASK</code> . |
| EXECUTION_NAME  | VARCHAR2 (128) | NOT NULL | The name of the task execution with which this entry (row) is associated               |
| RECOMMENDATIONS | CLOB           |          | Recommendation for the task                                                            |

## 5.190 DBA\_AUTO\_MV\_ANALYSIS\_REPORT

`DBA_AUTO_MV_ANALYSIS_REPORT` reports on analyses and recommendations associated with automatic materialized views.

| Column         | Datatype       | NULL | Description                                                                            |
|----------------|----------------|------|----------------------------------------------------------------------------------------|
| TASK_NAME      | VARCHAR2 (128) |      | Name of the task<br>The value of this column is always <code>SYS_AUTO_MV_TASK</code> . |
| EXECUTION_NAME | VARCHAR2 (128) |      | The name of the task execution with which this entry (row) is associated               |



| Column   | Datatype        | NULL     | Description                                                                                                  |
|----------|-----------------|----------|--------------------------------------------------------------------------------------------------------------|
| SEQUENCE | NUMBER          | NOT NULL | Sequence number of the journal entry (unique for each task). This sequence number is used to order the data. |
| MESSAGE  | VARCHAR2 (4000) |          | Entry in the journal                                                                                         |

## 5.191 DBA\_AUTO\_MV\_ANALYSIS\_TASK

DBA\_AUTO\_MV\_ANALYSIS\_TASK display analysis information associated with automatic materialized views.

| Column                | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                 | VARCHAR2 (128)  |          | Owner of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TASK_ID               | NUMBER          | NOT NULL | Unique identifier of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TASK_NAME             | VARCHAR2 (128)  |          | Name of the task<br>The value of this column is always SYS_AUTO_MV_TASK.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DESCRIPTION           | VARCHAR2 (256)  |          | User-supplied description of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ADVISOR_NAME          | VARCHAR2 (128)  |          | Advisor associated with the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CREATED               | DATE            | NOT NULL | Creation date of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| LAST_MODIFIED         | DATE            | NOT NULL | Date on which the task was last modified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PARENT_TASK_ID        | NUMBER          |          | Identifier of the parent task (if the task was created because of the recommendation of another task)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PARENT_RXEC_ID        | NUMBER          |          | Identifier of the recommendation within the parent task that resulted in the creation of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LAST_EXECUTION        | VARCHAR2 (128)  |          | Name of the current or last task execution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EXECUTION_TYPE        | VARCHAR2 (128)  |          | Type of the last execution. This information is optional for single-execution tasks.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| EXECUTION_TYPE#       | NUMBER          |          | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EXECUTION_DESCRIPTION | VARCHAR2 (256)  |          | Optional description of the last execution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EXECUTION_START       | DATE            |          | Execution start date and time of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EXECUTION_END         | DATE            |          | Execution end date and time of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| STATUS                | VARCHAR2 (11)   |          | Current operational status of the task: <ul style="list-style-type: none"> <li>INITIAL - Initial state of the task; no recommendations are present</li> <li>EXECUTING - Task is currently running</li> <li>INTERRUPTED - Task analysis was interrupted by the user. Recommendation data, if present, can be viewed and reported at this time.</li> <li>COMPLETED - Task successfully completed the analysis operation. Recommendation data can be viewed and reported.</li> <li>ERROR - An error occurred during the analysis operation. Recommendations, if present, can be viewed and reported at this time.</li> </ul> |
| STATUS_MESSAGE        | VARCHAR2 (4000) |          | Informational message provided by the advisor regarding the status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PCT_COMPLETION_TIME   | NUMBER          |          | Percent completion, in terms of time, of the task when it is executing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Column               | Datatype        | NULL     | Description                                                                                              |
|----------------------|-----------------|----------|----------------------------------------------------------------------------------------------------------|
| PROGRESS_METRIC      | NUMBER          |          | Metric that measures the progress of the task in terms of quality. Each advisor may have its own metric. |
| METRIC_UNITS         | VARCHAR2 (64)   |          | Unit of the metric used to measure progress                                                              |
| ACTIVITY_COUNTER     | NUMBER          |          | Counter that is updated frequently by the advisor, denoting that useful work is being performed          |
| RECOMMENDATION_COUNT | NUMBER          |          | Number of recommendations produced                                                                       |
| ERROR_MESSAGE        | VARCHAR2 (4000) |          | Informational message or an error message indicating the current operation or condition                  |
| SOURCE               | VARCHAR2 (128)  |          | Optional name that identifies the creator of the task                                                    |
| HOW_CREATED          | VARCHAR2 (30)   |          | Optional task or template on which the object was based                                                  |
| READ_ONLY            | VARCHAR2 (5)    |          | Indicates whether the task is read-only ( <code>TRUE</code> ) or not ( <code>FALSE</code> )              |
| SYSTEM_TASK          | VARCHAR2 (5)    |          | Indicates whether the task is a system task ( <code>TRUE</code> ) or not ( <code>FALSE</code> )          |
| ADVISOR_ID           | NUMBER          | NOT NULL | Unique identifier for the advisor                                                                        |
| STATUS#              | NUMBER          |          | Reserved for internal use                                                                                |

## 5.192 DBA\_AUTO\_MV\_CONFIG

DBA\_AUTO\_MV\_CONFIG displays configuration parameters associated with automatic materialized views and automatic zone maps.

The configuration parameters displayed in this view can be updated with `CONFIGURE` procedure of the `DBMS_AUTO_MV` package.

| Column          | Datatype        | NULL     | Description                                      |
|-----------------|-----------------|----------|--------------------------------------------------|
| PARAMETER_NAME  | VARCHAR2 (128)  | NOT NULL | Name of the configuration parameter              |
| PARAMETER_VALUE | VARCHAR2 (4000) |          | Value of the configuration parameter             |
| LAST_UPDATED    | TIMESTAMP (6)   |          | Date and time of the last parameter value update |
| UPDATED_BY      | VARCHAR2 (128)  |          | User who last updated the parameter value        |
| DESCRIPTION     | VARCHAR2 (72)   |          | Description of the configuration parameter       |

### See Also:

*Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_AUTO_MV.CONFIGURE` procedure

## 5.193 DBA\_AUTO\_MV\_MAINT\_REPORT

DBA\_AUTO\_MV\_MAINT\_REPORT displays maintenance operation details associated with automatic materialized view refresh.

| Column             | Datatype        | NULL | Description                                                      |
|--------------------|-----------------|------|------------------------------------------------------------------|
| SWAT_MM_START_TIME | DATE            |      | Date and time of the maintenance invocation                      |
| MESSAGE            | VARCHAR2 (4000) |      | Message associated with the materialized view maintenance action |

## 5.194 DBA\_AUTO\_MV\_REFRESH\_HISTORY

DBA\_AUTO\_MV\_REFRESH\_HISTORY describes automatic materialized view refreshes.

| Column               | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                      |
|----------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MVIEW_OWNER          | VARCHAR2 (128) | NOT NULL | Owner of the materialized view                                                                                                                                                                                                                                                                                                   |
| MVIEW_NAME           | VARCHAR2 (128) | NOT NULL | Name of the materialized view                                                                                                                                                                                                                                                                                                    |
| SWAT_MM_START_TIME   | DATE           |          | Date and time of the maintenance invocation                                                                                                                                                                                                                                                                                      |
| REFRESH_START_TIME   | DATE           |          | Date and time the refresh started                                                                                                                                                                                                                                                                                                |
| REFRESH_END_TIME     | DATE           |          | Date and time the refresh ended                                                                                                                                                                                                                                                                                                  |
| ELAPSED_REFRESH_TIME | NUMBER         |          | Duration of the refresh (in seconds)                                                                                                                                                                                                                                                                                             |
| STATUS               | NUMBER         |          | Status of the refresh. Possible values: <ul style="list-style-type: none"> <li>0 - The refresh is in-progress</li> <li>1 - The refresh completed successfully</li> <li>2 - An error occurred during the refresh. Refer to the value of the ERROR column for more information.</li> <li>3 - The refresh was terminated</li> </ul> |
| ERROR                | NUMBER         |          | If an error occurred during the refresh, this column displays the error number, which corresponds to error code <i>ORA-number</i> . Otherwise, the value of this column is 0.                                                                                                                                                    |

## 5.195 DBA\_AUTO\_MV\_VERIFICATION\_REPORT

DBA\_AUTO\_MV\_VERIFICATION\_REPORT displays information about verifications associated with automatic materialized views.

| Column         | Datatype        | NULL | Description                                                              |
|----------------|-----------------|------|--------------------------------------------------------------------------|
| TASK_NAME      | VARCHAR2 (128)  |      | Name of the task                                                         |
| EXECUTION_NAME | VARCHAR2 (128)  |      | The name of the task execution with which this entry (row) is associated |
| MESSAGE        | VARCHAR2 (4000) |      | Message associated with the inference                                    |

## 5.196 DBA\_AUTO\_MV\_VERIFICATION\_STATUS

DBA\_AUTO\_MV\_VERIFICATION\_STATUS displays the status of verifications associated with automatic materialized views.

| Column                          | Datatype       | NULL     | Description                                                                             |
|---------------------------------|----------------|----------|-----------------------------------------------------------------------------------------|
| TASK_NAME                       | VARCHAR2 (128) |          | Name of the task                                                                        |
| EXECUTION_NAME                  | VARCHAR2 (128) | NOT NULL | The name of the task execution with which this entry (row) is associated                |
| STS_NAME_FOR_SRS                | VARCHAR2 (256) |          | Name of the SQL tuning set used for simple random sampling                              |
| STS_OWNER_NAME_FOR_SRS          | CHAR (3)       |          | Owner of the SQL tuning set used for simple random sampling                             |
| SPA_TASK_NAME_FOR_SRS           | VARCHAR2 (256) |          | Name of the SQL Performance Analyzer task used for simple random sampling               |
| SPA_OWNER_NAME_FOR_SRS          | CHAR (3)       |          | Owner of the SQL Performance Analyzer task used for simple random sampling              |
| STS_NAME_FOR_VERIFICATION       | VARCHAR2 (256) |          | Name of the SQL tuning set used for verification on sampled queries                     |
| STS_OWNER_NAME_FOR_VERIFICATION | CHAR (3)       |          | Owner of the SQL tuning set used for verification on sampled queries                    |
| SPA_TASK_NAME_FOR_VERIFICATION  | VARCHAR2 (256) |          | Name of the SQL Performance Analyzer task used for for verification on sampled queries  |
| SPA_OWNER_NAME_FOR_VERIFICATION | CHAR (3)       |          | Owner of the SQL Performance Analyzer task used for for verification on sampled queries |
| START_TIME                      | TIMESTAMP (6)  |          | Date and time the verification started                                                  |
| END_TIME                        | TIMESTAMP (6)  |          | Date and time the verification ended                                                    |
| STATUS                          | VARCHAR2 (128) |          | Verification status                                                                     |

## 5.197 DBA\_AUTO\_SEGADV\_CTL

DBA\_AUTO\_SEGADV\_CTL exposes the control information used by the segment advisor.

This information gives the DBA an idea of what is happening in the auto advisor.

| Column          | Datatype       | NULL | Description                                   |
|-----------------|----------------|------|-----------------------------------------------|
| AUTO_TASKID     | NUMBER         |      | Unique task ID generated by the auto advisor  |
| TABLESPACE_NAME | VARCHAR2 (30)  |      | Name of the tablespace containing the segment |
| SEGMENT_OWNER   | VARCHAR2 (128) |      | Owner of the segment                          |
| SEGMENT_NAME    | VARCHAR2 (128) |      | Name of the segment                           |
| SEGMENT_TYPE    | VARCHAR2 (18)  |      | The type of segment (TABLE, INDEX, and so on) |
| PARTITION_NAME  | VARCHAR2 (128) |      | Name of the subsegment (if partitioned)       |

| Column           | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                            |
|------------------|---------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS           | VARCHAR2 (40) |      | Status of the analysis: <ul style="list-style-type: none"><li>• NEW - the segment/tablespace has not been analyzed</li><li>• BEING-PROCESSED - the segment/tablespace is being processed</li><li>• COMPLETE - the segment/tablespace has been analyzed</li><li>• ERROR - problem with the segment/tablespace</li></ul> |
| REASON           | VARCHAR2 (40) |      | Reason why this segment was chosen                                                                                                                                                                                                                                                                                     |
| REASON_VALUE     | NUMBER        |      | A value associated with the reason                                                                                                                                                                                                                                                                                     |
| CREATION_TIME    | TIMESTAMP (6) |      | Time when this entry was created                                                                                                                                                                                                                                                                                       |
| PROCESSED_TASKID | NUMBER        |      | Auto advisor task that was used to process the segment/tablespace                                                                                                                                                                                                                                                      |
| END_TIME         | TIMESTAMP (6) |      | Time at which the advisor task was completed                                                                                                                                                                                                                                                                           |

## 5.198 DBA\_AUTO\_SEGADV\_SUMMARY

DBA\_AUTO\_SEGADV\_SUMMARY provides a summary of the auto advisor task runs.

| Column                | Datatype      | NULL     | Description                                     |
|-----------------------|---------------|----------|-------------------------------------------------|
| AUTO_TASKID           | NUMBER        | NOT NULL | Unique auto task ID                             |
| SNAPID                | NUMBER        |          | Maximum AWR snapid used to process the segments |
| SEGMENTS_SELECTED     | NUMBER        |          | Number of segments chosen for analysis          |
| SEGMENTS_PROCESSED    | NUMBER        |          | Number of segments actually processed           |
| TABLESPACE_SELECTED   | NUMBER        |          | Number of tablespaces chosen for analysis       |
| TABLESPACE_PROCESSED  | NUMBER        |          | Number of tablespaces actually processed        |
| RECOMMENDATIONS_COUNT | NUMBER        |          | Number of recommendations generated             |
| START_TIME            | TIMESTAMP (6) |          | Time at which the auto task was started         |
| END_TIME              | TIMESTAMP (6) |          | Time at which the auto task ended               |

## 5.199 DBA\_AUTO\_STAT\_EXECUTIONS

DBA\_AUTO\_STAT\_EXECUTIONS displays information about automatic optimizer statistics collection tasks, which are executed by the automated maintenance tasks infrastructure (known as AutoTask).

| Column | Datatype | NULL | Description                                     |
|--------|----------|------|-------------------------------------------------|
| OPID   | NUMBER   |      | Unique identifier for the execution of the task |

| Column      | Datatype                     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------|------------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGIN      | VARCHAR2 (19)                |      | Origin of the execution of the task. Possible values: <ul style="list-style-type: none"> <li><b>AUTO_TASK:</b> A standard automatic optimizer statistics collection task, which is executed automatically in an Oracle Scheduler window, known as maintenance window</li> <li><b>HIGH_FREQ_AUTO_TASK:</b> A high-frequency automatic optimizer statistics collection task, which is executed at frequent intervals and complements the standard automatic optimizer statistics collection tasks</li> </ul> |
| STATUS      | VARCHAR2 (49)                |      | Status of the execution of the task. Possible values: <ul style="list-style-type: none"> <li><b>IN PROGRESS:</b> The operation is currently running</li> <li><b>COMPLETED:</b> The operation has completed successfully</li> <li><b>FAILED:</b> The operation has failed</li> <li><b>TIMED OUT:</b> The operation timed out because the time allocated for the maintenance window was not sufficient for the operation to complete</li> </ul>                                                              |
| START_TIME  | TIMESTAMP (6) WITH TIME ZONE |      | Start time for the execution of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| END_TIME    | TIMESTAMP (6) WITH TIME ZONE |      | End time for the execution of the task                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| COMPLETED   | NUMBER                       |      | Number of objects for which statistics collection was completed during the execution of the task                                                                                                                                                                                                                                                                                                                                                                                                           |
| FAILED      | NUMBER                       |      | Number of objects for which statistics collection failed during the execution of the task                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TIMED_OUT   | NUMBER                       |      | Number of objects for which statistics collection timed out during the execution of the task                                                                                                                                                                                                                                                                                                                                                                                                               |
| IN_PROGRESS | NUMBER                       |      | Number of objects for which statistics collection is in progress during the execution of the task                                                                                                                                                                                                                                                                                                                                                                                                          |

## 5.200 DBA\_AUTO\_ZONEMAP\_CONFIG

DBA\_AUTO\_ZONEMAP\_CONFIG describes the current settings for automatic zone map configuration parameters.

| Column          | Datatype        | NULL     | Description                                        |
|-----------------|-----------------|----------|----------------------------------------------------|
| PARAMETER_NAME  | VARCHAR2 (128)  | NOT NULL | Parameter name                                     |
| PARAMETER_VALUE | VARCHAR2 (4000) |          | Parameter value                                    |
| LAST_UPDATED    | TIMESTAMP (6)   |          | Time at which the parameter value was last updated |
| UPDATED_BY      | VARCHAR2 (128)  |          | User who last updated the parameter value          |
| DESCRIPTION     | VARCHAR2 (71)   |          | Brief description of the parameter                 |

## 5.201 DBA\_AUTOTASK\_CLIENT

DBA\_AUTOTASK\_CLIENT displays statistical data for each automated maintenance task over 7-day and 30-day periods.

| Column                       | Datatype                          | NULL | Description                                                                                                                                                     |
|------------------------------|-----------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CLIENT_NAME                  | VARCHAR2 (64)                     |      | Name of the client                                                                                                                                              |
| STATUS                       | VARCHAR2 (8)                      |      | Job status: <ul style="list-style-type: none"> <li>• ENABLED</li> <li>• DISABLED</li> </ul>                                                                     |
| CONSUMER_GROUP               | VARCHAR2 (128)                    |      | Consumer group used for normal priority jobs for this client                                                                                                    |
| CLIENT_TAG                   | VARCHAR2 (2)                      |      | Tag used to identify jobs for this client                                                                                                                       |
| PRIORITY_OVERRIDE            | VARCHAR2 (7)                      |      | User-specified priority at which the task executes: <ul style="list-style-type: none"> <li>• URGENT</li> <li>• HIGH</li> <li>• MEDIUM</li> <li>• LOW</li> </ul> |
| ATTRIBUTES                   | VARCHAR2 (4000)                   |      | Attributes of the client                                                                                                                                        |
| WINDOW_GROUP                 | VARCHAR2 (64)                     |      | Window group used to schedule jobs                                                                                                                              |
| SERVICE_NAME                 | VARCHAR2 (64)                     |      | Name of the service on which jobs will execute for the client                                                                                                   |
| RESOURCE_PERCENTAGE          | NUMBER                            |      | Percentage of maintenance resources for high priority maintenance tasks for this client                                                                         |
| USE_RESOURCE_ESTIMATES       | VARCHAR2 (5)                      |      | Indicates whether resource estimates are used for this client (TRUE) or not (FALSE)                                                                             |
| MEAN_JOB_DURATION            | INTERVAL DAY (9)<br>TO SECOND (9) |      | Average elapsed time for a job for this client (in seconds)                                                                                                     |
| MEAN_JOB_CPU                 | INTERVAL DAY (9)<br>TO SECOND (9) |      | Average CPU time for a job submitted by this client (in seconds)                                                                                                |
| MEAN_JOB_ATTEMPTS            | NUMBER                            |      | Average number of attempts it takes to complete a task                                                                                                          |
| MEAN_INCOMING_TASKS_7_DAYS   | NUMBER                            |      | Average number of incoming tasks at the Maintenance Window Start over the last 7 days                                                                           |
| MEAN_INCOMING_TASKS_30_DAYS  | NUMBER                            |      | Average number of incoming tasks at the Maintenance Window Start over the last 30 days                                                                          |
| TOTAL_CPU_LAST_7_DAYS        | INTERVAL DAY (9)<br>TO SECOND (9) |      | Cumulative CPU time used by the jobs for this client over the last 7 days (in seconds)                                                                          |
| TOTAL_CPU_LAST_30_DAYS       | INTERVAL DAY (9)<br>TO SECOND (9) |      | Cumulative CPU time used by the jobs for this client over the last 30 days (in seconds)                                                                         |
| MAX_DURATION_LAST_7_DAYS     | INTERVAL DAY (3)<br>TO SECOND (0) |      | Maximum elapsed time for a job over the last 7 days (in seconds)                                                                                                |
| MAX_DURATION_LAST_30_DAYS    | INTERVAL DAY (3)<br>TO SECOND (0) |      | Maximum elapsed time for a job over the last 30 days (in seconds)                                                                                               |
| WINDOW_DURATION_LAST_7_DAYS  | INTERVAL DAY (9)<br>TO SECOND (9) |      | Total time during which the client was active during the last 7 days                                                                                            |
| WINDOW_DURATION_LAST_30_DAYS | INTERVAL DAY (9)<br>TO SECOND (9) |      | Total time during which the client was active during the last 30 days                                                                                           |
| LAST_CHANGE                  | TIMESTAMP (6) WITH<br>TIME ZONE   |      | Timestamp of last configuration change for the client                                                                                                           |

| Column          | Datatype     | NULL | Description                                                                                                                                        |
|-----------------|--------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| AUTOTASK_STATUS | VARCHAR2 (8) |      | Status of the automated maintenance task subsystem: <ul style="list-style-type: none"><li>• ENABLED</li><li>• DISABLED</li><li>• ALLOWED</li></ul> |

## 5.202 DBA\_AUTOTASK\_CLIENT\_HISTORY

DBA\_AUTOTASK\_CLIENT\_HISTORY displays per-window history of job execution counts for each automated maintenance task.

This information is viewable in the Job History page of Enterprise Manager.

| Column            | Datatype                       | NULL | Description                                                                                 |
|-------------------|--------------------------------|------|---------------------------------------------------------------------------------------------|
| CLIENT_NAME       | VARCHAR2 (64)                  |      | Name of the client                                                                          |
| WINDOW_NAME       | VARCHAR2 (261)                 |      | Name of the maintenance window                                                              |
| WINDOW_START_TIME | TIMESTAMP (6) WITH TIME ZONE   |      | Maintenance window start time                                                               |
| WINDOW_DURATION   | INTERVAL DAY (9) TO SECOND (6) |      | Window duration (NULL for currently open window)                                            |
| JOBS_CREATED      | NUMBER                         |      | Number of jobs created on behalf of the client in this window                               |
| JOBS_STARTED      | NUMBER                         |      | Number of jobs started on behalf of the client during the maintenance window                |
| JOBS_COMPLETED    | NUMBER                         |      | Number of jobs successfully completed on behalf of the client during the maintenance window |
| WINDOW_END_TIME   | TIMESTAMP (6) WITH TIME ZONE   |      | Window end time                                                                             |

## 5.203 DBA\_AUTOTASK\_CLIENT\_JOB

DBA\_AUTOTASK\_CLIENT\_JOB displays information about currently running Scheduler jobs created for automated maintenance tasks.

DBA\_AUTOTASK\_CLIENT\_JOB provides information about some objects targeted by those jobs, as well as some additional statistics from previous instantiations of the same task. Some of this additional data is taken from generic Scheduler views.

| Column      | Datatype      | NULL | Description        |
|-------------|---------------|------|--------------------|
| CLIENT_NAME | VARCHAR2 (64) |      | Name of the client |
| JOB_NAME    | VARCHAR2 (65) |      | Name of the job    |



| Column               | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                 |
|----------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JOB_SCHEDULER_STATUS | VARCHAR2 (15)  |          | <b>Job status:</b> <ul style="list-style-type: none"> <li>• DISABLED</li> <li>• RETRY SCHEDULED</li> <li>• SCHEDULED</li> <li>• RUNNING</li> <li>• COMPLETED</li> <li>• BROKEN</li> <li>• FAILED</li> <li>• REMOTE</li> <li>• SUCCEEDED</li> <li>• CHAIN_STALLED</li> </ul> |
| TASK_NAME            | VARCHAR2 (64)  |          | Name of the task being performed                                                                                                                                                                                                                                            |
| TASK_TARGET_TYPE     | VARCHAR2 (64)  |          | Type of the target being processed                                                                                                                                                                                                                                          |
| TASK_TARGET_NAME     | VARCHAR2 (513) | NOT NULL | Name of the target                                                                                                                                                                                                                                                          |
| TASK_PRIORITY        | VARCHAR2 (7)   |          | <b>Priority of the task:</b> <ul style="list-style-type: none"> <li>• URGENT</li> <li>• HIGH</li> <li>• MEDIUM</li> <li>• LOW</li> </ul>                                                                                                                                    |
| TASK_OPERATION       | VARCHAR2 (64)  |          | Operation performed on the object                                                                                                                                                                                                                                           |

## 5.204 DBA\_AUTOTASK\_JOB\_HISTORY

DBA\_AUTOTASK\_JOB\_HISTORY displays the history of automated maintenance task job runs. Jobs are added to this view after they finish executing.

| Column            | Datatype                       | NULL | Description                              |
|-------------------|--------------------------------|------|------------------------------------------|
| CLIENT_NAME       | VARCHAR2 (64)                  |      | Name of the automated maintenance client |
| WINDOW_NAME       | VARCHAR2 (261)                 |      | Name of the maintenance window           |
| WINDOW_START_TIME | TIMESTAMP (6) WITH TIME ZONE   |      | Start time of the maintenance window     |
| WINDOW_DURATION   | INTERVAL DAY (9) TO SECOND (6) |      | Duration of the maintenance window       |
| JOB_NAME          | VARCHAR2 (261)                 |      | Name of the maintenance job              |
| JOB_STATUS        | VARCHAR2 (30)                  |      | Status of the maintenance job            |
| JOB_START_TIME    | TIMESTAMP (6) WITH TIME ZONE   |      | Start time of the maintenance job        |
| JOB_DURATION      | INTERVAL DAY (3) TO SECOND (0) |      | Duration of the maintenance job          |
| JOB_ERROR         | NUMBER                         |      | Error code for the job (if any)          |
| JOB_INFO          | VARCHAR2 (4000)                |      | Additional information about the job     |

## 5.205 DBA\_AUTOTASK\_OPERATION

DBA\_AUTOTASK\_OPERATION displays all automated maintenance task operations for each client.

| Column                 | Datatype                     | NULL | Description                                                                                                                                                |
|------------------------|------------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CLIENT_NAME            | VARCHAR2 (64)                |      | Name of the client                                                                                                                                         |
| OPERATION_NAME         | VARCHAR2 (64)                |      | Name of the operation                                                                                                                                      |
| OPERATION_TAG          | VARCHAR2 (3)                 |      | Tag for the operation                                                                                                                                      |
| PRIORITY_OVERRIDE      | VARCHAR2 (7)                 |      | User-specified priority at which the task executes: <ul style="list-style-type: none"><li>• URGENT</li><li>• HIGH</li><li>• MEDIUM</li><li>• LOW</li></ul> |
| ATTRIBUTES             | VARCHAR2 (4000)              |      | Attributes of the operation                                                                                                                                |
| USE_RESOURCE_ESTIMATES | VARCHAR2 (5)                 |      | Indicates whether resource usage estimates are used for the operation (TRUE) or not (FALSE)                                                                |
| STATUS                 | VARCHAR2 (8)                 |      | Job status: <ul style="list-style-type: none"><li>• ENABLED</li><li>• DISABLED</li></ul>                                                                   |
| LAST_CHANGE            | TIMESTAMP (6) WITH TIME ZONE |      | Timestamp of the last change                                                                                                                               |

## 5.206 DBA\_AUTOTASK\_SCHEDULE

DBA\_AUTOTASK\_SCHEDULE displays the schedule of maintenance windows for the next 32 days for each client.

| Column      | Datatype                       | NULL | Description                                                                   |
|-------------|--------------------------------|------|-------------------------------------------------------------------------------|
| WINDOW_NAME | VARCHAR2 (128)                 |      | Name of the maintenance window                                                |
| START_TIME  | TIMESTAMP (6) WITH TIME ZONE   |      | Projected start time of the window                                            |
| DURATION    | INTERVAL DAY (3) TO SECOND (0) |      | Currently defined duration of the window (NULL for the currently open window) |

## 5.207 DBA\_AUTOTASK\_SCHEDULE\_CONTROL

DBA\_AUTOTASK\_SCHEDULE\_CONTROL displays the status of automated tasks.

| Column          | Datatype      | NULL     | Description                                 |
|-----------------|---------------|----------|---------------------------------------------|
| DBID            | NUMBER        | NOT NULL | Identifier of the database used by the task |
| TASK_ID         | NUMBER        | NOT NULL | Identifier of the task                      |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number for the task                |
| TASK_NAME       | VARCHAR2 (64) |          | Name of the task                            |

| Column             | Datatype                     | NULL | Description                                                                                                                                                                                             |
|--------------------|------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS             | VARCHAR2 (10)                |      | Status of the task<br>Possible values: <ul style="list-style-type: none"> <li>• FAILED</li> <li>• RUNNING</li> <li>• SCHEDULED</li> <li>• SKIPPED</li> <li>• SUCCEEDED</li> <li>• TERMINATED</li> </ul> |
| ELAPSED_TIME       | NUMBER                       |      | Elapsed time of the last execution (in seconds)                                                                                                                                                         |
| LAST_SCHEDULE_TIME | TIMESTAMP (3) WITH TIME ZONE |      | Last time the task was scheduled to execute                                                                                                                                                             |
| LAST_EXEC_INSTNUM  | NUMBER                       |      | Oracle RAC instance number for the database instance used for the last execution of the task                                                                                                            |

## 5.208 DBA\_AUTOTASK\_SETTINGS

DBA\_AUTOTASK\_SETTINGS displays the settings for automated tasks.

| Column       | Datatype      | NULL     | Description                                                             |
|--------------|---------------|----------|-------------------------------------------------------------------------|
| DBID         | NUMBER        | NOT NULL | Identifier of the database used by the task                             |
| TASK_ID      | NUMBER        | NOT NULL | Identifier of the task                                                  |
| TASK_NAME    | VARCHAR2 (64) |          | Name of the task                                                        |
| INTERVAL     | NUMBER        |          | The time interval between task invocations (in seconds)                 |
| MAX_RUN_TIME | NUMBER        |          | Maximum run time allowed for the task before it is stopped (in seconds) |
| ENABLED      | VARCHAR2 (5)  |          | Indicates whether the task is enabled (TRUE) or not (FALSE)             |

## 5.209 DBA\_AUTOTASK\_STATUS

DBA\_AUTOTASK\_STATUS displays status information for automated maintenance.

| Column      | Datatype                     | NULL | Description                                                                                                                                                                           |
|-------------|------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS      | VARCHAR2 (8)                 |      | Shows the status of automated maintenance. Possible values are: <ul style="list-style-type: none"> <li>• ENABLED</li> <li>• DISABLED</li> <li>• ALLOWED</li> <li>• INVALID</li> </ul> |
| LAST_CHANGE | TIMESTAMP (6) WITH TIME ZONE |      | Timestamp of last status change                                                                                                                                                       |

## 5.210 DBA\_AUTOTASK\_TASK

DBA\_AUTOTASK\_TASK displays information about current and past automated maintenance tasks.

| Column               | Datatype        | NULL     | Description                                                                                                                                                                                                                                                          |
|----------------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CLIENT_NAME          | VARCHAR2 (64)   |          | Name of the client                                                                                                                                                                                                                                                   |
| TASK_NAME            | VARCHAR2 (64)   |          | Name of the task being performed                                                                                                                                                                                                                                     |
| TASK_TARGET_TYPE     | VARCHAR2 (64)   |          | Target type of the task                                                                                                                                                                                                                                              |
| TASK_TARGET_NAME     | VARCHAR2 (513)  | NOT NULL | Name of the target                                                                                                                                                                                                                                                   |
| OPERATION_NAME       | VARCHAR2 (64)   |          | Operation performed on the object                                                                                                                                                                                                                                    |
| ATTRIBUTES           | VARCHAR2 (4000) |          | Attributes of the task                                                                                                                                                                                                                                               |
| TASK_PRIORITY        | NUMBER          |          | Task priority, relative to other tasks for this Client                                                                                                                                                                                                               |
| PRIORITY_OVERRIDE    | NUMBER          |          | Task priority as overridden by the user                                                                                                                                                                                                                              |
| STATUS               | VARCHAR2 (8)    |          | Status of the task: <ul style="list-style-type: none"> <li>• DISABLED</li> <li>• DEFERRED</li> <li>• ENABLED</li> </ul>                                                                                                                                              |
| DEFERRED_WINDOW_NAME | VARCHAR2 (65)   |          | Appropriate window for this task                                                                                                                                                                                                                                     |
| CURRENT_JOB_NAME     | VARCHAR2 (65)   |          | Name of the currently scheduled job, if any                                                                                                                                                                                                                          |
| JOB_SCHEDULER_STATUS | VARCHAR2 (15)   |          | Job status: <ul style="list-style-type: none"> <li>• DISABLED</li> <li>• RETRY SCHEDULED</li> <li>• SCHEDULED</li> <li>• RUNNING</li> <li>• COMPLETED</li> <li>• BROKEN</li> <li>• FAILED</li> <li>• REMOTE</li> <li>• SUCCEEDED</li> <li>• CHAIN_STALLED</li> </ul> |
| ESTIMATE_TYPE        | VARCHAR2 (7)    |          | Type of resource estimates applied: <ul style="list-style-type: none"> <li>• DERIVED</li> <li>• FORCED</li> <li>• LOCKED</li> </ul>                                                                                                                                  |
| ESTIMATED_WEIGHT     | NUMBER          |          | Task weight indicator                                                                                                                                                                                                                                                |
| ESTIMATED_DURATION   | NUMBER          |          | Estimated elapsed time for the job (in seconds)                                                                                                                                                                                                                      |
| ESTIMATED_CPU_TIME   | NUMBER          |          | Estimated CPU time for the job (in seconds)                                                                                                                                                                                                                          |
| ESTIMATED_TEMP       | NUMBER          |          | Estimated temporary space usage for the job (in KB)                                                                                                                                                                                                                  |
| ESTIMATED_DOP        | NUMBER          |          | Estimated degree of parallelism for the job                                                                                                                                                                                                                          |
| ESTIMATED_IO_RATE    | NUMBER          |          | Estimated I/O utilization for the job (in KB per second)                                                                                                                                                                                                             |
| ESTIMATED_UNDO_RATE  | NUMBER          |          | Estimated UNDO generation rate for the job (in KB per second)                                                                                                                                                                                                        |
| RETRY_COUNT          | NUMBER          |          | Number of attempts to perform this task since the last successful attempt                                                                                                                                                                                            |

| Column                | Datatype                     | NULL | Description                                                                                                                                                                                                                                                                 |
|-----------------------|------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LAST_GOOD_DATE        | TIMESTAMP (6) WITH TIME ZONE |      | Timestamp of the last successful attempt to perform this task                                                                                                                                                                                                               |
| LAST_GOOD_PRIORITY    | NUMBER                       |      | Job priority of the last successful attempt to perform this task                                                                                                                                                                                                            |
| LAST_GOOD_DURATION    | NUMBER                       |      | Elapsed time (in seconds) of the last successful attempt to perform this task                                                                                                                                                                                               |
| LAST_GOOD_CPU_TIME    | NUMBER                       |      | CPU time for the job (in seconds) of the last successful attempt to perform this task                                                                                                                                                                                       |
| LAST_GOOD_TEMP        | NUMBER                       |      | Temporary space usage for the job (in KB) of the last successful attempt to perform this task                                                                                                                                                                               |
| LAST_GOOD_DOP         | NUMBER                       |      | Peak degree of parallelism for the job during the last successful attempt to perform this task                                                                                                                                                                              |
| LAST_GOOD_IO_RATE     | NUMBER                       |      | I/O utilization rate for the job (in KB per second) of the last successful attempt to perform this task                                                                                                                                                                     |
| LAST_GOOD_UNDO_RATE   | NUMBER                       |      | NDO generation rate (in KB per second) of the last successful attempt to perform this task                                                                                                                                                                                  |
| LAST_GOOD_CPU_WAIT    | NUMBER                       |      | Resource Manager wait time (in seconds) of the last successful attempt to perform this task                                                                                                                                                                                 |
| LAST_GOOD_IO_WAIT     | NUMBER                       |      | Resource Manager wait time (in seconds) of the last successful attempt to perform this task                                                                                                                                                                                 |
| LAST_GOOD_UNDO_WAIT   | NUMBER                       |      | Resource Manager wait time (in seconds) of the last successful attempt to perform this task                                                                                                                                                                                 |
| LAST_GOOD_TEMP_WAIT   | NUMBER                       |      | Resource Manager wait time (in seconds) of the last successful attempt to perform this task                                                                                                                                                                                 |
| LAST_GOOD_CONCURRENCY | NUMBER                       |      | Concurrency wait time (in seconds) of the last successful attempt to perform this task                                                                                                                                                                                      |
| LAST_GOOD_CONTENTION  | NUMBER                       |      | Contention wait time (in seconds) of the last successful attempt to perform this task                                                                                                                                                                                       |
| NEXT_TRY_DATE         | TIMESTAMP (6) WITH TIME ZONE |      | Next projected start time for the deferred maintenance window                                                                                                                                                                                                               |
| LAST_TRY_DATE         | TIMESTAMP (6) WITH TIME ZONE |      | Time at which the task was last attempted                                                                                                                                                                                                                                   |
| LAST_TRY_PRIORITY     | NUMBER                       |      | Task priority at the time of the last attempt                                                                                                                                                                                                                               |
| LAST_TRY_RESULT       | VARCHAR2 (36)                |      | Result code of the last execution of the task: <ul style="list-style-type: none"> <li>• SUCCEEDED</li> <li>• FAILED</li> <li>• STOPPED BY USER ACTION</li> <li>• STOPPED AT END OF MAINTENANCE WINDOW</li> <li>• STOPPED AT INSTANCE SHUTDOWN</li> <li>• STOPPED</li> </ul> |
| LAST_TRY_DURATION     | NUMBER                       |      | Elapsed time of the last run (in seconds)                                                                                                                                                                                                                                   |
| LAST_TRY_CPU_TIME     | NUMBER                       |      | CPU time during the last run (in seconds)                                                                                                                                                                                                                                   |
| LAST_TRY_TEMP         | NUMBER                       |      | Temporary space usage for the job (in KB) for the last run                                                                                                                                                                                                                  |
| LAST_TRY_DOP          | NUMBER                       |      | Peak degree of parallelism for the job during the last run                                                                                                                                                                                                                  |
| LAST_TRY_IO_RATE      | NUMBER                       |      | I/O rate during the last run (in seconds)                                                                                                                                                                                                                                   |

| Column                | Datatype        | NULL | Description                                                                                  |
|-----------------------|-----------------|------|----------------------------------------------------------------------------------------------|
| LAST_TRY_UNDO_RATE    | NUMBER          |      | UNDO generation rate during the last run (in seconds)                                        |
| LAST_TRY_CPU_WAIT     | NUMBER          |      | Time spent waiting for CPU during the last run (in seconds)                                  |
| LAST_TRY_IO_WAIT      | NUMBER          |      | Time spent waiting for I/O during the last run (in seconds)                                  |
| LAST_TRY_UNDO_WAIT    | NUMBER          |      | Time spent waiting for UNDO during the last run (in seconds)                                 |
| LAST_TRY_TEMP_WAIT    | NUMBER          |      | Time spent waiting for temporary space during the last run (in seconds)                      |
| LAST_TRY_CONCURRENCY  | NUMBER          |      | Concurrency wait time during the last run (in seconds)                                       |
| LAST_TRY_CONTENTION   | NUMBER          |      | Contention wait time during the last run (in seconds)                                        |
| MEAN_GOOD_DURATION    | NUMBER          |      | Average elapsed time for successful executions of this task (in seconds)                     |
| MEAN_GOOD_CPU_TIME    | NUMBER          |      | Average CPU time for successful executions of this task (in seconds)                         |
| MEAN_GOOD_TEMP        | NUMBER          |      | Average temporary space usage for successful executions of this task (in KB)                 |
| MEAN_GOOD_DOP         | NUMBER          |      | Average peak degree of parallelism for successful executions of this task                    |
| MEAN_GOOD_IO          | NUMBER          |      | Average I/O utilization for successful executions of this task (in KB per second)            |
| MEAN_GOOD_UNDO        | NUMBER          |      | Average UNDO generation rate for this task (in KB per second)                                |
| MEAN_GOOD_CPU_WAIT    | NUMBER          |      | Average time waiting for CPU for successful executions of this task (in seconds)             |
| MEAN_GOOD_IO_WAIT     | NUMBER          |      | Average time waiting for I/O for successful executions of this task (in seconds)             |
| MEAN_GOOD_UNDO_WAIT   | NUMBER          |      | Average time waiting for UNDO for successful executions of this task (in seconds)            |
| MEAN_GOOD_TEMP_WAIT   | NUMBER          |      | Average time waiting for temporary space for successful executions of this task (in seconds) |
| MEAN_GOOD_CONCURRENCY | NUMBER          |      | Average concurrency wait time for successful executions of this task (in seconds)            |
| MEAN_GOOD_CONTENTION  | NUMBER          |      | Average contention wait time for successful executions of this task (in seconds)             |
| INFO_FIELD_1          | VARCHAR2 (4000) |      | Client-interpreted information                                                               |
| INFO_FIELD_2          | CLOB            |      | Client-interpreted information                                                               |
| INFO_FIELD_3          | NUMBER          |      | Client-interpreted information                                                               |
| INFO_FIELD_4          | NUMBER          |      | Client-interpreted information                                                               |

## 5.211 DBA\_AUTOTASK\_WINDOW\_CLIENTS

DBA\_AUTOTASK\_WINDOW\_CLIENTS displays the windows that belong to MAINTENANCE\_WINDOW\_GROUP, along with the Enabled or Disabled status for the window for each maintenance task.

DBA\_AUTOTASK\_WINDOW\_CLIENTS is primarily used by Enterprise Manager.

| Column           | Datatype                     | NULL     | Description                                                                                                                      |
|------------------|------------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------|
| WINDOW_NAME      | VARCHAR2 (128)               | NOT NULL | Name of the maintenance window                                                                                                   |
| WINDOW_NEXT_TIME | TIMESTAMP (6) WITH TIME ZONE |          | Next scheduled window open time unless the window is disabled                                                                    |
| WINDOW_ACTIVE    | VARCHAR2 (5)                 |          | Indicates whether the window is currently active (open) (TRUE) or not (FALSE)                                                    |
| AUTOTASK_STATUS  | VARCHAR2 (8)                 |          | Status of the automated maintenance task subsystem: <ul style="list-style-type: none"><li>• ENABLED</li><li>• DISABLED</li></ul> |
| OPTIMIZER_STATS  | VARCHAR2 (8)                 |          | Status of optimizer statistics gathering: <ul style="list-style-type: none"><li>• ENABLED</li><li>• DISABLED</li></ul>           |
| SEGMENT_ADVISOR  | VARCHAR2 (8)                 |          | Status of Segment Advisor: <ul style="list-style-type: none"><li>• ENABLED</li><li>• DISABLED</li></ul>                          |
| SQL_TUNE_ADVISOR | VARCHAR2 (8)                 |          | Status of SQL Tuning Advisor: <ul style="list-style-type: none"><li>• ENABLED</li><li>• DISABLED</li></ul>                       |

## 5.212 DBA\_AUTOTASK\_WINDOW\_HISTORY

DBA\_AUTOTASK\_WINDOW\_HISTORY displays historical information for automated maintenance task windows.

| Column            | Datatype                     | NULL | Description                    |
|-------------------|------------------------------|------|--------------------------------|
| WINDOW_NAME       | VARCHAR2 (261)               |      | Name of the maintenance window |
| WINDOW_START_TIME | TIMESTAMP (6) WITH TIME ZONE |      | Window start time              |
| WINDOW_END_TIME   | TIMESTAMP (6) WITH TIME ZONE |      | Window end time                |

## 5.213 DBA\_AW\_PS

DBA\_AW\_PS describes the page spaces in all analytic workspaces in the database. Its columns are the same as those in ALL\_AW\_PS.



**See Also:**

"ALL\_AW\_PS"

## 5.214 DBA\_AWS

DBA\_AWS describes all analytic workspaces in the database. Its columns are the same as those in ALL\_AWS.



### See Also:

"ALL\_AWS"

## 5.215 DBA\_BASE\_TABLE\_MVIEWS

DBA\_BASE\_TABLE\_MVIEWS describes all materialized views using materialized view logs in the database. Its columns are the same as those in ALL\_BASE\_TABLE\_MVIEWS.



### See Also:

"ALL\_BASE\_TABLE\_MVIEWS"

## 5.216 DBA\_BLOCKCHAIN\_ROW\_VERSION\_COLS

DBA\_BLOCKCHAIN\_ROW\_VERSION\_COLS displays information about row versioned columns in all blockchain tables in the database. Its columns are the same as those in ALL\_BLOCKCHAIN\_ROW\_VERSION\_COLS.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

"ALL\_BLOCKCHAIN\_ROW\_VERSION\_COLS"



## 5.217 DBA\_BLOCKCHAIN\_ROW\_VERSION\_HISTORY

DBA\_BLOCKCHAIN\_ROW\_VERSION\_HISTORY provides a history of row versions in all blockchain tables in the database. Its columns are the same as those in ALL\_BLOCKCHAIN\_ROW\_VERSION\_HISTORY.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_BLOCKCHAIN\_ROW\_VERSION\_HISTORY"

## 5.218 DBA\_BLOCKCHAIN\_TABLE\_CHAINS

DBA\_BLOCKCHAIN\_TABLE\_CHAINS displays system chain information for all blockchain tables in the database. Its columns are the same as those in ALL\_BLOCKCHAIN\_TABLE\_CHAINS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_BLOCKCHAIN\_TABLE\_CHAINS"

## 5.219 DBA\_BLOCKCHAIN\_TABLE\_EPOCHS

DBA\_BLOCKCHAIN\_TABLE\_EPOCHS displays epoch information for all blockchain tables in the database. Its columns are the same as those in ALL\_BLOCKCHAIN\_TABLE\_EPOCHS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**["ALL\\_BLOCKCHAIN\\_TABLE\\_EPOCHS"](#)

## 5.220 DBA\_BLOCKCHAIN\_TABLE\_HASH\_COL\_ORDER

DBA\_BLOCKCHAIN\_TABLE\_HASH\_COL\_ORDER displays information about columns used to compute the cryptographic hash in all blockchain tables in the database. Its columns are the same as those in ALL\_BLOCKCHAIN\_TABLE\_HASH\_COL\_ORDER.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**["ALL\\_BLOCKCHAIN\\_TABLE\\_HASH\\_COL\\_ORDER"](#)

## 5.221 DBA\_BLOCKCHAIN\_TABLES

DBA\_BLOCKCHAIN\_TABLES describes all blockchain tables in the database. Its columns are the same as those in ALL\_BLOCKCHAIN\_TABLES.

**See Also:**["ALL\\_BLOCKCHAIN\\_TABLES"](#)

## 5.222 DBA\_BLOCKER\_RESOLVER\_PARAMETERS

DBA\_BLOCKER\_RESOLVER\_PARAMETERS shows the available user-tunable Blocker Resolver parameters and their values.

| Column         | Datatype      | NULL     | Description                                           |
|----------------|---------------|----------|-------------------------------------------------------|
| NAME           | VARCHAR2 (40) | NOT NULL | String representation of the parameter name           |
| CURRENT_VALUE  | VARCHAR2 (20) |          | String representation of the current parameter value  |
| CURRENT_TIME   | DATE          |          | Time at which the current value was set               |
| PREVIOUS_VALUE | VARCHAR2 (20) |          | String representation of the previous parameter value |
| PREVIOUS_TIME  | DATE          |          | Time at which the previous value was set              |

**Note:**

This view is available starting with Oracle Database 23ai.

## 5.223 DBA\_BLOCKERS

DBA\_BLOCKERS displays a session if it is not waiting for a locked object but is holding a lock on an object for which another session is waiting.

In an Oracle RAC environment, this only applies if the blocker is on the same instance.

| Column          | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|----------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HOLDING_SESSION | NUMBER   |      | Session holding a lock                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID          | NUMBER   |      | The ID of the container to which the data pertains.<br>Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire multitenant container database (CDB). This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 5.224 DBA\_CAPTURE

DBA\_CAPTURE displays information about all capture processes in the database. Its columns are the same as those in ALL\_CAPTURE.

**See Also:**

"ALL\_CAPTURE"

## 5.225 DBA\_CAPTURE\_EXTRA\_ATTRIBUTES

DBA\_CAPTURE\_EXTRA\_ATTRIBUTES displays information about the extra attributes for all capture processes in the database. Its columns are the same as those in ALL\_CAPTURE\_EXTRA\_ATTRIBUTES.

**See Also:**

"ALL\_CAPTURE\_EXTRA\_ATTRIBUTES"

## 5.226 DBA\_CAPTURE\_PARAMETERS

DBA\_CAPTURE\_PARAMETERS displays information about the parameters for all capture processes in the database. Its columns are the same as those in ALL\_CAPTURE\_PARAMETERS.



**See Also:**

"ALL\_CAPTURE\_PARAMETERS"

## 5.227 DBA\_CAPTURE\_PREPARED\_DATABASE

DBA\_CAPTURE\_PREPARED\_DATABASE displays information about when the local database was prepared for instantiation. Its columns are the same as those in ALL\_CAPTURE\_PREPARED\_DATABASE.



**See Also:**

"ALL\_CAPTURE\_PREPARED\_DATABASE"

## 5.228 DBA\_CAPTURE\_PREPARED\_SCHEMAS

DBA\_CAPTURE\_PREPARED\_SCHEMAS displays information about all schemas prepared for instantiation at the local database. Its columns are the same as those in ALL\_CAPTURE\_PREPARED\_SCHEMAS.



**See Also:**

"ALL\_CAPTURE\_PREPARED\_SCHEMAS"

## 5.229 DBA\_CAPTURE\_PREPARED\_TABLES

DBA\_CAPTURE\_PREPARED\_TABLES displays information about all tables prepared for instantiation at the local database. Its columns are the same as those in ALL\_CAPTURE\_PREPARED\_TABLES.



**See Also:**

"ALL\_CAPTURE\_PREPARED\_TABLES"

## 5.230 DBA\_CATALOG

DBA\_CATALOG lists all tables, views, clusters, synonyms, and sequences in the database. Its columns are the same as those in ALL\_CATALOG.



### See Also:

"ALL\_CATALOG"

## 5.231 DBA\_CDB\_RSRC\_PLAN\_DIRECTIVES

DBA\_CDB\_RSRC\_PLAN\_DIRECTIVES provides information about all the CDB resource plan directives.



### Note:

ORA\$DEFAULT\_PDB\_DIRECTIVE is the default directive for PDBs. For more information about ORA\$DEFAULT\_PDB\_DIRECTIVE, see *Oracle Multitenant Administrator's Guide*.

| Column                | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                          |
|-----------------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PLAN                  | VARCHAR2 (128) |      | Name of the CDB resource plan to which this directive belongs                                                                                                                                                                                                                                                        |
| PLUGGABLE_DATABASE    | VARCHAR2 (128) |      | Name of the PDB referred to. NULL for profile directives                                                                                                                                                                                                                                                             |
| PROFILE               | VARCHAR2 (128) |      | For internal use only                                                                                                                                                                                                                                                                                                |
| DIRECTIVE_TYPE        | VARCHAR2 (30)  |      | For internal use only                                                                                                                                                                                                                                                                                                |
| SHARES                | NUMBER         |      | Resource allocation, expressed in shares                                                                                                                                                                                                                                                                             |
| UTILIZATION_LIMIT     | NUMBER         |      | Maximum resource utilization allowed, expressed in percentage                                                                                                                                                                                                                                                        |
| PARALLEL_SERVER_LIMIT | NUMBER         |      | Maximum percentage of the parallel target used before queueing subsequent parallel queries                                                                                                                                                                                                                           |
| MEMORY_MIN            | NUMBER         |      | The percentage of Exadata Smart Flash Cache and Exadata PMEM cache that is guaranteed to the PDB<br>This percentage is based on the total amount of space allocated to the CDB for Exadata Smart Flash Cache and Exadata PMEM cache.<br>See <i>Oracle Exadata System Software User's Guide</i> for more information. |

| Column       | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                 |
|--------------|-----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MEMORY_LIMIT | NUMBER          |      | The maximum percentage of Exadata Smart Flash Cache and Exadata PMEM cache that the PDB can use<br><br>This percentage is based on the total amount of space allocated to the CDB for Exadata Smart Flash Cache and Exadata PMEM cache.<br><br>See <i>Oracle Exadata System Software User's Guide</i> for more information. |
| COMMENTS     | VARCHAR2 (2000) |      | Text comment on the resource plan directive                                                                                                                                                                                                                                                                                 |
| STATUS       | VARCHAR2 (128)  |      | PENDING if it is part of the pending area, NULL otherwise                                                                                                                                                                                                                                                                   |
| MANDATORY    | VARCHAR2 (3)    |      | Whether the resource plan directive is mandatory. Mandatory plans cannot be deleted.                                                                                                                                                                                                                                        |

**Note:**

Oracle recommends that you do not use the `parallel_server_limit` directive in a CDB resource plan.

## 5.232 DBA\_CDB\_RSRC\_PLANS

DBA\_CDB\_RSRC\_PLANS provides information about all the CDB resource plans.

| Column    | Datatype        | NULL     | Description                                                                |
|-----------|-----------------|----------|----------------------------------------------------------------------------|
| PLAN_ID   | NUMBER          | NOT NULL | CDB resource plan ID                                                       |
| PLAN      | VARCHAR2 (128)  |          | CDB resource plan name                                                     |
| COMMENTS  | VARCHAR2 (2000) |          | Text comment on the CDB resource plan                                      |
| STATUS    | VARCHAR2 (128)  |          | PENDING if it is part of the pending area, NULL otherwise                  |
| MANDATORY | VARCHAR2 (3)    |          | Whether the resource plan is mandatory. Mandatory plans cannot be deleted. |

## 5.233 DBA\_CERTIFICATES

DBA\_CERTIFICATES displays all certificates in the database which are used for signature verification for blockchain tables. Its columns are the same as those in ALL\_CERTIFICATES.

**See Also:**

"ALL\_CERTIFICATES"

## 5.234 DBA\_CHANGE\_NOTIFICATION\_REGS

DBA\_CHANGE\_NOTIFICATION\_REGS describes all change notification registrations in the database.

### Related View

USER\_CHANGE\_NOTIFICATION\_REGS describes the change notification registrations owned by the current user. This view does not display the USERNAME column.

| Column            | Datatype       | NULL | Description                                                                                                                 |
|-------------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------|
| USERNAME          | VARCHAR2 (31)  |      | For invoker's rights units, the user creating the registration<br>For definer's rights units, the owner of the registration |
| REGID             | NUMBER         |      | Internal registration ID                                                                                                    |
| REGFLAGS          | NUMBER         |      | Registration flags                                                                                                          |
| CALLBACK          | VARCHAR2 (256) |      | Notification callback                                                                                                       |
| OPERATIONS_FILTER | NUMBER         |      | Operations filter (if specified)                                                                                            |
| CHANGELAG         | NUMBER         |      | Transaction lag between notifications (if specified)                                                                        |
| TIMEOUT           | NUMBER         |      | Registration timeout (if specified)                                                                                         |
| TABLE_NAME        | VARCHAR2 (63)  |      | Name of the registered table                                                                                                |



**See Also:**

"USER\_CHANGE\_NOTIFICATION\_REGS"

## 5.235 DBA\_CHECKED\_ROLES

DBA\_CHECKED\_ROLES lists the roles (without role grant paths) that are used for the role analysis policies reported by the DBMS\_CAPTURE.GENERATE\_RESULT procedure.

This view provides access to analyzed role records in SYS tables.

You must have the CAPTURE\_ADMIN role to access this view.

| Column       | Datatype       | NULL     | Description                                                                     |
|--------------|----------------|----------|---------------------------------------------------------------------------------|
| CAPTURE      | VARCHAR2 (128) | NOT NULL | Name of a role analysis policy                                                  |
| SEQUENCE     | NUMBER         | NOT NULL | The sequence number of the role analysis run during which the role was reported |
| OS_USER      | VARCHAR2 (128) |          | Operating system login username                                                 |
| USERHOST     | VARCHAR2 (128) |          | Client host machine name                                                        |
| MODULE       | VARCHAR2 (64)  |          | Module name                                                                     |
| USERNAME     | VARCHAR2 (128) | NOT NULL | Name of the user whose role was reported                                        |
| CHECKED_ROLE | VARCHAR2 (128) |          | Checked role                                                                    |
| RUN_NAME     | VARCHAR2 (128) |          | The name of the run during which the role was reported                          |

**See Also:**["DBA\\_CHECKED\\_ROLES\\_PATH"](#)

## 5.236 DBA\_CHECKED\_ROLES\_PATH

DBA\_CHECKED\_ROLES\_PATH lists the roles that are used for the role analysis policies reported by the DBMS\_PRIVILEGE\_CAPTURE.GENERATE\_RESULT procedure.

This view provides access to analyzed role records in SYS tables.

You must have the CAPTURE\_ADMIN role to access this view.

| Column       | Datatype       | NULL     | Description                                                                     |
|--------------|----------------|----------|---------------------------------------------------------------------------------|
| CAPTURE      | VARCHAR2 (128) | NOT NULL | Name of a role analysis policy                                                  |
| SEQUENCE     | NUMBER         | NOT NULL | The sequence number of the role analysis run during which the role was reported |
| OS_USER      | VARCHAR2 (128) |          | Operating system login username                                                 |
| USERHOST     | VARCHAR2 (128) |          | Client host machine name                                                        |
| MODULE       | VARCHAR2 (64)  |          | Module name                                                                     |
| USERNAME     | VARCHAR2 (128) | NOT NULL | Name of the user whose role was reported                                        |
| CHECKED_ROLE | VARCHAR2 (128) |          | Checked role                                                                    |
| PATH         | GRANT_PATH     |          | Role grant paths                                                                |
| RUN_NAME     | VARCHAR2 (128) |          | The name of the run during which the role was reported                          |

**See Also:**["DBA\\_CHECKED\\_ROLES"](#)

## 5.237 DBA\_CLU\_COLUMNS

DBA\_CLU\_COLUMNS maps all table columns to related cluster columns.

### Related View

USER\_CLU\_COLUMNS maps all table columns owned by the current user to related cluster columns. This view does not display the OWNER column.

| Column          | Datatype       | NULL     | Description               |
|-----------------|----------------|----------|---------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the cluster      |
| CLUSTER_NAME    | VARCHAR2 (128) | NOT NULL | Name of the cluster       |
| CLU_COLUMN_NAME | VARCHAR2 (128) | NOT NULL | Key column in the cluster |
| TABLE_NAME      | VARCHAR2 (128) | NOT NULL | Clustered table name      |



| Column          | Datatype        | NULL | Description                                       |
|-----------------|-----------------|------|---------------------------------------------------|
| TAB_COLUMN_NAME | VARCHAR2 (4000) |      | Key column or attribute of the object type column |

**See Also:**

"USER\_CLU\_COLUMNS"

## 5.238 DBA\_CLUSTER\_HASH\_EXPRESSIONS

DBA\_CLUSTER\_HASH\_EXPRESSIONS lists hash functions for all hash clusters in the database. Its columns are the same as those in ALL\_CLUSTER\_HASH\_EXPRESSIONS.

**See Also:**

"ALL\_CLUSTER\_HASH\_EXPRESSIONS"

## 5.239 DBA\_CLUSTERING\_DIMENSIONS

DBA\_CLUSTERING\_DIMENSIONS describes dimension tables associated with all tables with an attribute clustering clause in the database. Its columns are the same as those in ALL\_CLUSTERING\_DIMENSIONS.

**See Also:**

- "ALL\_CLUSTERING\_DIMENSIONS"
- *Oracle Database Data Warehousing Guide* for information about attribute clustering with zone maps

## 5.240 DBA\_CLUSTERING\_JOINS

DBA\_CLUSTERING\_JOINS describes joins to the dimension tables associated with all tables with an attribute clustering clause in the database. Its columns are the same as those in ALL\_CLUSTERING\_JOINS.

**See Also:**

- "ALL\_CLUSTERING\_JOINS"
- *Oracle Database Data Warehousing Guide* for information about attribute clustering with zone maps

## 5.241 DBA\_CLUSTERING\_KEYS

DBA\_CLUSTERING\_KEYS describes clustering keys for all tables with an attribute clustering clause. Its columns are the same as those in ALL\_CLUSTERING\_KEYS.



### See Also:

- ["ALL\\_CLUSTERING\\_KEYS"](#)
- *Oracle Database Data Warehousing Guide* for information about attribute clustering with zone maps

## 5.242 DBA\_CLUSTERING\_TABLES

DBA\_CLUSTERING\_TABLES describes all the tables with an attribute clustering clause. Its columns are the same as those in ALL\_CLUSTERING\_TABLES.



### See Also:

- ["ALL\\_CLUSTERING\\_TABLES"](#)
- *Oracle Database Data Warehousing Guide* for information about attribute clustering with zone maps

## 5.243 DBA\_CLUSTERS

DBA\_CLUSTERS describes all clusters in the database. Its columns are the same as those in ALL\_CLUSTERS.



### Note:

["ALL\\_CLUSTERS"](#)

## 5.244 DBA\_CODE\_ROLE\_PRIVS

DBA\_CODE\_ROLE\_PRIVS describes all the roles that are associated with program units in the database. Its columns are the same as those in ALL\_CODE\_ROLE\_PRIVS.



### See Also:

["ALL\\_CODE\\_ROLE\\_PRIVS"](#)

## 5.245 DBA\_COL\_COMMENTS

DBA\_COL\_COMMENTS displays comments on the columns of all tables and views in the database. Its columns are the same as those in ALL\_COL\_COMMENTS.



**See Also:**

["ALL\\_COL\\_COMMENTS"](#)

## 5.246 DBA\_COL\_PENDING\_STATS

DBA\_COL\_PENDING\_STATS describes the pending statistics of all columns in the database. Its columns are the same as those in ALL\_COL\_PENDING\_STATS.



**See Also:**

["ALL\\_COL\\_PENDING\\_STATS"](#)

## 5.247 DBA\_COL\_PRIVS

DBA\_COL\_PRIVS describes all column object grants in the database.

### Related View

USER\_COL\_PRIVS describes the column object grants for which the current user is the object owner, grantor, or grantee.

| Column      | Datatype       | NULL | Description                                                                                                                                                                                                                                            |
|-------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GRANTEE     | VARCHAR2 (128) |      | Name of the user or role to whom access was granted                                                                                                                                                                                                    |
| OWNER       | VARCHAR2 (128) |      | Owner of the object                                                                                                                                                                                                                                    |
| TABLE_NAME  | VARCHAR2 (128) |      | Name of the object                                                                                                                                                                                                                                     |
| COLUMN_NAME | VARCHAR2 (128) |      | Name of the column                                                                                                                                                                                                                                     |
| GRANTOR     | VARCHAR2 (128) |      | Name of the user who performed the grant                                                                                                                                                                                                               |
| PRIVILEGE   | VARCHAR2 (40)  |      | Privilege on the column                                                                                                                                                                                                                                |
| GRANTABLE   | VARCHAR2 (3)   |      | Indicates whether the privilege was granted with the GRANT OPTION (YES) or not (NO)                                                                                                                                                                    |
| COMMON      | VARCHAR2 (3)   |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"><li>• YES if the privilege was granted commonly (CONTAINER=ALL was used)</li><li>• NO if the privilege was granted locally (CONTAINER=ALL was not used)</li></ul> |
| INHERITED   | VARCHAR2 (3)   |      | Indicates whether the privilege grant was inherited from another container (YES) or not (NO)                                                                                                                                                           |

**See Also:**["USER\\_COL\\_PRIVS"](#)

## 5.248 DBA\_COLL\_TYPES

DBA\_COLL\_TYPES describes all named collection types (arrays, nested tables, object tables, and so on) in the database. Its columns are the same as those in ALL\_COLL\_TYPES.

**Note:**["ALL\\_COLL\\_TYPES"](#)

## 5.249 DBA\_COMMON\_AUDIT\_TRAIL

DBA\_COMMON\_AUDIT\_TRAIL displays all standard and fine-grained audit trail entries, mandatory and SYS audit records written in XML format.

**Note:**

This view is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored and are viewable with this view. See *Oracle Database Security Guide* for more information about how this desupport works.

| Column             | Datatype                     | NULL | Description                                                                                                                                                                                                                                |
|--------------------|------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AUDIT_TYPE         | VARCHAR2 (22)                |      | Audit trail type: <ul style="list-style-type: none"> <li>• Standard Audit</li> <li>• Standard XML Audit</li> <li>• Fine Grained Audit</li> <li>• Fine Grained XML Audit</li> <li>• SYS XML Audit</li> <li>• Mandatory XML Audit</li> </ul> |
| SESSION_ID         | NUMBER                       |      | Numeric ID for the Oracle session                                                                                                                                                                                                          |
| PROXY_SESSIONID    | NUMBER                       |      | Proxy session serial number, if an enterprise user has logged in through the proxy mechanism                                                                                                                                               |
| STATEMENTID        | NUMBER                       |      | Numeric ID for the statement run; a statement may cause multiple audit records                                                                                                                                                             |
| ENTRYID            | NUMBER                       |      | Numeric ID for the audit trail entry in the session                                                                                                                                                                                        |
| EXTENDED_TIMESTAMP | TIMESTAMP (6) WITH TIME ZONE |      | Timestamp of the audited operation (timestamp of user login for entries created by AUDIT SESSION) in the session's time zone                                                                                                               |

| Column          | Datatype         | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------|------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GLOBAL_UID      | VARCHAR2 (32)    |      | Global user identifier for the user, if the user has logged in as an enterprise user                                                                                                                                                                                                                                                                                                                                                                                                                             |
| DB_USER         | VARCHAR2 (128)   |      | Database user name of the user whose actions were audited                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CLIENT_ID       | VARCHAR2 (128)   |      | Client identifier in the Oracle session                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ECONTEXT_ID     | VARCHAR2 (64)    |      | Application execution context identifier                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EXT_NAME        | VARCHAR2 (4000)  |      | User external name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| OS_USER         | VARCHAR2 (255)   |      | Operating system login user name of the user whose actions were audited                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| USERHOST        | VARCHAR2 (128)   |      | Client host machine name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| OS_PROCESS      | VARCHAR2 (16)    |      | Operating system process identifier of the Oracle process                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TERMINAL        | VARCHAR2 (255)   |      | Identifier of the user's terminal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| INSTANCE_NUMBER | NUMBER           |      | Instance number as specified by the <code>INSTANCE_NUMBER</code> initialization parameter                                                                                                                                                                                                                                                                                                                                                                                                                        |
| OBJECT_SCHEMA   | VARCHAR2 (128)   |      | Owner of the audited object                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| OBJECT_NAME     | VARCHAR2 (128)   |      | Name of the object affected by the action                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| POLICY_NAME     | VARCHAR2 (128)   |      | Name of the Fine-Grained Auditing Policy                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| NEW_OWNER       | VARCHAR2 (128)   |      | Owner of the object named in the <code>NEW_NAME</code> column                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NEW_NAME        | VARCHAR2 (128)   |      | New name of the object after a <code>RENAME</code> or the name of the underlying object                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ACTION          | NUMBER           |      | Numeric action type code. The corresponding name of the action type is in the <code>STATEMENT_TYPE</code> column.                                                                                                                                                                                                                                                                                                                                                                                                |
| STATEMENT_TYPE  | VARCHAR2 (28)    |      | Name of the action type corresponding to the numeric code in the <code>ACTION</code> column                                                                                                                                                                                                                                                                                                                                                                                                                      |
| AUDIT_OPTION    | VARCHAR2 (40)    |      | Auditing option set with the <code>AUDIT</code> statement                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TRANSACTIONID   | RAW (8)          |      | Transaction identifier of the transaction in which the object was accessed or modified                                                                                                                                                                                                                                                                                                                                                                                                                           |
| RETURNCODE      | NUMBER           |      | Oracle error code generated by the action (0 if the action succeeded)                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| SCN             | NUMBER           |      | System change number (SCN) of the query                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| COMMENT_TEXT    | VARCHAR2 (4000)  |      | Text comment on the audit trail entry, providing more information about the statement audited<br>Also indicates how the user was authenticated: <ul style="list-style-type: none"> <li>• <code>DATABASE</code> - Authentication was done by password</li> <li>• <code>NETWORK</code> - Authentication was done by Oracle Net Services or the Advanced Networking Option</li> <li>• <code>PROXY</code> - Client was authenticated by another user. The name of the proxy user follows the method type.</li> </ul> |
| SQL_BIND        | NVARCHAR2 (2000) |      | Bind variable data of the query                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SQL_TEXT        | NVARCHAR2 (2000) |      | SQL text of the query                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Column        | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------|---------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJ_PRIVILEGE | VARCHAR2 (32) |      | <p>Object privileges granted or revoked by a <code>GRANT</code> or <code>REVOKE</code> statement. The value of this column is a 32-character string of <code>Y</code> and dash (<code>-</code>) characters. Each character corresponds to a numbered privilege in the following list. The left-most character corresponds to privilege 0, the next character corresponds to privilege 1, and so on. The right-most character corresponds to privilege 31.</p> <ul style="list-style-type: none"> <li>0 - ALTER</li> <li>1 - AUDIT</li> <li>2 - COMMENT</li> <li>3 - DELETE</li> <li>4 - GRANT</li> <li>5 - INDEX</li> <li>6 - INSERT</li> <li>7 - LOCK</li> <li>8 - CREATE</li> <li>9 - SELECT</li> <li>10 - UPDATE</li> <li>11 - REFERENCES</li> <li>12 - EXECUTE</li> <li>13 - VIEW</li> <li>14 - DROP</li> <li>15 - ANALYZE</li> <li>16 - CREATE</li> <li>17 - READ</li> <li>18 - WRITE</li> <li>19 - KEEP SEQUENCE</li> <li>20 - ENQUEUE</li> <li>21 - DEQUEUE</li> <li>22 - UNDER</li> <li>23 - ON COMMIT</li> <li>24 - REWRITE</li> <li>25 - UPSERT</li> <li>26 - DEBUG</li> <li>27 - FLASHBACK</li> <li>28 - MERGE</li> <li>29 - USE</li> <li>30 - FLASHBACK ARCHIVE</li> <li>31 - DIRECTORY EXECUTE</li> </ul> <p>A <code>Y</code> indicates that the privilege was granted or revoked by the statement. A dash indicates that the privilege was not affected by the statement. For example, the following value indicates that the <code>MERGE</code> privilege was granted or revoked by the statement:</p> <p>-----Y---</p> |
| SYS_PRIVILEGE | VARCHAR2 (40) |      | System privileges granted or revoked by a <code>GRANT</code> or <code>REVOKE</code> statement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ADMIN_OPTION  | VARCHAR2 (1)  |      | Indicates whether the role or system privilege was granted with the <code>ADMIN</code> option                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Column           | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OS_PRIVILEGE     | VARCHAR2 (7)   |      | Operating privilege (SYSDBA or SYSOPER), if any, used in the session. If no privilege is used, it will be NONE.                                                                                                                                                                                                                                                                                 |
| GRANTEE          | VARCHAR2 (128) |      | Name of the grantee specified in a GRANT or REVOKE statement                                                                                                                                                                                                                                                                                                                                    |
| PRIV_USED        | VARCHAR2 (40)  |      | System privilege used to execute the action                                                                                                                                                                                                                                                                                                                                                     |
| SES_ACTIONS      | VARCHAR2 (19)  |      | Session summary (a string of 16 characters, one for each action type in the order ALTER, AUDIT, COMMENT, DELETE, GRANT, INDEX, INSERT, LOCK, RENAME, SELECT, UPDATE, REFERENCES, and EXECUTE). Positions 14, 15, and 16 are reserved for future use. The characters are: <ul style="list-style-type: none"> <li>- - None</li> <li>S - Success</li> <li>F - Failure</li> <li>B - Both</li> </ul> |
| LOGOFF_TIME      | DATE           |      | Timestamp of user log off                                                                                                                                                                                                                                                                                                                                                                       |
| LOGOFF_LREAD     | NUMBER         |      | Number of logical reads in the session                                                                                                                                                                                                                                                                                                                                                          |
| LOGOFF_PREAD     | NUMBER         |      | Number of physical reads in the session                                                                                                                                                                                                                                                                                                                                                         |
| LOGOFF_LWRITE    | NUMBER         |      | Number of logical writes for the session                                                                                                                                                                                                                                                                                                                                                        |
| LOGOFF_DLOCK     | VARCHAR2 (40)  |      | Number of deadlocks detected during the session                                                                                                                                                                                                                                                                                                                                                 |
| SESSION_CPU      | NUMBER         |      | Amount of CPU time used by the Oracle session                                                                                                                                                                                                                                                                                                                                                   |
| OBJ_EDITION_NAME | VARCHAR2 (128) |      | Name of the edition containing the audited object                                                                                                                                                                                                                                                                                                                                               |
| DBID             | NUMBER         |      | Database identifier of the audited database                                                                                                                                                                                                                                                                                                                                                     |
| RLS_INFO         | CLOB           |      | Stores virtual private database (VPD) policy names and predicates separated by delimiter                                                                                                                                                                                                                                                                                                        |
| COMMON_USER      | VARCHAR2 (128) |      | Effective user for the statement execution                                                                                                                                                                                                                                                                                                                                                      |

 **Note:**

The SQL\_BIND and SQL\_TEXT columns are only populated if the AUDIT\_TRAIL initialization parameter is set to db, extended or xml, extended or if the AUDIT\_SYS\_OPERATIONS initialization parameter is set to TRUE.

 **See Also:**

- "AUDIT\_SYS\_OPERATIONS"
- "AUDIT\_TRAIL"

## 5.250 DBA\_COMPARISON

DBA\_COMPARISON displays information about all comparison objects in the database.

### Related View

USER\_COMPARISON displays information about the comparison objects owned by the current user. This view does not display the OWNER column.

| Column              | Datatype        | NULL     | Description                                                                                                                                  |
|---------------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128)  | NOT NULL | Owner of the comparison                                                                                                                      |
| COMPARISON_NAME     | VARCHAR2 (128)  | NOT NULL | Name of the comparison                                                                                                                       |
| COMPARISON_MODE     | VARCHAR2 (5)    |          | Mode of the comparison: <ul style="list-style-type: none"> <li>TABLE</li> </ul>                                                              |
| SCHEMA_NAME         | VARCHAR2 (128)  |          | Schema name of the local object                                                                                                              |
| OBJECT_NAME         | VARCHAR2 (128)  |          | Name of the local object                                                                                                                     |
| OBJECT_TYPE         | VARCHAR2 (17)   |          | Type of the local object: <ul style="list-style-type: none"> <li>TABLE</li> <li>VIEW</li> <li>SYNONYM</li> <li>MATERIALIZED VIEW</li> </ul>  |
| REMOTE_SCHEMA_NAME  | VARCHAR2 (128)  |          | Schema name of the remote object                                                                                                             |
| REMOTE_OBJECT_NAME  | VARCHAR2 (128)  |          | Name of the remote object                                                                                                                    |
| REMOTE_OBJECT_TYPE  | VARCHAR2 (17)   |          | Type of the remote object: <ul style="list-style-type: none"> <li>TABLE</li> <li>VIEW</li> <li>SYNONYM</li> <li>MATERIALIZED VIEW</li> </ul> |
| DBLINK_NAME         | VARCHAR2 (128)  |          | Database link name to the remote database                                                                                                    |
| SCAN_MODE           | VARCHAR2 (9)    |          | Scan mode of the comparison: FULL <ul style="list-style-type: none"> <li>FULL</li> <li>RANDOM</li> <li>CYCLIC</li> <li>CUSTOM</li> </ul>     |
| SCAN_PERCENT        | NUMBER          |          | Scan percent of the comparison; applicable to random and cyclic modes                                                                        |
| CYCLIC_INDEX_VALUE  | VARCHAR2 (4000) |          | Last index column value used in a cyclic scan                                                                                                |
| NULL_VALUE          | VARCHAR2 (4000) |          | Value to use for NULL columns                                                                                                                |
| LOCAL_CONVERGE_TAG  | RAW (2000)      |          | Local Replication tag used while performing converge DMLs                                                                                    |
| REMOTE_CONVERGE_TAG | RAW (2000)      |          | Remote Replication tag used while performing converge DMLs                                                                                   |
| MAX_NUM_BUCKETS     | NUMBER          |          | Suggested maximum number of buckets in a scan                                                                                                |
| MIN_ROWS_IN_BUCKET  | NUMBER          |          | Suggested minimum number of rows in a bucket                                                                                                 |
| LAST_UPDATE_TIME    | TIMESTAMP (6)   |          | Time that this row was last updated                                                                                                          |



**See Also:**["USER\\_COMPARISON"](#)

## 5.251 DBA\_COMPARISON\_COLUMNS

DBA\_COMPARISON\_COLUMNS displays information about the columns for all comparison objects in the database.

### Related View

USER\_COMPARISON\_COLUMNS displays information about the columns for the comparison objects owned by the current user. This view does not display the OWNER column.

| Column          | Datatype       | NULL     | Description                                                    |
|-----------------|----------------|----------|----------------------------------------------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the comparison                                        |
| COMPARISON_NAME | VARCHAR2 (128) | NOT NULL | Name of the comparison                                         |
| COLUMN_POSITION | NUMBER         | NOT NULL | Position of the column                                         |
| COLUMN_NAME     | VARCHAR2 (128) | NOT NULL | Name of the column                                             |
| INDEX_COLUMN    | VARCHAR2 (1)   |          | Indicates whether the column is an index column (Y) or not (N) |

**See Also:**["USER\\_COMPARISON\\_COLUMNS"](#)

## 5.252 DBA\_COMPARISON\_ROW\_DIF

DBA\_COMPARISON\_ROW\_DIF displays information about the differing rows in all comparison scans in the database.

### Related View

USER\_COMPARISON\_ROW\_DIF displays information about the differing rows in the comparison scans owned by the current user. This view does not display the OWNER column.

| Column          | Datatype        | NULL     | Description                             |
|-----------------|-----------------|----------|-----------------------------------------|
| OWNER           | VARCHAR2 (128)  | NOT NULL | Owner of the comparison                 |
| COMPARISON_NAME | VARCHAR2 (128)  | NOT NULL | Name of the comparison                  |
| SCAN_ID         | NUMBER          | NOT NULL | Scan ID for the comparison scan         |
| LOCAL_ROWID     | ROWID           |          | Local rowid of the differing row        |
| REMOTE_ROWID    | ROWID           |          | Remote rowid of the differing row       |
| INDEX_VALUE     | VARCHAR2 (4000) |          | Index column value of the differing row |

| Column           | Datatype      | NULL | Description                                                                                      |
|------------------|---------------|------|--------------------------------------------------------------------------------------------------|
| STATUS           | VARCHAR2 (3)  |      | Status of the differing row: <ul style="list-style-type: none"><li>• SUC</li><li>• DIF</li></ul> |
| LAST_UPDATE_TIME | TIMESTAMP (6) |      | Time that this row was last updated                                                              |

**See Also:**["USER\\_COMPARISON\\_ROW\\_DIF"](#)

## 5.253 DBA\_COMPARISON\_SCAN

DBA\_COMPARISON\_SCAN displays information about all comparison scans in the database.

### Related View

USER\_COMPARISON\_SCAN displays information about the comparison scans owned by the current user. This view does not display the OWNER column.

| Column            | Datatype       | NULL     | Description                                                                                                                                 |
|-------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER             | VARCHAR2 (128) | NOT NULL | Owner of the comparison scan                                                                                                                |
| COMPARISON_NAME   | VARCHAR2 (128) | NOT NULL | Name of the comparison scan                                                                                                                 |
| SCAN_ID           | NUMBER         | NOT NULL | Scan ID                                                                                                                                     |
| PARENT_SCAN_ID    | NUMBER         |          | Scan ID of the immediate parent scan                                                                                                        |
| ROOT_SCAN_ID      | NUMBER         |          | Scan ID of the root (top-most) parent                                                                                                       |
| STATUS            | VARCHAR2 (16)  |          | Status of the scan: <ul style="list-style-type: none"><li>• SUC</li><li>• BUCKET DIF</li><li>• FINAL BUCKET DIF</li><li>• ROW DIF</li></ul> |
| CURRENT_DIF_COUNT | NUMBER         |          | Current cumulative (including children) diff count of the scan                                                                              |
| INITIAL_DIF_COUNT | NUMBER         |          | Initial cumulative (including children) diff count of the scan                                                                              |
| COUNT_ROWS        | NUMBER         |          | Number of rows in the scan                                                                                                                  |
| SCAN_NULLS        | VARCHAR2 (1)   |          | Indicates whether NULLs are part of this scan (Y) or not (N)                                                                                |
| LAST_UPDATE_TIME  | TIMESTAMP (6)  |          | Time that this row was last updated                                                                                                         |

**See Also:**["USER\\_COMPARISON\\_SCAN"](#)

## 5.254 DBA\_COMPARISON\_SCAN\_VALUES

DBA\_COMPARISON\_SCAN\_VALUES displays information about the values for all comparison scans in the database.

### Related View

USER\_COMPARISON\_SCAN\_VALUES displays information about the values for the comparison scans owned by the current user. This view does not display the OWNER column.

| Column           | Datatype        | NULL     | Description                                   |
|------------------|-----------------|----------|-----------------------------------------------|
| OWNER            | VARCHAR2 (128)  | NOT NULL | Owner of the comparison scan                  |
| COMPARISON_SCAN  | VARCHAR2 (128)  | NOT NULL | Name of the comparison scan                   |
| SCAN_ID          | NUMBER          | NOT NULL | Scan ID                                       |
| COLUMN_POSITION  | NUMBER          | NOT NULL | Column position, as in DBA_COMPARISON_COLUMNS |
| MIN_VALUE        | VARCHAR2 (4000) |          | Minimum value of the scan                     |
| MAX_VALUE        | VARCHAR2 (4000) |          | Maximum value of the scan                     |
| LAST_UPDATE_TIME | TIMESTAMP (6)   |          | Time that this row was last updated           |



### See Also:

"USER\_COMPARISON\_SCAN\_VALUES"

## 5.255 DBA\_CONNECT\_ROLE\_GRANTEES

DBA\_CONNECT\_ROLE\_GRANTEES displays information about users who are granted the CONNECT privilege.

| Column                       | Datatype        | NULL | Description                                                                        |
|------------------------------|-----------------|------|------------------------------------------------------------------------------------|
| GRANTEE                      | VARCHAR2 (128)  |      | User or schema to which the CONNECT role is granted                                |
| PATH_OF_CONNECT_ROLE_GRANTED | VARCHAR2 (4000) |      | The path of role inheritance through which the grantee is granted the CONNECT role |
| ADMIN_OPT                    | VARCHAR2 (3)    |      | Whether or not the grantee was granted the ADMIN option for the CONNECT role       |

## 5.256 DBA\_CONNECTION\_TESTS

DBA\_CONNECTION\_TESTS provides information about connection tests in use for CDBs and PDBs.

This view shows SQL and non-SQL connection tests.

| Column               | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PREDEFINED           | VARCHAR2 (1)   |      | Indicates whether the test is predefined or custom. Possible values: <ul style="list-style-type: none"><li>Y: The test is predefined.</li><li>N: The test is added by the user.</li></ul> Predefined tests can be disabled, but not deleted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CONNECTION_TEST_TYPE | VARCHAR2 (15)  |      | Indicates the test type. Possible values include: <ul style="list-style-type: none"><li>SQL_TEST: Application servers and applications use SQL tests to check the validity of a connection. Use this value for SQL based connection tests, for example (SELECT 1 FROM DUAL;)</li><li>PING_TEST: Used when you are using tests that use the ping function to test the connection, including the OCIPing, isValid, isUsable, connection.status, and PING_DATABASE connection tests.</li><li>ENDREQUEST_TEST: Used when request boundaries are received at the RDBMS. Oracle Connection Pools and all application servers using JDK9 send request boundaries to the RDBMS starting in Oracle Database 12c Release 2 (12.2.0.1).</li></ul> The test type values are the CONNECTION_TEST_TYPE parameter values that can be specified for the ENABLE_CONNECTION_TEST and DISABLE_CONNECTION_TEST procedures for the DBMS_APP_CONT_ADMIN PL/SQL package. |
| SQL_CONNECTION_TEST  | VARCHAR2 (64)  |      | SQL test. This column is null for non-SQL tests.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SERVICE_NAME         | VARCHAR2 (128) |      | Optional service name qualifier                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ENABLED              | VARCHAR2 (1)   |      | Indicates whether the SQL test is enabled. Possible values: <ul style="list-style-type: none"><li>Y: The test is enabled.</li><li>N: The test is not enabled.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

**See Also:**

*Oracle Database PL/SQL Packages and Types Reference* for additional information about the `ENABLE_CONNECTION_TEST` procedure for the `DBMS_APP_CONT_ADMIN` PL/SQL package

## 5.257 DBA\_CONS\_COLUMNS

DBA\_CONS\_COLUMNS describes all columns in the database that are specified in constraints. Its columns are the same as those in ALL\_CONS\_COLUMNS.



**See Also:**

"ALL\_CONS\_COLUMNS"

## 5.258 DBA\_CONS\_OBJ\_COLUMNS

DBA\_CONS\_OBJ\_COLUMNS displays information about the types that object columns (or attributes) or collection elements have been constrained to, in all tables in the database. Its columns are the same as those in ALL\_CONS\_OBJ\_COLUMNS.



**See Also:**

"ALL\_CONS\_OBJ\_COLUMNS"

## 5.259 DBA\_CONSTRAINTS

DBA\_CONSTRAINTS describes all constraint definitions on all tables in the database. Its columns are the same as those in ALL\_CONSTRAINTS.



**See Also:**

"ALL\_CONSTRAINTS"

## 5.260 DBA\_CONTAINER\_DATA

DBA\_CONTAINER\_DATA displays default (user-level) and object-specific CONTAINER\_DATA attributes for container data objects.

Objects created with the CONTAINER\_DATA clause include CONTAINER\_DATA attributes.

| Column       | Datatype       | NULL | Description                                                  |
|--------------|----------------|------|--------------------------------------------------------------|
| USERNAME     | VARCHAR2 (128) |      | Name of the user whose attribute is described by this row    |
| DEFAULT_ATTR | CHAR2 (1)      |      | An indicator of whether the attribute is a default attribute |
| OWNER        | VARCHAR2 (128) |      | Name of the object owner if the attribute is object-specific |

| Column         | Datatype       | NULL | Description                                                                           |
|----------------|----------------|------|---------------------------------------------------------------------------------------|
| OBJECT_NAME    | VARCHAR2 (128) |      | Name of the object if the attribute is object-specific                                |
| ALL_CONTAINERS | VARCHAR2 (1)   |      | An indicator of whether this attribute applies to all containers                      |
| CONTAINER_NAME | VARCHAR2 (128) |      | Name of a container included in this attribute if it does not apply to all containers |



### See Also:

For more information about container data objects:

- "CDB\_\* Views"
- "ALL\_TABLES"
- "ALL\_VIEWS"
- "ALL\_VIEWS\_AE"
- "V\$ Views"
- "GV\$ Views"
- *Oracle Multitenant Administrator's Guide*
- *Oracle Database Security Guide*

## 5.261 DBA\_CONTEXT

DBA\_CONTEXT provides all context namespace information in the database.

### Related View

ALL\_CONTEXT describes all context namespaces in the current session for which attributes and values have been specified using the DBMS\_SESSION.SET\_CONTEXT procedure. This view does not describe the TYPE and ORIGIN\_CON\_ID columns.

| Column        | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                           |
|---------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAMESPACE     | VARCHAR2 (128) | NOT NULL | Name of the context namespace                                                                                                                                                                                                                                                                                                                                                         |
| SCHEMA        | VARCHAR2 (128) | NOT NULL | Schema name of the designated package that can set attributes using this namespace                                                                                                                                                                                                                                                                                                    |
| PACKAGE       | VARCHAR2 (128) | NOT NULL | Package name of the designated package that can set attributes using this namespace                                                                                                                                                                                                                                                                                                   |
| TYPE          | VARCHAR2 (22)  |          | Type of the context create                                                                                                                                                                                                                                                                                                                                                            |
| ORIGIN_CON_ID | NUMBER         |          | The ID of the container where the data originates. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows in non-CDBs. This value is not used for CDBs.</li> <li>• <i>n</i>: This value is used for rows containing data that originate in the container with container ID <i>n</i> (<i>n</i> = 1 if the row originates in root)</li> </ul> |

**See Also:**["ALL\\_CONTEXT"](#)

## 5.262 DBA\_CPOOL\_INFO

DBA\_CPOOL\_INFO displays configuration information about all Database Resident Connection Pools in the database.

| Column                 | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                 |
|------------------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CONNECTION_POOL        | VARCHAR2 (128) |      | Name of the connection pool                                                                                                                                                                                                                                                                                                 |
| STATUS                 | VARCHAR2 (16)  |      | Status of the pool: <ul style="list-style-type: none"><li>• ACTIVE</li><li>• INACTIVE</li></ul>                                                                                                                                                                                                                             |
| MINSIZE                | NUMBER         |      | Minimum number of pooled servers that are always running in the pool                                                                                                                                                                                                                                                        |
| MAXSIZE                | NUMBER         |      | Maximum number of pooled servers in the pool                                                                                                                                                                                                                                                                                |
| INCRSIZE               | NUMBER         |      | Number of pooled servers by which the pool is incremented if servers are unavailable when a client application request is received                                                                                                                                                                                          |
| SESSION_CACHED_CURSORS | NUMBER         |      | Number of session cursors to cache in each pooled server                                                                                                                                                                                                                                                                    |
| INACTIVITY_TIMEOUT     | NUMBER         |      | Maximum time (in seconds) that the pooled server can stay idle in the pool. After this time, the server is terminated.                                                                                                                                                                                                      |
| MAX_THINK_TIME         | NUMBER         |      | Maximum time of inactivity (in seconds) for a client after obtaining a pooled server from the pool. After obtaining a pooled server from the pool, if the client application does not issue a database call for the time specified by this column, then the pooled server is freed and the client connection is terminated. |
| MAX_USE_SESSION        | NUMBER         |      | Number of times a pooled server can be taken and released to the pool                                                                                                                                                                                                                                                       |
| MAX_LIFETIME_SESSION   | NUMBER         |      | Time (in seconds) for a pooled server to live in the pool                                                                                                                                                                                                                                                                   |
| NUM_CBROK              | NUMBER         |      | Number of connection brokers spawned per instance                                                                                                                                                                                                                                                                           |
| MAXCONN_CBROK          | NUMBER         |      | Maximum number of connections per connection broker                                                                                                                                                                                                                                                                         |

| Column             | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAX_TXN_THINK_TIME | NUMBER   |      | Maximum time of inactivity (in seconds) for a client after it obtains a pooled server from the pool and starts a transaction. If the client application does not issue a database call for the time specified by MAX_TXN_THINK_TIME while in a transaction, the pooled server is freed, the transaction is rolled back, and the client connection is terminated. The default value is 0, which means MAX_THINK_TIME applies for all connections, irrespective of transactions being open or not in those connections. Care should be taken while setting the two parameters MAX_THINK_TIME and MAX_TXN_THINK_TIME to higher values, as it would mean the servers are not released to the pool for a longer time, even if clients are not responding for any reason, thereby making other users wait unnecessarily. |
| CON_ID             | NUMBER   |      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire multitenant container database (CDB). This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                   |



#### See Also:

- *Oracle Database Administrator's Guide* for more information about the configuration parameters for Database Resident Connection Pooling
- *Oracle Database PL/SQL Packages and Types Reference* for more information on the DBMS\_CONNECTION\_POOL package

## 5.263 DBA\_CPU\_USAGE\_STATISTICS

DBA\_CPU\_USAGE\_STATISTICS displays database CPU usage statistics.

| Column           | Datatype      | NULL     | Description                         |
|------------------|---------------|----------|-------------------------------------|
| DBID             | NUMBER        | NOT NULL | Database ID                         |
| VERSION          | VARCHAR2 (17) | NOT NULL | Database version                    |
| TIMESTAMP        | DATE          | NOT NULL | Time at which the CPU usage changed |
| CPU_COUNT        | NUMBER        |          | CPU count of the database           |
| CPU_CORE_COUNT   | NUMBER        |          | CPU core count of the database      |
| CPU_SOCKET_COUNT | NUMBER        |          | CPU socket count of the database    |



## 5.264 DBA\_CQ\_NOTIFICATION\_QUERIES

DBA\_CQ\_NOTIFICATION\_QUERIES describes the registered queries for all CQ notifications in the database.

### Related View

USER\_CQ\_NOTIFICATION\_QUERIES describes the registered queries for the CQ notifications owned by the current user. This view does not display the USERNAME column.

| Column    | Datatype      | NULL | Description                                       |
|-----------|---------------|------|---------------------------------------------------|
| QUERYID   | NUMBER        |      | ID of the query                                   |
| QUERYTEXT | CLOB          |      | Text of the query                                 |
| REGID     | NUMBER        |      | Registration ID that the query is registered with |
| USERNAME  | VARCHAR2 (31) |      | Name of the user who registered the query         |



### See Also:

"USER\_CQ\_NOTIFICATION\_QUERIES"

## 5.265 DBA\_CREDENTIALS

DBA\_CREDENTIALS lists all credentials in the database. Its columns are the same as those in ALL\_CREDENTIALS.



### See Also:

"ALL\_CREDENTIALS"

## 5.266 DBA\_CUBE\_ATTR\_VISIBILITY

DBA\_CUBE\_ATTR\_VISIBILITY describes all OLAP attributes visible for the dimensions, hierarchies, and levels in the database. Its columns are the same as those in ALL\_CUBE\_ATTR\_VISIBILITY.



### See Also:

"ALL\_CUBE\_ATTR\_VISIBILITY"

## 5.267 DBA\_CUBE\_ATTRIBUTES

DBA\_CUBE\_ATTRIBUTES describes the attributes for all OLAP cube dimensions in the database. Its columns are the same as those in ALL\_CUBE\_ATTRIBUTES.



**See Also:**

["ALL\\_CUBE\\_ATTRIBUTES"](#)

## 5.268 DBA\_CUBE\_BUILD\_PROCESSES

DBA\_CUBE\_BUILD\_PROCESSES describes all OLAP build processes and maintenance scripts in the database. Its columns are the same as those in ALL\_CUBE\_BUILD\_PROCESSES.



**See Also:**

["ALL\\_CUBE\\_BUILD\\_PROCESSES"](#)

## 5.269 DBA\_CUBE\_CALCULATED\_MEMBERS

DBA\_CUBE\_CALCULATED\_MEMBERS describes the calculated members for all OLAP cube dimensions in the database. Its columns are the same as those in ALL\_CUBE\_CALCULATED\_MEMBERS.



**See Also:**

["ALL\\_CUBE\\_CALCULATED\\_MEMBERS"](#)

## 5.270 DBA\_CUBE\_DIM\_LEVELS

DBA\_CUBE\_DIM\_LEVELS describes all OLAP dimension levels in the database. Its columns are the same as those in ALL\_CUBE\_DIM\_LEVELS.



**See Also:**

["ALL\\_CUBE\\_DIM\\_LEVELS"](#)

## 5.271 DBA\_CUBE\_DIM\_MODELS

DBA\_CUBE\_DIM\_MODELS describes the models for all OLAP dimensions in the database. Its columns are the same as those in ALL\_CUBE\_DIM\_MODELS.



**See Also:**

["ALL\\_CUBE\\_DIM\\_MODELS"](#)

## 5.272 DBA\_CUBE\_DIM\_VIEW\_COLUMNS

DBA\_CUBE\_DIM\_VIEW\_COLUMNS describes the columns of the relational views of all OLAP cube dimensions in the database. Its columns are the same as those in ALL\_CUBE\_DIM\_VIEW\_COLUMNS.



**See Also:**

["ALL\\_CUBE\\_DIM\\_VIEW\\_COLUMNS"](#)

## 5.273 DBA\_CUBE\_DIM\_VIEWS

DBA\_CUBE\_DIM\_VIEWS describes the relational views of all OLAP dimensions in the database. Its columns are the same as those in ALL\_CUBE\_DIM\_VIEWS.



**See Also:**

["ALL\\_CUBE\\_DIM\\_VIEWS"](#)

## 5.274 DBA\_CUBE\_DIMENSIONALITY

DBA\_CUBE\_DIMENSIONALITY describes the dimension order for all OLAP cubes in the database. Its columns are the same as those in ALL\_CUBE\_DIMENSIONALITY.



**See Also:**

["ALL\\_CUBE\\_DIMENSIONALITY"](#)

## 5.275 DBA\_CUBE\_DIMENSIONS

DBA\_CUBE\_DIMENSIONS describes all OLAP cube dimensions in the database. Its columns are the same as those in ALL\_CUBE\_DIMENSIONS.



**See Also:**

["ALL\\_CUBE\\_DIMENSIONS"](#)

## 5.276 DBA\_CUBE\_HIER\_LEVELS

DBA\_CUBE\_HIER\_LEVELS describes the hierarchy levels for all OLAP cube dimensions in the database. Its columns are the same as those in ALL\_CUBE\_HIER\_LEVELS.



**See Also:**

["ALL\\_CUBE\\_HIER\\_LEVELS"](#)

## 5.277 DBA\_CUBE\_HIER\_VIEW\_COLUMNS

DBA\_CUBE\_HIER\_VIEW\_COLUMNS describes the columns of the relational hierarchy views of all OLAP cube dimensions in the database. Its columns are the same as those in ALL\_CUBE\_HIER\_VIEW\_COLUMNS.



**See Also:**

["ALL\\_CUBE\\_HIER\\_VIEW\\_COLUMNS"](#)

## 5.278 DBA\_CUBE\_HIER\_VIEWS

DBA\_CUBE\_HIER\_VIEWS describes the hierarchies for all OLAP cube dimensions in the database. Its columns are the same as those in ALL\_CUBE\_HIER\_VIEWS.



**See Also:**

["ALL\\_CUBE\\_HIER\\_VIEWS"](#)

## 5.279 DBA\_CUBE\_HIERARCHIES

DBA\_CUBE\_HIERARCHIES describes all OLAP dimension hierarchies in the database. Its columns are the same as those in ALL\_CUBE\_HIERARCHIES.



See Also:

"ALL\_CUBE\_HIERARCHIES"

## 5.280 DBA\_CUBE\_MEASURES

DBA\_CUBE\_MEASURES describes the measures for all OLAP cubes in the database. Its columns are the same as those in ALL\_CUBE\_MEASURES.



See Also:

"ALL\_CUBE\_MEASURES"

## 5.281 DBA\_CUBE\_NAMED\_BUILD\_SPECS

DBA\_CUBE\_NAMED\_BUILD\_SPECS describes the OLAP cube named build specifications in the database. Its columns are the same as those in ALL\_CUBE\_NAMED\_BUILD\_SPECS.



See Also:

"ALL\_CUBE\_NAMED\_BUILD\_SPECS"

## 5.282 DBA\_CUBE\_SUB\_PARTITION\_LEVELS

DBA\_CUBE\_SUB\_PARTITION\_LEVELS describes the OLAP secondary partition levels in the database. Its columns are the same as those in ALL\_CUBE\_SUB\_PARTITION\_LEVELS.



See Also:

"ALL\_CUBE\_SUB\_PARTITION\_LEVELS"

## 5.283 DBA\_CUBE\_VIEW\_COLUMNS

DBA\_CUBE\_VIEW\_COLUMNS describes the columns of relational views of all OLAP cubes in the database. Its columns are the same as those in ALL\_CUBE\_VIEW\_COLUMNS.



### See Also:

"ALL\_CUBE\_VIEW\_COLUMNS"

## 5.284 DBA\_CUBE\_VIEWS

DBA\_CUBE\_VIEWS describes the relational views of all OLAP cubes in the database. Its columns are the same as those in ALL\_CUBE\_VIEWS.



### See Also:

"ALL\_CUBE\_VIEWS"

## 5.285 DBA\_CUBES

DBA\_CUBES describes all OLAP cubes in the database. Its columns are the same as those in ALL\_CUBES.



### See Also:

"ALL\_CUBES"

## 5.286 DBA\_DATA\_FILES

DBA\_DATA\_FILES describes database files.



### Note:

When you query the DBA\_DATA\_FILES data dictionary view, Oracle must have access to all tablespaces and their data files if the requested information is not already available in the dictionary. If the tablespaces are encrypted, then you must open the Oracle wallet (keystore) before you can query DBA\_DATA\_FILES. You can use the ADMINISTER KEY MANAGEMENT SET KEYSTORE OPEN statement to open the keystore.

| Column             | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE_NAME          | VARCHAR2 (513) |      | Name of the database file                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| FILE_ID            | NUMBER         |      | Absolute file number of the database file                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TABLESPACE_NAME    | VARCHAR2 (30)  |      | Name of the tablespace to which the file belongs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| BYTES              | NUMBER         |      | Size of the file in bytes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| BLOCKS             | NUMBER         |      | Size of the file in Oracle blocks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| STATUS             | VARCHAR2 (9)   |      | File status: AVAILABLE or INVALID (INVALID means that the file number is not in use, for example, a file in a tablespace that was dropped)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| RELATIVE_FNO       | NUMBER         |      | Relative file number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| AUTOEXTENSIBLE     | VARCHAR2 (3)   |      | Autoextensible indicator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| MAXBYTES           | NUMBER         |      | Maximum file size in bytes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| MAXBLOCKS          | NUMBER         |      | Maximum file size in blocks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| INCREMENT_BY       | NUMBER         |      | Number of Oracle blocks used as autoextension increment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| USER_BYTES         | NUMBER         |      | The size of the file available for user data. The actual size of the file minus the USER_BYTES value is used to store file related metadata.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| USER_BLOCKS        | NUMBER         |      | Number of blocks which can be used by the data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| ONLINE_STATUS      | VARCHAR2 (7)   |      | Online status of the file: <ul style="list-style-type: none"> <li>• SYSOFF</li> <li>• SYSTEM</li> <li>• OFFLINE</li> <li>• ONLINE</li> <li>• RECOVER</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| LOST_WRITE_PROTECT | VARCHAR2 (7)   |      | <p>Lost write protection status of the file. Possible values:</p> <ul style="list-style-type: none"> <li>• ENABLED: Indicates that lost write data is being collected</li> <li>• OFF: Indicates that lost write data is not being collected</li> <li>• SUSPEND: Indicates that lost write data is not currently being collected, but it can be enabled at a later date. The lost write data collected when the file was ENABLED remains in the lost write database, but it is not being checked or updated.</li> </ul> <p>If lost write protection is enabled for a single data file, it does not have to be enabled for another data file in the same tablespace.</p> <p>If lost write protection is enabled for a tablespace, it is enabled for all data files for that tablespace, including data files added later.</p> <p>You can check the lost write protection status for a tablespace by querying the LOST_WRITE_PROTECT column in the DBA_TABLESPACES view.</p> |

 **See Also:**

- *Oracle Database Transparent Data Encryption Guide* for information on opening a software keystore
- *Oracle Database Transparent Data Encryption Guide* for information on opening a hardware keystore
- ["DBA\\_TABLESPACES"](#)

## 5.287 DBA\_DATAPUMP\_JOBS

DBA\_DATAPUMP\_JOBS identifies all active Data Pump jobs in the database, regardless of their state, on an instance (or on all instances for Real Application Clusters). It also show all Data Pump control job tables not currently associated with an active job.

### Related View

USER\_DATAPUMP\_JOBS displays the Data Pump jobs owned by the current user. This view does not display the OWNER\_NAME column.

| Column            | Datatype       | NULL | Description                                                                  |
|-------------------|----------------|------|------------------------------------------------------------------------------|
| OWNER_NAME        | VARCHAR2 (128) |      | User that initiated the job                                                  |
| JOB_NAME          | VARCHAR2 (128) |      | User-supplied name for the job (or the default name generated by the server) |
| OPERATION         | VARCHAR2 (128) |      | Type of job                                                                  |
| JOB_MODE          | VARCHAR2 (128) |      | Mode of job                                                                  |
| STATE             | VARCHAR2 (128) |      | Current job state                                                            |
| DEGREE            | NUMBER         |      | Number of worker processes performing the operation                          |
| ATTACHED_SESSIONS | NUMBER         |      | Number of sessions attached to the job                                       |
| DATAPUMP_SESSIONS | NUMBER         |      | Number of Data Pump sessions participating in the job                        |

 **See Also:**

["USER\\_DATAPUMP\\_JOBS"](#)

## 5.288 DBA\_DATAPUMP\_SESSIONS

DBA\_DATAPUMP\_SESSIONS identifies the user sessions that are attached to a Data Pump job. The information in this view is useful for determining why a stopped Data Pump operation has not gone away.

| Column     | Datatype       | NULL | Description                 |
|------------|----------------|------|-----------------------------|
| OWNER_NAME | VARCHAR2 (128) |      | User that initiated the job |



| Column       | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JOB_NAME     | VARCHAR2 (128) |      | User-supplied name for the job (or the default name generated by the server)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| INSTANCE_ID  | NUMBER         |      | Instance ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SADDR        | RAW (4   8)    |      | Address of the session attached to the job. Can be used with V\$SESSION view.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SESSION_TYPE | VARCHAR2 (14)  |      | Data Pump session type: <ul style="list-style-type: none"> <li>• DBMS_DATAPUMP - Data Pump interface process (one for each active instantiation of DBMS_DATAPUMP.OPEN and DBMS_DATAPUMP.ATTACH per job.)</li> <li>• MASTER - Data Pump control job process (one per job)</li> <li>• WORKER - worker process (1 to <i>n</i> per job, depending on degree of parallelism)</li> <li>• EXTERNAL TABLE - external table data access process (1 to <i>n</i>, depending on degree of parallelism, for jobs that use external tables as the data access method for some tables)</li> <li>• OTHER</li> </ul> |



#### See Also:

Oracle Database PL/SQL Packages and Types Reference for more information about the DBMS\_DATAPUMP package

## 5.289 DBA\_DB\_LINK\_SOURCES

DBA\_DB\_LINK\_SOURCES identifies all unique source databases that opened database links to the local database.

By default, only a DBA has access to this view. However, a DBA can grant access to this view to others.

This view is based on a persistent table that resides in the same system tablespace that is used by Database Auditing.

In a multitenant container database (CDB) environment, for every DBA\_ view, there is a corresponding CDB\_ view that contains data for all the pluggable databases (PDBs) in the CDB. A query on the CDB\_DB\_LINK\_SOURCES view done in the CDB\$ROOT container will show sources of all the database links recorded in all PDBs. A query on the corresponding DBA\_DB\_LINK\_SOURCES view done in a PDB show information corresponding to that PDB only (that is, where that specific PDB was the target of an inbound database link).

Note that the CDB\_ views would only show data from PDBs that are open at the time the query is issued. Therefore, when you are diagnosing sources of database links, Oracle recommends that you keep open any or all PDBs that might contain useful information for the diagnosis.

| Column    | Datatype | NULL     | Description                                         |
|-----------|----------|----------|-----------------------------------------------------|
| SOURCE_ID | NUMBER   | NOT NULL | Unique ID that identifies an incoming database link |

| Column           | Datatype       | NULL     | Description                                                                                                                                                                    |
|------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DB_NAME          | VARCHAR2 (256) | NOT NULL | Global name of the source database                                                                                                                                             |
| DBID             | NUMBER         | NOT NULL | Database identifier of the source database. Maps to the DBID of the source database in V\$DATABASE.                                                                            |
| DB_UNIQUE_NAME   | VARCHAR2 (256) |          | Unique database name of the source database. Maps to the DB_UNIQUE_NAME of the source database in V\$DATABASE. Null for source databases that do not provide this information. |
| HOST_NAME        | VARCHAR2 (256) |          | Resolved host name. Null if not available.                                                                                                                                     |
| IP_ADDRESS       | VARCHAR2 (128) |          | IP address of source machine. Null if not available.                                                                                                                           |
| PROTOCOL         | VARCHAR2 (64)  |          | One of supported protocols such as ipc, sdp, tcp, or tcps. Null if not available.                                                                                              |
| USERNAME         | VARCHAR2 (128) | NOT NULL | Oracle username of the user who logged into the local database. Maps to the USERNAME column in V\$SESSION.                                                                     |
| USER#            | NUMBER         | NOT NULL | Oracle user id of the user who logged into the local database. Maps to the USER# column in V\$SESSION.                                                                         |
| FIRST_LOGON_TIME | TIMESTAMP (6)  | NOT NULL | The timestamp of the first connection on this database link in UTC                                                                                                             |
| LAST_LOGON_TIME  | TIMESTAMP (6)  |          | The timestamp of the last connection on this database link in UTC                                                                                                              |
| LOGON_COUNT      | NUMBER         |          | Number of times connection has been established through this database link                                                                                                     |

**See Also:**

- "V\$DATABASE"
- "V\$SESSION"
- "DBA\_EXTERNAL\_SCN\_ACTIVITY"
- "DBA\_DB\_LINKS"

## 5.290 DBA\_DB\_LINKS

DBA\_DB\_LINKS describes all database links in the database. Its columns are the same as those in ALL\_DB\_LINKS.

**See Also:**

- "ALL\_DB\_LINKS"
- "DBA\_DB\_LINK\_SOURCES"
- "DBA\_EXTERNAL\_SCN\_ACTIVITY"

## 5.291 DBA\_DBFS\_HS

DBA\_DBFS\_HS shows all Database File System (DBFS) hierarchical stores.

### Related View

USER\_DBFS\_HS shows all Database File System hierarchical stores owned by the current user. This view does not display the STOREOWNER column.

| Column     | Datatype       | NULL | Description    |
|------------|----------------|------|----------------|
| STORENAME  | VARCHAR2 (256) |      | Name of store  |
| STOREOWNER | VARCHAR2 (64)  |      | Owner of store |



**See Also:**

"USER\_DBFS\_HS"

## 5.292 DBA\_DBFS\_HS\_COMMANDS

DBA\_DBFS\_HS\_COMMANDS shows all the registered store commands for all Database File System (DBFS) hierarchical stores.

### Related View

USER\_DBFS\_HS\_COMMANDS shows all the registered store commands for all DBFS hierarchical stores owned by current user. This view does not display the STOREOWNER column.

| Column       | Datatype       | NULL | Description                                                                                                                                                                                                   |
|--------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STORENAME    | VARCHAR2 (256) |      | Name of store                                                                                                                                                                                                 |
| STOREOWNER   | VARCHAR2 (64)  |      | Owner of store                                                                                                                                                                                                |
| STORECOMMAND | VARCHAR2 (512) |      | Store command                                                                                                                                                                                                 |
| STOREFLAGS   | NUMBER         |      | Valid values are: <ul style="list-style-type: none"><li>• 1 - Indicates that the command is sent to the device before put</li><li>• 2 - Indicates that the command is sent to the device before get</li></ul> |



**See Also:**

"USER\_DBFS\_HS\_COMMANDS"

## 5.293 DBA\_DBFS\_HS\_FIXED\_PROPERTIES

DBA\_DBFS\_HS\_FIXED\_PROPERTIES shows non-modifiable properties of all Database File System (DBFS) hierarchical stores.

### Related View

USER\_DBFS\_HS\_FIXED\_PROPERTIES shows non-modifiable properties of all DBFS hierarchical stores owned by current user. This view does not display the STORE\_OWNER column.

| Column      | Datatype       | NULL     | Description    |
|-------------|----------------|----------|----------------|
| STORE_NAME  | VARCHAR2 (128) | NOT NULL | Name of store  |
| STORE_OWNER | VARCHAR2 (128) | NOT NULL | Owner of store |
| PROP_NAME   | VARCHAR2 (256) | NOT NULL | Property name  |
| PROP_VALUE  | VARCHAR2 (256) | NOT NULL | Property value |



### See Also:

"USER\_DBFS\_HS\_FIXED\_PROPERTIES"

## 5.294 DBA\_DBFS\_HS\_PROPERTIES

DBA\_DBFS\_HS\_PROPERTIES shows modifiable properties of all Database File System (DBFS) hierarchical stores.

### Related View

USER\_DBFS\_HS\_PROPERTIES shows modifiable properties of all DBFS hierarchical stores owned by current user. This view does not display the STOREOWNER column.

| Column        | Datatype       | NULL | Description    |
|---------------|----------------|------|----------------|
| STORENAME     | VARCHAR2 (256) |      | Name of store  |
| STOREOWNER    | VARCHAR2 (64)  |      | Owner of store |
| PROPERTYNAME  | VARCHAR2 (256) |      | Property name  |
| PROPERTYVALUE | VARCHAR2 (256) |      | Property value |



### See Also:

"USER\_DBFS\_HS\_PROPERTIES"

## 5.295 DBA\_DDL\_LOCKS

DBA\_DDL\_LOCKS lists all DDL locks held in the database and all outstanding requests for a DDL lock.

| Column         | Datatype        | NULL | Description                                                                                                                                                                                                                             |
|----------------|-----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SESSION_ID     | NUMBER          |      | Session identifier                                                                                                                                                                                                                      |
| OWNER          | VARCHAR2 (128)  |      | Owner of the lock                                                                                                                                                                                                                       |
| NAME           | VARCHAR2 (1000) |      | Name of the lock                                                                                                                                                                                                                        |
| TYPE           | VARCHAR2 (40)   |      | Lock type: <ul style="list-style-type: none"><li>• Cursor</li><li>• Table/Procedure/Type</li><li>• Body</li><li>• Trigger</li><li>• Index</li><li>• Cluster</li><li>• Java Source</li><li>• Java Resource</li><li>• Java Data</li></ul> |
| MODE_HELD      | VARCHAR2 (9)    |      | Lock mode: <ul style="list-style-type: none"><li>• None</li><li>• Null</li><li>• Share</li><li>• Exclusive</li></ul>                                                                                                                    |
| MODE_REQUESTED | VARCHAR2 (9)    |      | Lock request type: <ul style="list-style-type: none"><li>• None</li><li>• Null</li><li>• Share</li><li>• Exclusive</li></ul>                                                                                                            |



### See Also:

*Oracle Database Concepts* for more information about DDL locks

## 5.296 DBA\_DDL\_REGS

DBA\_DDL\_REGS displays all DDL notification registrations in the database.

### Related View

USER\_DDL\_REGS displays DDL notification registrations that apply to tables owned by the current user. This view does not display the USERNAME column.

| Column   | Datatype       | NULL     | Description              |
|----------|----------------|----------|--------------------------|
| USERNAME | VARCHAR2 (128) | NOT NULL | Registration owner       |
| REG_ID   | NUMBER         | NOT NULL | Internal registration ID |

| Column           | Datatype       | NULL | Description                                                                                                                         |
|------------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------|
| TYPE             | VARCHAR2 (8)   |      | Registration type. Possible values: <ul style="list-style-type: none"> <li>• TABLE</li> <li>• SCHEMA</li> <li>• DATABASE</li> </ul> |
| NAME             | VARCHAR2 (257) |      | Name of the registered table, schema, or database                                                                                   |
| CLIENT_ID        | VARCHAR2 (64)  |      | User-specified client ID                                                                                                            |
| INCLUDE_TRUNCATE | VARCHAR2 (3)   |      | Indicates whether notifications are generated for TRUNCATE operations (YES) or not (NO)                                             |
| INCLUDE_PMOP     | VARCHAR2 (3)   |      | Indicates whether notifications are generated for partition maintenance operations (YES) or not (NO)                                |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"[USER\\_DDL\\_REGS](#)"

## 5.297 DBA\_DEPENDENCIES

DBA\_DEPENDENCIES describes all dependencies in the database between procedures, packages, functions, package bodies, and triggers, including dependencies on views created without any database links. Its columns are the same as those in ALL\_DEPENDENCIES.

**See Also:**

"[ALL\\_DEPENDENCIES](#)"

## 5.298 DBA\_DIGEST\_VERIFIERS

DBA\_DIGEST\_VERIFIERS enables the database administrator to check which users have Digest verifiers stored on disk and the type of hashing algorithm used for the verifiers.

| Column               | Datatype       | NULL | Description                                   |
|----------------------|----------------|------|-----------------------------------------------|
| USERNAME             | VARCHAR2 (128) |      | Name of the user                              |
| HAS_DIGEST_VERIFIERS | VARCHAR2 (3)   |      | YES if a Digest verifier exists, NO otherwise |

| Column      | Datatype | NULL | Description                                                                                                                                                           |
|-------------|----------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DIGEST_TYPE | CHAR(3)  |      | The type of hashing algorithm used for the Digest verifier. For instance, MD5 for users with MD5 Digest verifiers. If no Digest verifier exists, this column is NULL. |

## 5.299 DBA\_DIM\_ATTRIBUTES

DBA\_DIM\_ATTRIBUTES describes the relationships between dimension levels and functionally dependent columns in the database. The level columns and the dependent column must be in the same table. This view's columns are the same as those in ALL\_DIM\_ATTRIBUTES.



**See Also:**

"ALL\_DIM\_ATTRIBUTES"

## 5.300 DBA\_DIM\_CHILD\_OF

DBA\_DIM\_CHILD\_OF describes a hierarchical relationship of 1 to  $n$  between all the pairs of levels in the dimensions in the database. Its columns are the same as those in ALL\_DIM\_CHILD\_OF.



**See Also:**

"ALL\_DIM\_CHILD\_OF"

## 5.301 DBA\_DIM\_HIERARCHIES

DBA\_DIM\_HIERARCHIES describes all the dimension hierarchies in the database. Its columns are the same as those in ALL\_DIM\_HIERARCHIES.



**See Also:**

"ALL\_DIM\_HIERARCHIES"

## 5.302 DBA\_DIM\_JOIN\_KEY

DBA\_DIM\_JOIN\_KEY describes all joins in the database between two dimension tables. The join is always specified between a parent dimension level column and a child column. This view's columns are the same as those in ALL\_DIM\_JOIN\_KEY.



**See Also:**

["ALL\\_DIM\\_JOIN\\_KEY"](#)

## 5.303 DBA\_DIM\_LEVEL\_KEY

DBA\_DIM\_LEVEL\_KEY describes the columns of all dimension levels in the database. This view's columns are the same as those in ALL\_DIM\_LEVEL\_KEY.



**See Also:**

["ALL\\_DIM\\_LEVEL\\_KEY"](#)

## 5.304 DBA\_DIM\_LEVELS

DBA\_DIM\_LEVELS describes all dimension levels in the database. All columns of a dimension level must come from the same relation. This view's columns are the same as those in ALL\_DIM\_LEVELS.



**See Also:**

["ALL\\_DIM\\_LEVELS"](#)

## 5.305 DBA\_DIMENSIONS

DBA\_DIMENSIONS represents dimension objects. Its columns are the same as those in ALL\_DIMENSIONS.



**See Also:**

["ALL\\_DIMENSIONS"](#)



## 5.306 DBA\_DIRECTORIES

DBA\_DIRECTORIES describes all directory objects in the database. Its columns are the same as those in ALL\_DIRECTORIES.



**See Also:**

"ALL\_DIRECTORIES"

## 5.307 DBA\_DISCOVERY\_SOURCE

DBA\_DISCOVERY\_SOURCE describes sensitive data discovery import information.

| Column      | Datatype       | NULL | Description                                                                                                                                                                 |
|-------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SOURCE_NAME | VARCHAR2 (128) |      | The name of the discovery source. In the case of Application Data Model (ADM), this is the ADM instance name.                                                               |
| SOURCE_TYPE | VARCHAR2 (6)   |      | The type of the source: <ul style="list-style-type: none"><li>• ADM: import from ADM</li><li>• CUSTOM: custom import</li><li>• DB: discovered within the database</li></ul> |
| CTIME       | TIMESTAMP (6)  |      | The last time sensitive data was imported from this source                                                                                                                  |



**See Also:**

*Oracle Database Security Guide* for more information about transparent sensitive data protection

## 5.308 DBA\_DML\_LOCKS

DBA\_DML\_LOCKS lists all DML locks held in the database and all outstanding requests for a DML lock.

| Column     | Datatype       | NULL     | Description                           |
|------------|----------------|----------|---------------------------------------|
| SESSION_ID | NUMBER         |          | Session holding or acquiring the lock |
| OWNER      | VARCHAR2 (128) | NOT NULL | Owner of the lock                     |
| NAME       | VARCHAR2 (128) | NOT NULL | Name of the lock                      |

| Column          | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                        |
|-----------------|---------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MODE_HELD       | VARCHAR2 (13) |      | The type of lock held. The values are: <ul style="list-style-type: none"> <li>ROWS_S (SS): row share lock</li> <li>ROW-X (SX): row exclusive lock</li> <li>SHARE (S): share lock</li> <li>S/ROW-X (SSX): exclusive lock</li> <li>NONE: lock requested but not yet obtained</li> </ul>              |
| MODE_REQUESTED  | VARCHAR2 (13) |      | Lock request type. The values are: <ul style="list-style-type: none"> <li>ROWS_S (SS): row share lock</li> <li>ROW-X (SX): row exclusive lock</li> <li>SHARE (S): share lock</li> <li>S/ROW-X (SSX): exclusive lock</li> <li>NONE: Lock identifier obtained; lock not held or requested</li> </ul> |
| LAST_CONVERT    | NUMBER        |      | Time since current mode was granted                                                                                                                                                                                                                                                                |
| BLOCKING_OTHERS | VARCHAR2 (40) |      | Blocking others                                                                                                                                                                                                                                                                                    |



#### See Also:

*Oracle Database Concepts* for more information about lock modes for table locks

## 5.309 DBA\_DMT\_FREE\_SPACE

DBA\_DMT\_FREE\_SPACE describes the free extents in all dictionary managed tablespaces in the database.

| Column        | Datatype | NULL     | Description                                               |
|---------------|----------|----------|-----------------------------------------------------------|
| TABLESPACE_ID | NUMBER   | NOT NULL | Identifier number of the tablespace containing the extent |
| FILE_ID       | NUMBER   | NOT NULL | File identifier number of the file containing the extent  |
| BLOCK_ID      | NUMBER   | NOT NULL | Starting block number of the extent                       |
| BLOCKS        | NUMBER   | NOT NULL | Size of the extent (in Oracle blocks)                     |

## 5.310 DBA\_DMT\_USED\_EXTENTS

DBA\_DMT\_USED\_EXTENTS describes the extents comprising the segments in all dictionary managed tablespaces in the database.

| Column         | Datatype | NULL     | Description                                               |
|----------------|----------|----------|-----------------------------------------------------------|
| SEGMENT_FILEID | NUMBER   | NOT NULL | File number of the segment header of the extent           |
| SEGMENT_BLOCK  | NUMBER   | NOT NULL | Block number of the segment header of the extent          |
| TABLESPACE_ID  | NUMBER   | NOT NULL | Identifier number of the tablespace containing the extent |
| EXTENT_ID      | NUMBER   | NOT NULL | Extent number in the segment                              |

| Column | Datatype | NULL     | Description                                              |
|--------|----------|----------|----------------------------------------------------------|
| FILEID | NUMBER   | NOT NULL | File identifier number of the file containing the extent |
| BLOCK  | NUMBER   | NOT NULL | Starting block number of the extent                      |
| LENGTH | NUMBER   | NOT NULL | Number of blocks in the extent                           |

## 5.311 DBA\_DOMAIN\_COLS

DBA\_DOMAIN\_COLS describes columns of all data use case domains in the database. Its columns are the same as those in ALL\_DOMAIN\_COLS.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

"ALL\_DOMAIN\_COLS"

## 5.312 DBA\_DOMAIN\_CONSTRAINTS

DBA\_DOMAIN\_CONSTRAINTS describes constraint definitions on all data use case domains in the database. Its columns are the same as those in ALL\_DOMAIN\_CONSTRAINTS.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

"ALL\_DOMAIN\_CONSTRAINTS"

## 5.313 DBA\_DOMAINS

DBA\_DOMAINS describes all data use case domains in the database. Its columns are the same as those in ALL\_DOMAINS.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

"ALL\_DOMAINS"

## 5.314 DBA\_EDITION\_COMMENTS

DBA\_EDITION\_COMMENTS describes the comments on all editions in the database. Its columns are the same as those in ALL\_EDITION\_COMMENTS.



### See Also:

"ALL\_EDITION\_COMMENTS"

## 5.315 DBA\_EDITIONED\_TYPES

DBA\_EDITIONED\_TYPES lists all types that are editioned by default for every user in the database.

### Related View

USER\_EDITIONED\_TYPES lists the types that are editioned by default for the current user. This view does not display the SCHEMA column.

| Column      | Datatype       | NULL     | Description                                     |
|-------------|----------------|----------|-------------------------------------------------|
| SCHEMA      | VARCHAR2 (128) | NOT NULL | Schema in which the object types is editionable |
| OBJECT_TYPE | VARCHAR2 (23)  |          | Object type that is editionable                 |



### See Also:

"USER\_EDITIONED\_TYPES"

## 5.316 DBA\_EDITIONING\_VIEW\_COLS

DBA\_EDITIONING\_VIEW\_COLS describes the relationship between the columns of all editioning views in the database and the table columns to which they map. Its columns are the same as those in ALL\_EDITIONING\_VIEW\_COLS.



**See Also:**

["ALL\\_EDITIONING\\_VIEW\\_COLS"](#)

## 5.317 DBA\_EDITIONING\_VIEW\_COLS\_AE

DBA\_EDITIONING\_VIEW\_COLS\_AE describes the relationship between the columns of all editioning views (across all editions) in the database and the table columns to which they map. Its columns are the same as those in ALL\_EDITIONING\_VIEW\_COLS\_AE.



**See Also:**

["ALL\\_EDITIONING\\_VIEW\\_COLS\\_AE"](#)

## 5.318 DBA\_EDITIONING\_VIEWS

DBA\_EDITIONING\_VIEWS describes all editioning views in the database. Its columns are the same as those in ALL\_EDITIONING\_VIEWS.



**See Also:**

["ALL\\_EDITIONING\\_VIEWS"](#)

## 5.319 DBA\_EDITIONING\_VIEWS\_AE

DBA\_EDITIONING\_VIEWS\_AE describes all editioning views (across all editions) in the database. Its columns are the same as those in ALL\_EDITIONING\_VIEWS\_AE.



**See Also:**

["ALL\\_EDITIONING\\_VIEWS\\_AE"](#)

## 5.320 DBA\_EDITIONS

DBA\_EDITIONS describes all editions in the database. Its columns are the same as those in ALL\_EDITIONS.



### See Also:

- ["ALL\\_EDITIONS"](#)
- *Oracle Database Development Guide* for more information about editions

## 5.321 DBA\_ENABLED\_AGGREGATIONS

DBA\_ENABLED\_AGGREGATIONS displays information about enabled on-demand statistic aggregation.

| Column           | Datatype      | NULL | Description                                                                                                                                                     |
|------------------|---------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AGGREGATION_TYPE | VARCHAR2 (21) |      | Type of the aggregation: <ul style="list-style-type: none"><li>• CLIENT_ID</li><li>• SERVICE</li><li>• SERVICE_MODULE</li><li>• SERVICE_MODULE_ACTION</li></ul> |
| PRIMARY_ID       | VARCHAR2 (64) |      | Primary qualifier (specific client identifier or service name)                                                                                                  |
| QUALIFIER_ID1    | VARCHAR2 (48) |      | Secondary qualifier (specific module name)                                                                                                                      |
| QUALIFIER_ID2    | VARCHAR2 (32) |      | Additional qualifier (specific action name)                                                                                                                     |

## 5.322 DBA\_ENABLED\_TRACES

DBA\_ENABLED\_TRACES displays information about enabled SQL traces.

| Column        | Datatype      | NULL | Description                                                                                                                                                                  |
|---------------|---------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TRACE_TYPE    | VARCHAR2 (21) |      | Type of the trace: <ul style="list-style-type: none"><li>• CLIENT_ID</li><li>• SERVICE</li><li>• SERVICE_MODULE</li><li>• SERVICE_MODULE_ACTION</li><li>• DATABASE</li></ul> |
| PRIMARY_ID    | VARCHAR2 (64) |      | Primary qualifier (specific client identifier or service name)                                                                                                               |
| QUALIFIER_ID1 | VARCHAR2 (64) |      | Secondary qualifier (specific module name)                                                                                                                                   |
| QUALIFIER_ID2 | VARCHAR2 (64) |      | Additional qualifier (specific action name)                                                                                                                                  |
| WAITS         | VARCHAR2 (5)  |      | Indicates whether waits are traced (TRUE) or not (FALSE)                                                                                                                     |

| Column        | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|---------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BINDS         | VARCHAR2 (5)  |      | Indicates whether binds are traced ( <b>TRUE</b> ) or not ( <b>FALSE</b> )                                                                                                                                                                                                                                                                                                                                      |
| PLAN_STATS    | VARCHAR2 (10) |      | Indicates whether cursor execution statistics are traced. Possible values include: <ul style="list-style-type: none"> <li><b>ALL_EXEC</b>: Execution statistics are dumped at each cursor execution</li> <li><b>NEVER</b>: Execution statistics are never dumped</li> <li><b>FIRST_EXEC</b>: Execution statistics are dumped during the first execution of the cursor. This is the default behavior.</li> </ul> |
| INSTANCE_NAME | VARCHAR2 (16) |      | Instance name for tracing restricted to named instances                                                                                                                                                                                                                                                                                                                                                         |

**See Also:**

*Oracle Database PL/SQL Packages and Types Reference* for more information about the **DBMS\_MONITOR** package

## 5.323 DBA\_ENCRYPTED\_COLUMNS

**DBA\_ENCRYPTED\_COLUMNS** maintains encryption algorithm information for all encrypted columns in the database. Its columns are the same as those in **ALL\_ENCRYPTED\_COLUMNS**.

**See Also:**

["ALL\\_ENCRYPTED\\_COLUMNS"](#)

## 5.324 DBA\_EPG\_DAD\_AUTHORIZATION

**DBA\_EPG\_DAD\_AUTHORIZATION** describes the DADs that are authorized to use different user's privileges.

**Related View**

**USER\_EPG\_DAD\_AUTHORIZATION** describes the DADs that are authorized to use the user's privileges. This view does not display the **USERNAME** column.

| Column   | Datatype       | NULL     | Description                                                    |
|----------|----------------|----------|----------------------------------------------------------------|
| DAD_NAME | VARCHAR2 (64)  | NOT NULL | Name of DAD                                                    |
| USERNAME | VARCHAR2 (128) | NOT NULL | Name of the user whose privileges the DAD is authorized to use |

**See Also:**

["USER\\_EPG\\_DAD\\_AUTHORIZATION"](#)

## 5.325 DBA\_ERROR\_TRANSLATIONS

DBA\_ERROR\_TRANSLATIONS describes all error translations in the database. Its columns are the same as those in ALL\_ERROR\_TRANSLATIONS.

**See Also:**

["ALL\\_ERROR\\_TRANSLATIONS"](#)

## 5.326 DBA\_ERRORS

DBA\_ERRORS describes the current errors on all stored objects in the database. Its columns are the same as those in ALL\_ERRORS.

**See Also:**

["ALL\\_ERRORS"](#)

## 5.327 DBA\_ERRORS\_AE

DBA\_ERRORS\_AE describes the current errors on all stored objects (across all editions) in the database. Its columns are the same as those in ALL\_ERRORS\_AE.

**See Also:**

["ALL\\_ERRORS\\_AE"](#)

## 5.328 DBA\_EVALUATION\_CONTEXT\_TABLES

DBA\_EVALUATION\_CONTEXT\_TABLES describes the tables in all rule evaluation contexts in the database. Its columns are the same as those in ALL\_EVALUATION\_CONTEXT\_TABLES.

**See Also:**

["ALL\\_EVALUATION\\_CONTEXT\\_TABLES"](#)



## 5.329 DBA\_EVALUATION\_CONTEXT\_VARS

DBA\_EVALUATION\_CONTEXT\_VARS describes the variables in all rule evaluation contexts in the database. Its columns are the same as those in ALL\_EVALUATION\_CONTEXT\_VARS.



**See Also:**

"ALL\_EVALUATION\_CONTEXT\_VARS"

## 5.330 DBA\_EVALUATION\_CONTEXTS

DBA\_EVALUATION\_CONTEXTS describes all rule evaluation contexts in the database. Its columns are the same as those in ALL\_EVALUATION\_CONTEXTS.



**See Also:**

"ALL\_EVALUATION\_CONTEXTS"

## 5.331 DBA\_EXP\_FILES

DBA\_EXP\_FILES describes export files.

| Column      | Datatype      | NULL     | Description                                               |
|-------------|---------------|----------|-----------------------------------------------------------|
| EXP_VERSION | NUMBER(3)     | NOT NULL | Version number of the export session                      |
| EXP_TYPE    | VARCHAR2(11)  |          | Type of export file: complete, cumulative, or incremental |
| FILE_NAME   | VARCHAR2(100) | NOT NULL | Name of the export file                                   |
| USER_NAME   | VARCHAR2(128) | NOT NULL | Name of user who executed export                          |
| TIMESTAMP   | DATE          | NOT NULL | Timestamp of the export session                           |

## 5.332 DBA\_EXP\_OBJECTS

DBA\_EXP\_OBJECTS describes objects that have been incrementally exported.

| Column         | Datatype      | NULL     | Description                          |
|----------------|---------------|----------|--------------------------------------|
| OWNER          | VARCHAR2(128) | NOT NULL | Owner of exported object             |
| OBJECT_NAME    | VARCHAR2(128) | NOT NULL | Name of exported object              |
| OBJECT_TYPE    | VARCHAR2(13)  |          | Type of exported object              |
| CUMULATIVE     | DATE          |          | Timestamp of last cumulative export  |
| INCREMENTAL    | DATE          | NOT NULL | Timestamp of last incremental export |
| EXPORT_VERSION | NUMBER(3)     | NOT NULL | The ID of the export session         |

## 5.333 DBA\_EXP\_VERSION

DBA\_EXP\_VERSION displays the version number of the last export session.

| Column      | Datatype  | NULL     | Description                               |
|-------------|-----------|----------|-------------------------------------------|
| EXP_VERSION | NUMBER(3) | NOT NULL | Version number of the last export session |

## 5.334 DBA\_EXPRESSION\_STATISTICS

DBA\_EXPRESSION\_STATISTICS provides expression usage tracking statistics for all the tables in the database. Its columns are the same as those in ALL\_EXPRESSION\_STATISTICS.



**See Also:**

["ALL\\_EXPRESSION\\_STATISTICS"](#)

## 5.335 DBA\_EXTENTS

DBA\_EXTENTS describes the extents comprising the segments in all tablespaces in the database.

Note that if a data file (or entire tablespace) is offline in a locally managed tablespace, you will not see any extent information. If an object has extents in an online file of the tablespace, you will see extent information about the offline data file. However, if the object is entirely in the offline file, a query of this view will not return any records.

### Related View

USER\_EXTENTS describes the extents comprising the segments owned by the current user's objects. This view does not display the OWNER, FILE\_ID, BLOCK\_ID, or RELATIVE\_FNO columns.

| Column          | Datatype      | NULL | Description                                                    |
|-----------------|---------------|------|----------------------------------------------------------------|
| OWNER           | VARCHAR2(128) |      | Owner of the segment associated with the extent                |
| SEGMENT_NAME    | VARCHAR2(128) |      | Name of the segment associated with the extent                 |
| PARTITION_NAME  | VARCHAR2(128) |      | Object Partition Name (Set to NULL for nonpartitioned objects) |
| SEGMENT_TYPE    | VARCHAR2(18)  |      | Type of the segment: INDEX PARTITION, TABLE PARTITION          |
| TABLESPACE_NAME | VARCHAR2(30)  |      | Name of the tablespace containing the extent                   |
| EXTENT_ID       | NUMBER        |      | Extent number in the segment                                   |
| FILE_ID         | NUMBER        |      | Absolute file number of the data file containing the extent    |
| BLOCK_ID        | NUMBER        |      | Starting block number of the extent                            |
| BYTES           | NUMBER        |      | Size of the extent in bytes                                    |
| BLOCKS          | NUMBER        |      | Size of the extent in Oracle blocks                            |

| Column       | Datatype | NULL | Description                                    |
|--------------|----------|------|------------------------------------------------|
| RELATIVE_FNO | NUMBER   |      | Relative file number of the first extent block |

 **See Also:**  
"USER\_EXTENTS"

## 5.336 DBA\_EXTERNAL\_LOCATIONS

DBA\_EXTERNAL\_LOCATIONS describes the locations (data sources) of all external tables in the database. Its columns are the same as those in ALL\_EXTERNAL\_LOCATIONS.

 **See Also:**  
"ALL\_EXTERNAL\_LOCATIONS"

## 5.337 DBA\_EXTERNAL\_SCN\_ACTIVITY

DBA\_EXTERNAL\_SCN\_ACTIVITY works in conjunction with the DBA\_DB\_LINK\_SOURCES and DBA\_DB\_LINKS views to determine the source of high SCN activities.

If the SCN is increased by an inbound database link, then you can join the DBA\_EXTERNAL\_SCN\_ACTIVITY view with the DBA\_DB\_LINK\_SOURCES view on the INBOUND\_DB\_LINK\_SOURCE\_ID column to get details of the remote database where the SCN increase originated.

If the SCN is increased by an outbound database link, then the INBOUND\_DB\_LINK\_SOURCE\_ID column will be NULL, but the OUTBOUND\_DB\_LINK\_NAME and OUTBOUND\_DB\_LINK\_OWNER columns can be joined with the DB\_LINK and OWNER columns respectively in the DBA\_DB\_LINKS view to determine the remote database that caused the SCN increase.

If neither of the above cases are true (the INBOUND\_DB\_LINK\_SOURCE\_ID, OUTBOUND\_DB\_LINK\_NAME, and OUTBOUND\_DB\_LINK\_OWNER are all NULL), then the SCN increase resulted from a client connection and not as a result of a database link to or from another database. You can join the SESSION\_ID and SESSION\_SERIAL# columns with the SID and SERIAL# columns in V\$SESSION to get the client session details.

In a multitenant container database (CDB) environment, for every DBA\_ view, there is a corresponding CDB\_ view that contains data for all the pluggable databases (PDBs) in the CDB.

As the SCN is a property of the CDB (and not a PDB), a DBA interested in understanding large SCN jumps will likely find the CDB\_EXTERNAL\_SCN\_ACTIVITY view more useful for diagnosing SCN jumps on a CDB. Querying the CDB\_EXTERNAL\_SCN\_ACTIVITY view from CDB\$ROOT ensures that external SCN jumps occurring on all PDBs are looked at and noticed. On the other hand, a query on the corresponding DBA\_EXTERNAL\_SCN\_ACTIVITY view, or a query on the CDB\_EXTERNAL\_SCN\_ACTIVITY view done from a PDB would only show data for that PDB (that

is, details regarding any external activity that occurred on that specific PDB that resulted in large SCN jumps).

Note that the CDB\_ views would only show data from PDBs that are open at the time the query is issued. Therefore, when you are diagnosing sources of external SCN activities, Oracle recommends that you keep open any or all PDBs that might contain useful information for the diagnosis.

| Column                    | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OPERATION_TIMESTAMP       | TIMESTAMP (6)  | NOT NULL | Timestamp when SCN was received in UTC                                                                                                                                                                                                                                                                                                                                                                                      |
| SESSION_ID                | NUMBER         | NOT NULL | Session identifier of the local session that created this entry. Maps to V\$SESSION.SID and to V\$ACTIVE_SESSION_HISTORY.SESSION_ID.                                                                                                                                                                                                                                                                                        |
| SESSION_SERIAL#           | NUMBER         | NOT NULL | Session serial number of the local session that created this entry. Maps to V\$SESSION.SERIAL# and to V\$ACTIVE_SESSION_HISTORY.SESSION_SERIAL#.                                                                                                                                                                                                                                                                            |
| AUDIT_SESSIONID           | NUMBER         |          | Session identifier that can be joined with DBA_AUDIT_TRAIL.SESSIONID or UNIFIED_AUDIT_TRAIL.SESSIONID (depending on which kind of auditing is enabled). Null if auditing is not enabled.                                                                                                                                                                                                                                    |
| USERNAME                  | VARCHAR2 (128) | NOT NULL | Oracle username of the user who logged into the local database. Maps to V\$SESSION.USERNAME.                                                                                                                                                                                                                                                                                                                                |
| INBOUND_DB_LINK_SOURCE_ID | NUMBER         |          | If the SCN was bumped by an inbound database link, then this is the inbound database link identified by the DBA_DB_LINK_SOURCES.SOURCE_ID database link.<br>If the SCN was not increased by an inbound database link, then this value is null.                                                                                                                                                                              |
| OUTBOUND_DB_LINK_NAME     | VARCHAR2 (128) |          | If the SCN was bumped by an outbound database link, then this is the outbound database link identified by the DBA_DB_LINKS.DB_LINK database link.<br>Using this column and the OUTBOUND_DB_LINK_OWNER column, you can determine the source of the SCN increase for outbound links.<br>If the SCN was not increased by an outbound database link, then this value is null.                                                   |
| OUTBOUND_DB_LINK_OWNER    | VARCHAR2 (128) |          | If the SCN was bumped by an outbound database link, then this is the owner of the outbound database link identified by DBA_DB_LINKS.OWNER.<br>Using this column and the OUTBOUND_DB_LINK_NAME column, you can determine the source of the SCN increase for outbound links.<br>If the SCN was not increased by an outbound database link, then this value is null.                                                           |
| RESULT                    | VARCHAR2 (64)  | NOT NULL | The following SCN activities are captured: <ul style="list-style-type: none"> <li>REJECTED_HIGH_SCN - SCN rejection due to unreasonable value</li> <li>REJECTED_HIGH_DELTA - SCN rejection due to unreasonable rate of growth</li> <li>ACCEPTED - SCN accepted with warning</li> </ul> Regular SCN activities which do not result in errors or warnings are not captured. SCN errors and warnings also appear in alert.log. |

| Column         | Datatype | NULL     | Description                                                                                                                                          |
|----------------|----------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| EXTERNAL_SCN   | NUMBER   | NOT NULL | The external SCN received from an inbound database link, an outbound database link, or a client                                                      |
| SCN_ADJUSTMENT | NUMBER   | NOT NULL | For ACCEPTED SCNs in the RESULT column, how much the local SCN was increased.<br>For REJECTED SCNs in the RESULT column, the attempted SCN increase. |

 See Also:

- "V\$SESSION"
- "V\$ACTIVE\_SESSION\_HISTORY"
- "DBA\_AUDIT\_TRAIL"
- "UNIFIED\_AUDIT\_TRAIL"
- "DBA\_DB\_LINKS"
- "DBA\_DB\_LINK\_SOURCES"

## 5.338 DBA\_EXTERNAL\_TABLES

DBA\_EXTERNAL\_TABLES describes all external tables in the database. Its columns are the same as those in ALL\_EXTERNAL\_TABLES.

 See Also:

"ALL\_EXTERNAL\_TABLES"

## 5.339 DBA\_FEATURE\_USAGE\_STATISTICS

DBA\_FEATURE\_USAGE\_STATISTICS displays information about database feature usage statistics.

| Column          | Datatype      | NULL     | Description                                                                                 |
|-----------------|---------------|----------|---------------------------------------------------------------------------------------------|
| DBID            | NUMBER        | NOT NULL | Database identifier of the database being tracked                                           |
| NAME            | VARCHAR2 (64) | NOT NULL | Name of the feature                                                                         |
| VERSION         | VARCHAR2 (17) | NOT NULL | Database version in which the feature was tracked                                           |
| DETECTED_USAGES | NUMBER        | NOT NULL | Number of times the system has detected usage for the feature                               |
| TOTAL_SAMPLES   | NUMBER        | NOT NULL | Number of times the system has woken up and checked for feature usage                       |
| CURRENTLY_USED  | VARCHAR2 (5)  |          | Indicates whether usage was detected the last time the system checked (TRUE) or not (FALSE) |

| Column                | Datatype       | NULL | Description                                                         |
|-----------------------|----------------|------|---------------------------------------------------------------------|
| FIRST_USAGE_DATE      | DATE           |      | First sample time the system detected usage of the feature          |
| LAST_USAGE_DATE       | DATE           |      | Last sample time the system detected usage of the feature           |
| AUX_COUNT             | NUMBER         |      | This column stores feature-specific usage data in number format.    |
| FEATURE_INFO          | CLOB           |      | This column stores feature-specific usage data in character format. |
| LAST_SAMPLE_DATE      | DATE           |      | The last time the system checked for usage                          |
| LAST_SAMPLE_PERIOD    | NUMBER         |      | Amount of time (in seconds) between the last two usage sample times |
| SAMPLE_INTERVAL       | NUMBER         |      | Sample interval                                                     |
| DESCRIPTION           | VARCHAR2 (128) |      | Description of the feature and usage detection logic                |
| LAST_FEAT_SAMPLE_DATE | DATE           |      | The last time the system checked for usage of the feature           |

**Note:**

Use the following SQL query to list the database features and their descriptions in alphabetical order:

```
SELECT name, description FROM dba_feature_usage_statistics
ORDER BY name;
```

## 5.340 DBA\_FGA\_AUDIT\_TRAIL

DBA\_FGA\_AUDIT\_TRAIL displays all audit records for fine-grained auditing.

**Note:**

This view is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored and are viewable with this view. See *Oracle Database Security Guide* for more information about how this desupport works.

| Column     | Datatype       | NULL     | Description                                                        |
|------------|----------------|----------|--------------------------------------------------------------------|
| SESSION_ID | NUMBER         | NOT NULL | Session id of the query                                            |
| TIMESTAMP  | DATE           |          | Date and time of the query in the local database session time zone |
| DB_USER    | VARCHAR2 (128) |          | Database username who executed the query                           |
| OS_USER    | VARCHAR2 (255) |          | Operating system username who executed the query                   |
| USERHOST   | VARCHAR2 (128) |          | Client host machine name                                           |

| Column             | Datatype                     | NULL | Description                                                                                                                                                                                                           |
|--------------------|------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CLIENT_ID          | VARCHAR2 (128)               |      | Client identifier in each Oracle session                                                                                                                                                                              |
| ECONTEXT_ID        | VARCHAR2 (64)                |      | Application execution context identifier                                                                                                                                                                              |
| EXT_NAME           | VARCHAR2 (4000)              |      | External name                                                                                                                                                                                                         |
| OBJECT_SCHEMA      | VARCHAR2 (128)               |      | Owner of the table or view                                                                                                                                                                                            |
| OBJECT_NAME        | VARCHAR2 (128)               |      | Name of the table or view                                                                                                                                                                                             |
| POLICY_NAME        | VARCHAR2 (128)               |      | Name of the Fine-Grained Auditing Policy                                                                                                                                                                              |
| SCN                | NUMBER                       |      | System change number (SCN) of the query                                                                                                                                                                               |
| SQL_TEXT           | NVARCHAR2 (2000)             |      | SQL text of the query                                                                                                                                                                                                 |
| SQL_BIND           | NVARCHAR2 (2000)             |      | Bind variable data of the query                                                                                                                                                                                       |
| COMMENT\$TEXT      | VARCHAR2 (4000)              |      | Comments                                                                                                                                                                                                              |
| STATEMENT_TYPE     | VARCHAR2 (7)                 |      | Statement type of the query: <ul style="list-style-type: none"> <li>• SELECT</li> <li>• INSERT</li> <li>• UPDATE</li> <li>• DELETE</li> </ul>                                                                         |
| EXTENDED_TIMESTAMP | TIMESTAMP (6) WITH TIME ZONE |      | Timestamp of the query in UTC (Coordinated Universal Time) time zone                                                                                                                                                  |
| PROXY_SESSIONID    | NUMBER                       |      | Proxy session serial number, if an enterprise user has logged in through the proxy mechanism                                                                                                                          |
| GLOBAL_UID         | VARCHAR2 (32)                |      | Global user identifier for the user, if the user has logged in as an enterprise user                                                                                                                                  |
| INSTANCE_NUMBER    | NUMBER                       |      | Instance number as specified by the <code>INSTANCE_NUMBER</code> initialization parameter                                                                                                                             |
| OS_PROCESS         | VARCHAR2 (16)                |      | Operating System process identifier of the Oracle process                                                                                                                                                             |
| TRANSACTIONID      | RAW (8)                      |      | Transaction identifier of the transaction in which the object is accessed or modified                                                                                                                                 |
| STATEMENTID        | NUMBER                       |      | Numeric ID for each statement run (a statement may cause many actions)                                                                                                                                                |
| ENTRYID            | NUMBER                       |      | Numeric ID for each audit trail entry in the session                                                                                                                                                                  |
| OBJ_EDITION_NAME   | VARCHAR2 (128)               |      | Name of the edition containing the audited object                                                                                                                                                                     |
| DBID               | NUMBER                       |      | Database identifier of the audited database                                                                                                                                                                           |
| RLS_INFO           | CLOB                         |      | Stores virtual private database (VPD) policy names and predicates separated by delimiter.<br><br>To format the output into individual rows, use the <code>DBMS_AUDIT_UTIL.DECODE_RLS_INFO_ATRAIL_FGA</code> function. |
| CURRENT_USER       | VARCHAR2 (128)               |      | Effective user for the statement execution                                                                                                                                                                            |

**Note:**

The `SQL_BIND` and `SQL_TEXT` columns are populated only if the policy has been created with the `AUDIT_TRAIL` parameter set to `db, extended`.

**See Also:**

*Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_AUDIT_UTIL.DECODE_RLS_INFO_ATTRAIL_FGA` function.

## 5.341 DBA\_FLASHBACK\_ARCHIVE

`DBA_FLASHBACK_ARCHIVE` describes all flashback archives available in the database.

### Related View

`USER_FLASHBACK_ARCHIVE` describes the flashback archives available to the current user.

| Column                 | Datatype       | NULL     | Description                                                                                                   |
|------------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------|
| OWNER_NAME             | VARCHAR2 (255) |          | Name of the creator of the flashback archive                                                                  |
| FLASHBACK_ARCHIVE_NAME | VARCHAR2 (255) | NOT NULL | Name of the flashback archive                                                                                 |
| FLASHBACK_ARCHIVE#     | NUMBER         | NOT NULL | Number of the flashback archive                                                                               |
| RETENTION_IN_DAYS      | NUMBER         | NOT NULL | Maximum duration (in days) for which data is retained in the flashback archive                                |
| CREATE_TIME            | TIMESTAMP (9)  |          | Time at which the flashback archive was created                                                               |
| LAST_PURGE_TIME        | TIMESTAMP (9)  |          | Time at which the data in the flashback archive was last purged by the system                                 |
| STATUS                 | VARCHAR2 (7)   |          | Indicates whether the flashback archive is a default flashback archive for the system (DEFAULT) or not (NULL) |

**See Also:**

`"USER_FLASHBACK_ARCHIVE"`

## 5.342 DBA\_FLASHBACK\_ARCHIVE\_TABLES

`DBA_FLASHBACK_ARCHIVE_TABLES` displays information about all tables in the database that are enabled for Flashback Archive.

### Related View

`USER_FLASHBACK_ARCHIVE_TABLES` displays information about the tables owned by the current user that are enabled for Flashback Archive.

| Column                 | Datatype       | NULL     | Description                                           |
|------------------------|----------------|----------|-------------------------------------------------------|
| TABLE_NAME             | VARCHAR2 (128) | NOT NULL | Name of the table enabled for Flashback Archive       |
| OWNER_NAME             | VARCHAR2 (128) | NOT NULL | Owner name of the table enabled for Flashback Archive |
| FLASHBACK_ARCHIVE_NAME | VARCHAR2 (255) | NOT NULL | Name of the flashback archive                         |



| Column             | Datatype      | NULL | Description                                                                   |
|--------------------|---------------|------|-------------------------------------------------------------------------------|
| ARCHIVE_TABLE_NAME | VARCHAR2 (53) |      | Name of the archive table containing the historical data for the user table   |
| STATUS             | VARCHAR2 (13) |      | Status of whether flashback archive is enabled or being disabled on the table |

**See Also:**["USER\\_FLASHBACK\\_ARCHIVE\\_TABLES"](#)

## 5.343 DBA\_FLASHBACK\_ARCHIVE\_TS

DBA\_FLASHBACK\_ARCHIVE\_TS describes all tablespaces in the flashback archives available in the database.

| Column                 | Datatype       | NULL     | Description                                                                                                           |
|------------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------|
| FLASHBACK_ARCHIVE_NAME | VARCHAR2 (255) | NOT NULL | Name of the flashback archive                                                                                         |
| FLASHBACK_ARCHIVE#     | NUMBER         | NOT NULL | Number of the flashback archive                                                                                       |
| TABLESPACE_NAME        | VARCHAR2 (30)  | NOT NULL | Name of a tablespace in the flashback archive                                                                         |
| QUOTA_IN_MB            | VARCHAR2 (40)  |          | Maximum space (in MB) that can be used for Flashback Archive from the tablespace; NULL indicates no Quota restriction |

## 5.344 DBA\_FLASHBACK\_TXN\_REPORT

DBA\_FLASHBACK\_TXN\_REPORT displays information about all compensating transactions that have been committed in the database.

Each row in this view is associated with one compensating transaction.

### Related View

USER\_FLASHBACK\_TXN\_REPORT displays information about the compensating transactions owned by the current user that have been committed in the database. This view does not display the USERNAME column.

| Column                | Datatype       | NULL     | Description                                                                                         |
|-----------------------|----------------|----------|-----------------------------------------------------------------------------------------------------|
| COMPENSATING_XID      | RAW (8)        | NOT NULL | Transaction responsible for backout                                                                 |
| COMPENSATING_TXN_NAME | VARCHAR2 (256) |          | Name of the compensating transaction                                                                |
| COMMIT_TIME           | DATE           |          | Timestamp when the compensating transaction committed                                               |
| XID_REPORT            | CLOB           |          | An XML report describing the details of the transactions backed out by the compensating transaction |
| USERNAME              | VARCHAR2 (128) | NOT NULL | User who is executing the compensating transaction                                                  |

**See Also:**["USER\\_FLASHBACK\\_TXN\\_REPORT"](#)

## 5.345 DBA\_FLASHBACK\_TXN\_STATE

DBA\_FLASHBACK\_TXN\_STATE displays information about the compensating status of all transactions in the database.

For each compensating transaction, there could be multiple rows, where each row provides the dependency relation between the transactions that have been compensated by the compensating transaction.

### Related View

USER\_FLASHBACK\_TXN\_STATE displays information about the compensating status of the transactions owned by the current user. This view does not display the USERNAME column.

| Column           | Datatype       | NULL     | Description                                                                                                                                                          |
|------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPENSATING_XID | RAW (8)        |          | Transaction ID of the compensating transaction                                                                                                                       |
| XID              | RAW (8)        |          | A transaction that has been compensated by the compensating transaction                                                                                              |
| DEPENDENT_XID    | RAW (8)        |          | A dependent transaction of XID<br><b>Note:</b> In the case of BACKOUT_MODE = CASCADE, there must be another row with XID = DEPENDENT_XID of this column.             |
| BACKOUT_MODE     | VARCHAR2 (16)  |          | Mode in which XID was backed out: <ul style="list-style-type: none"><li>• NOCASCADE</li><li>• NOCASCADE_FORCE</li><li>• NONCONFLICT_ONLY</li><li>• CASCADE</li></ul> |
| USERNAME         | VARCHAR2 (128) | NOT NULL | User who is performing the compensating transaction                                                                                                                  |

**See Also:**["USER\\_FLASHBACK\\_TXN\\_STATE"](#)

## 5.346 DBA\_FREE\_SPACE

DBA\_FREE\_SPACE describes the free extents in all tablespaces in the database.

If a data file (or entire tablespace) is offline in a locally managed tablespace, you will not see any extent information. If an object has extents in an online file of the tablespace, you will see extent information about the offline data file. However, if the object is entirely in the offline file, a query of this view will not return any records.

If a data file does not have any free space, you will not see a row for the data file in this view.

**Related View**

USER\_FREE\_SPACE describes the free extents in the tablespaces accessible to the current user.

| Column          | Datatype      | NULL | Description                                                 |
|-----------------|---------------|------|-------------------------------------------------------------|
| TABLESPACE_NAME | VARCHAR2 (30) |      | Name of the tablespace containing the extent                |
| FILE_ID         | NUMBER        |      | Absolute file number of the data file containing the extent |
| BLOCK_ID        | NUMBER        |      | Starting block number of the extent                         |
| BYTES           | NUMBER        |      | Size of the extent (in bytes)                               |
| BLOCKS          | NUMBER        |      | Size of the extent (in Oracle blocks)                       |
| RELATIVE_FNO    | NUMBER        |      | Relative file number of the file containing the extent      |

**See Also:**["USER\\_FREE\\_SPACE"](#)

## 5.347 DBA\_FREE\_SPACE\_COALESCED

DBA\_FREE\_SPACE\_COALESCED describes statistics on coalesced space in all tablespaces in the database.

| Column                    | Datatype      | NULL | Description                                                    |
|---------------------------|---------------|------|----------------------------------------------------------------|
| TABLESPACE_NAME           | VARCHAR2 (30) |      | Name of the tablespace                                         |
| TOTAL_EXTENTS             | NUMBER        |      | Total number of free extents in the tablespace                 |
| EXTENTS_COALESCED         | NUMBER        |      | Total number of coalesced free extents in the tablespace       |
| PERCENT_EXTENTS_COALESCED | NUMBER        |      | Percentage of coalesced free extents in the tablespace         |
| TOTAL_BYTES               | NUMBER        |      | Total number of free bytes in the tablespace                   |
| BYTES_COALESCED           | NUMBER        |      | Total number of coalesced free bytes in the tablespace         |
| TOTAL_BLOCKS              | NUMBER        |      | Total number of free Oracle blocks in the tablespace           |
| BLOCKS_COALESCED          | NUMBER        |      | Total number of coalesced free Oracle blocks in the tablespace |
| PERCENT_BLOCKS_COALESCED  | NUMBER        |      | Percentage of coalesced free Oracle blocks in the tablespace   |

## 5.348 DBA\_GG\_AUTO\_CDR\_COLUMN\_GROUPS

DBA\_GG\_AUTO\_CDR\_COLUMN\_GROUPS provides details about all of the Oracle GoldenGate automatic conflict detection and resolution (CDR) column groups in the database.

Its columns are the same as those in ALL\_GG\_AUTO\_CDR\_COLUMN\_GROUPS.

**See Also:**

["ALL\\_GG\\_AUTO\\_CDR\\_COLUMN\\_GROUPS"](#)

## 5.349 DBA\_GG\_AUTO\_CDR\_COLUMNS

DBA\_GG\_AUTO\_CDR\_COLUMNS provides details about all of the Oracle GoldenGate automatic conflict detection and resolution (CDR) columns in the database.

Its columns are the same as those in ALL\_GG\_AUTO\_CDR\_COLUMNS.

**See Also:**

["ALL\\_GG\\_AUTO\\_CDR\\_COLUMNS"](#)

## 5.350 DBA\_GG\_AUTO\_CDR\_TABLES

DBA\_GG\_AUTO\_CDR\_TABLES provides details about all the tables configured for Oracle GoldenGate automatic conflict detection and resolution (CDR).

Its columns are the same as those in ALL\_GG\_AUTO\_CDR\_TABLES.

**See Also:**

["ALL\\_GG\\_AUTO\\_CDR\\_TABLES"](#)

## 5.351 DBA\_GG\_INBOUND\_PROGRESS

DBA\_GG\_INBOUND\_PROGRESS displays information about the progress made by all GoldenGate inbound servers in the database. Its columns are the same as those in ALL\_GG\_INBOUND\_PROGRESS.

**See Also:**

["ALL\\_GG\\_INBOUND\\_PROGRESS"](#)

## 5.352 DBA\_GG\_PROC\_OBJECT\_EXCLUSION

DBA\_GG\_PROC\_OBJECT\_EXCLUSION provides details about all tables that should be filtered when operating on given objects.

| Column        | Datatype       | NULL | Description                                    |
|---------------|----------------|------|------------------------------------------------|
| PACKAGE_OWNER | VARCHAR2 (384) |      | Procedure package owner                        |
| PACKAGE_NAME  | VARCHAR2 (384) |      | Procedure package name                         |
| OBJECT_OWNER  | VARCHAR2 (384) |      | Object owner to filter for the given procedure |
| OBJECT_NAME   | VARCHAR2 (384) |      | Object name to filter for the given procedure  |

## 5.353 DBA\_GG\_PROCEDURE\_ANNOTATION

DBA\_GG\_PROCEDURE\_ANNOTATION annotates the position of Owner and Object arguments in procedure calls.

| Column                | Datatype       | NULL     | Description                                                    |
|-----------------------|----------------|----------|----------------------------------------------------------------|
| PACKAGE_OWNER         | VARCHAR2 (384) | NOT NULL | Procedure package owner                                        |
| PACKAGE_NAME          | VARCHAR2 (384) | NOT NULL | Procedure package name                                         |
| PROCEDURE_NAME        | VARCHAR2 (384) | NOT NULL | Procedure name                                                 |
| OBJECT_OWNER_ARGPOS   | NUMBER         | NOT NULL | Object owner name position in argument list, -1 if not present |
| OBJECT_ARGPOS         | NUMBER         | NOT NULL | Object name position in argument list, -1 if not present       |
| MIN_DB_VERSION        | VARCHAR2 (100) |          | Minimum database version for the procedure                     |
| MAX_DB_VERSION        | VARCHAR2 (100) |          | Maximum database version for the procedure                     |
| MIN_REDO_COMPAT_LEVEL | VARCHAR2 (100) |          | Minimum redo compatibility for the procedure                   |
| MAX_REDO_COMPAT_LEVEL | VARCHAR2 (100) |          | Maximum redo compatibility for the procedure                   |
| FLAGS                 | NUMBER         |          | Additional information about procedure arguments               |

## 5.354 DBA\_GG\_SUPPORTED\_PACKAGES

DBA\_GG\_SUPPORTED\_PACKAGES provides details about supported procedure packages for Oracle GoldenGate replication.

| Column                | Datatype       | NULL     | Description                                          |
|-----------------------|----------------|----------|------------------------------------------------------|
| OWNER                 | VARCHAR2 (384) | NOT NULL | Procedure package owner                              |
| NAME                  | VARCHAR2 (384) | NOT NULL | Procedure package name                               |
| FEATURE               | VARCHAR2 (384) | NOT NULL | DBMS feature that the procedure package belongs to   |
| MIN_DB_VERSION        | VARCHAR2 (100) |          | Minimum database version for the supported package   |
| MAX_DB_VERSION        | VARCHAR2 (100) |          | Maximum database version for the supported package   |
| MIN_REDO_COMPAT_LEVEL | VARCHAR2 (100) |          | Minimum redo compatibility for the supported package |
| MAX_REDO_COMPAT_LEVEL | VARCHAR2 (100) |          | Maximum redo compatibility for the supported package |
| SUPPORTED_LEVEL       | VARCHAR2 (100) |          | Supported level of the package                       |

## 5.355 DBA\_GG\_SUPPORTED\_PROCEDURES

DBA\_GG\_SUPPORTED\_PROCEDURES provides details about all procedures that are supported for Oracle GoldenGate replication.

| Column                | Datatype       | NULL | Description                                                                                                                        |
|-----------------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                 | VARCHAR2 (128) |      | Procedure package owner                                                                                                            |
| PACKAGE_NAME          | VARCHAR2 (128) |      | Procedure package name                                                                                                             |
| PROCEDURE_NAME        | VARCHAR2 (128) |      | Procedure name                                                                                                                     |
| MIN_DB_VERSION        | VARCHAR2 (100) |      | Minimum database version for the procedure                                                                                         |
| MAX_DB_VERSION        | VARCHAR2 (100) |      | Maximum database version for the procedure                                                                                         |
| MIN_REDO_COMPAT_LEVEL | VARCHAR2 (100) |      | Minimum redo compatibility for the procedure                                                                                       |
| MAX_REDO_COMPAT_LEVEL | VARCHAR2 (100) |      | Maximum redo compatibility for the procedure                                                                                       |
| SUPPORTED_MODE        | VARCHAR2 (100) |      | Supported mode for the procedure: ALWAYS or DBMS_ROLLING                                                                           |
| EXCLUSION_RULE_EXISTS | VARCHAR2 (3)   |      | Specifies whether an exclusion rule exists for the procedure (YES) or not (NO).<br><b>See Also:</b> "DBA_GG_PROC_OBJECT_EXCLUSION" |

## 5.356 DBA\_GLOBAL\_CONTEXT

DBA\_GLOBAL\_CONTEXT displays the definition (name, schema, and package) of all global contexts created in the database.

This view is a subset of DBA\_CONTEXT, which describes all contexts, including global contexts.

| Column    | Datatype       | NULL     | Description                                                            |
|-----------|----------------|----------|------------------------------------------------------------------------|
| NAMESPACE | VARCHAR2 (128) | NOT NULL | Name of the context namespace                                          |
| SCHEMA    | VARCHAR2 (128) | NOT NULL | Schema of the package that administers the globally accessible context |
| PACKAGE   | VARCHAR2 (128) | NOT NULL | Package that administers the globally accessible context               |

### See Also:

- "DBA\_CONTEXT"
- *Oracle Database Security Guide* for more information about using global application contexts
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_SESSION.SET\_CONTEXT procedure

## 5.357 DBA\_GOLDENGATE\_INBOUND

DBA\_GOLDENGATE\_INBOUND displays information about all GoldenGate inbound servers in the database. Its columns are the same as those in ALL\_GOLDENGATE\_INBOUND.



**See Also:**

["ALL\\_GOLDENGATE\\_INBOUND"](#)

## 5.358 DBA\_GOLDENGATE\_NOT\_UNIQUE

DBA\_GOLDENGATE\_NOT\_UNIQUE displays all tables that have no primary and no non-null unique indexes.

Most of the tables displayed by this view are supported because their columns contain enough information to be maintained by Oracle GoldenGate. Some tables, however, cannot be supported because their columns do not contain the necessary information. Unsupported tables usually contain a column defined using an unsupported data type.

| Column     | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER      | VARCHAR2 (128) |      | Schema name of the non-unique table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TABLE_NAME | VARCHAR2 (128) |      | Table name of the non-unique table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| BAD_COLUMN | VARCHAR2 (1)   |      | Indicates that the table has a column not useful in the where clause. Possible values: <ul style="list-style-type: none"><li>• <b>Y</b> - Table column is defined using an unbounded data type, such as <b>LONG</b> or <b>BLOB</b>. If two rows in the table match except in their LOB columns, then the table cannot be maintained properly. Log apply services will attempt to maintain these tables, but you must ensure the application does not allow uniqueness only in the unbounded columns.</li><li>• <b>N</b> - Enough column information is present to maintain the table in Oracle GoldenGate but the log transport services and log apply services would run more efficiently if you added a primary key. You should consider adding a disabled <b>RELY</b> constraint to these tables.</li></ul> |

## 5.359 DBA\_GOLDENGATE\_PRIVILEGES

DBA\_GOLDENGATE\_PRIVILEGES displays details about Oracle GoldenGate privileges. Its columns are the same as those in ALL\_GOLDENGATE\_PRIVILEGES.



**See Also:**

["ALL\\_GOLDENGATE\\_PRIVILEGES"](#)

## 5.360 DBA\_GOLDENGATE\_RULES

DBA\_GOLDENGATE\_RULES displays information about all GoldenGate server rules in the database. Its columns are the same as those in ALL\_GOLDENGATE\_RULES.



**See Also:**

"ALL\_GOLDENGATE\_RULES"

## 5.361 DBA\_GOLDENGATE\_SUPPORT\_MODE

DBA\_GOLDENGATE\_SUPPORT\_MODE displays information about the level of Oracle GoldenGate capture process support for the tables in the database.

| Column       | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER        | VARCHAR2 (128) |      | Table owner                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| OBJECT_NAME  | VARCHAR2 (128) |      | Table name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SUPPORT_MODE | VARCHAR2 (6)   |      | Capture process support level for the table: <ul style="list-style-type: none"><li>• <b>FULL</b> - A capture process can capture changes made to all of the columns in the table</li><li>• <b>ID KEY</b> - A capture process can capture changes made to the key columns and any other columns in the table supported by the capture process, except for LOB, LONG, LONG RAW, and XMLType columns.</li><li>• <b>INTERNAL</b> - A capture process cannot capture changes made to any columns in the table because the table is secondary to a user-created table and is updated implicitly when changes are made to the user-created table. Such tables include mapping tables for index-organized tables, storage tables for nested tables, materialized view logs, secondary objects associated with domain indexes, and temporary tables.</li><li>• <b>PLSQL</b> - A capture process can capture changes made to the table as long as Procedural Supplemental Logging is enabled on the source database. Such tables include hierarchy-enabled tables, AQ queue tables, and tables containing columns of type MDSYS.SDO_TOPO_GEOMETRY, MDSYS.SDO_GEORASTER, or MDSYS.SDO_RDF_TRIPLE_S.</li><li>• <b>NONE</b> - A capture process cannot capture changes made to any columns in the table because the table is not supported for replication.</li></ul> |



| Column      | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------|-----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EXPLANATION | VARCHAR2 (4000) |      | Reason the table does not have <code>FULL</code> capture process support<br>This column is populated only when both of the following conditions are met: <ul style="list-style-type: none"> <li>The value of the <code>COMPATIBLE</code> initialization parameter is <code>20.0</code> or higher</li> <li>The value of the <code>SUPPORT_MODE</code> column is <code>ID KEY</code>, <code>INTERNAL</code>, <code>PLSQL</code>, or <code>NONE</code></li> </ul> |

## 5.362 DBA\_HANG\_MANAGER\_PARAMETERS

`DBA_HANG_MANAGER_PARAMETERS` shows the available user-tunable Blocker Resolver parameters and their values.



### Note:

This view is deprecated. Oracle recommends that you instead use the `DBA_BLOCKER_RESOLVER_PARAMETERS` view.



### See Also:

"[DBA\\_BLOCKER\\_RESOLVER\\_PARAMETERS](#)"

## 5.363 DBA\_HEAT\_MAP\_SEG\_HISTOGRAM

`DBA_HEAT_MAP_SEG_HISTOGRAM` displays segment access information for all segments. Its columns are the same as those in `ALL_HEAT_MAP_SEG_HISTOGRAM`.



### See Also:

"[ALL\\_HEAT\\_MAP\\_SEG\\_HISTOGRAM](#)"

## 5.364 DBA\_HEAT\_MAP\_SEGMENT

`DBA_HEAT_MAP_SEGMENT` displays the latest segment access time for all segments. Its columns are the same as those in `ALL_HEAT_MAP_SEGMENT`.



### See Also:

"[ALL\\_HEAT\\_MAP\\_SEGMENT](#)"

## 5.365 DBA\_HEATMAP\_TOP\_OBJECTS

DBA\_HEATMAP\_TOP\_OBJECTS displays heat map information for the top 10000 objects by default.

If the database contains fewer than 10000 objects, then fewer than 10000 objects are returned by the view.

| Column          | Datatype       | NULL | Description                                           |
|-----------------|----------------|------|-------------------------------------------------------|
| OWNER           | VARCHAR2 (128) |      | Object owner                                          |
| OBJECT_NAME     | VARCHAR2 (128) |      | Object name                                           |
| OBJECT_TYPE     | VARCHAR2 (18)  |      | Object type                                           |
| TABLESPACE_NAME | VARCHAR2 (30)  |      | Tablespace name                                       |
| SEGMENT_COUNT   | NUMBER         |      | Segments in the tablespace                            |
| OBJECT_SIZE     | NUMBER         |      | Size of the object in MB                              |
| MIN_WRITETIME   | DATE           |      | Oldest modification time for a set of blocks          |
| MAX_WRITETIME   | DATE           |      | Latest modification time for a set of blocks          |
| AVG_WRITETIME   | DATE           |      | Average of the modification times for a set of blocks |
| MIN_READTIME    | DATE           |      | Oldest read time for a set of blocks                  |
| MAX_READTIME    | DATE           |      | Latest read time for a set of blocks                  |
| AVG_READTIME    | DATE           |      | Average of the read times for a set of blocks         |
| MIN_FTSTIME     | DATE           |      | Minimum full table scan time of the object            |
| MAX_FTSTIME     | DATE           |      | Maximum full table scan time of the object            |
| AVG_FTSTIME     | DATE           |      | Average full table scan time of the object            |
| MIN_LOOKUPTIME  | DATE           |      | Minimum lookup time of the object                     |
| MAX_LOOKUPTIME  | DATE           |      | Maximum lookup time of the object                     |
| AVG_LOOKUPTIME  | DATE           |      | Average lookup time of the object                     |

## 5.366 DBA\_HEATMAP\_TOP\_TABLESPACES

DBA\_HEATMAP\_TOP\_TABLESPACES displays heat map information for the top 100 tablespaces.

| Column          | Datatype       | NULL | Description                                            |
|-----------------|----------------|------|--------------------------------------------------------|
| TABLESPACE_NAME | VARCHAR2 (128) |      | Tablespace name                                        |
| SEGMENT_COUNT   | NUMBER         |      | Segments in the tablespace                             |
| ALLOCATED_BYTES | NUMBER         |      | Total bytes allocated to the objects in the tablespace |
| MIN_WRITETIME   | DATE           |      | Minimum write time of objects tracked                  |
| MAX_WRITETIME   | DATE           |      | Maximum write time of objects tracked                  |
| AVG_WRITETIME   | DATE           |      | Average write time of objects tracked                  |
| MIN_READTIME    | DATE           |      | Minimum read time of objects tracked                   |
| MAX_READTIME    | DATE           |      | Maximum read time of objects tracked                   |
| AVG_READTIME    | DATE           |      | Average read time of objects tracked                   |
| MIN_FTSTIME     | DATE           |      | Minimum full table scan time of objects tracked        |

| Column         | Datatype | NULL | Description                                     |
|----------------|----------|------|-------------------------------------------------|
| MAX_FTSTIME    | DATE     |      | Maximum full table scan time of objects tracked |
| AVG_FTSTIME    | DATE     |      | Average full table scan time of objects tracked |
| MIN_LOOKUPTIME | DATE     |      | Minimum lookup time of objects tracked          |
| MAX_LOOKUPTIME | DATE     |      | Maximum lookup time of objects tracked          |
| AVG_LOOKUPTIME | DATE     |      | Average lookup time of objects tracked          |

## 5.367 DBA\_HIER\_CLASS

DBA\_HIER\_CLASS describes the classifications of all hierarchies in the database. Its columns are the same as those in ALL\_HIER\_CLASS.



**See Also:**

["ALL\\_HIER\\_CLASS"](#)

## 5.368 DBA\_HIER\_CLASS\_AE

DBA\_HIER\_CLASS\_AE describes the classifications of all hierarchies (across all editions) in the database. Its columns are the same as those in ALL\_HIER\_CLASS\_AE.



**See Also:**

["ALL\\_HIER\\_CLASS\\_AE"](#)

## 5.369 DBA\_HIER\_COLUMNS

DBA\_HIER\_COLUMNS describes the columns of all hierarchies in the database. Its columns are the same as those in ALL\_HIER\_COLUMNS.



**See Also:**

["ALL\\_HIER\\_COLUMNS"](#)

## 5.370 DBA\_HIER\_COLUMNS\_AE

DBA\_HIER\_COLUMNS\_AE describes the columns of all hierarchies (across all editions) in the database. Its columns are the same as those in ALL\_HIER\_COLUMNS\_AE.



**See Also:**

"ALL\_HIER\_COLUMNS\_AE"

## 5.371 DBA\_HIER\_HIER\_ATTR\_CLASS

DBA\_HIER\_HIER\_ATTR\_CLASS describes the classifications of the hierarchical attributes of all hierarchies in the database. Its columns are the same as those in ALL\_HIER\_HIER\_ATTR\_CLASS.



**See Also:**

"ALL\_HIER\_HIER\_ATTR\_CLASS"

## 5.372 DBA\_HIER\_HIER\_ATTR\_CLASS\_AE

DBA\_HIER\_HIER\_ATTR\_CLASS\_AE describes the classifications of the hierarchical attributes of all hierarchies (across all editions) in the database. Its columns are the same as those in ALL\_HIER\_HIER\_ATTR\_CLASS\_AE.



**See Also:**

"ALL\_HIER\_HIER\_ATTR\_CLASS\_AE"

## 5.373 DBA\_HIER\_HIER\_ATTRIBUTES

DBA\_HIER\_HIER\_ATTRIBUTES describes the hierarchical attributes of all hierarchies in the database. Its columns are the same as those in ALL\_HIER\_HIER\_ATTRIBUTES.



**See Also:**

"ALL\_HIER\_HIER\_ATTRIBUTES"

## 5.374 DBA\_HIER\_HIER\_ATTRIBUTES\_AE

DBA\_HIER\_HIER\_ATTRIBUTES\_AE describes the hierarchical attributes of all hierarchies (across all editions) in the database. Its columns are the same as those in ALL\_HIER\_HIER\_ATTRIBUTES\_AE.



**See Also:**

["ALL\\_HIER\\_HIER\\_ATTRIBUTES\\_AE"](#)

## 5.375 DBA\_HIER\_JOIN\_PATHS

DBA\_HIER\_JOIN\_PATHS describes the join paths for all hierarchies in the database. Its columns are the same as those in ALL\_HIER\_JOIN\_PATHS.



**See Also:**

["ALL\\_HIER\\_JOIN\\_PATHS"](#)

## 5.376 DBA\_HIER\_JOIN\_PATHS\_AE

DBA\_HIER\_JOIN\_PATHS\_AE describes the join paths for all hierarchies (across all editions) in the database. Its columns are the same as those in ALL\_HIER\_JOIN\_PATHS\_AE.



**See Also:**

["ALL\\_HIER\\_JOIN\\_PATHS\\_AE"](#)

## 5.377 DBA\_HIER\_LEVEL\_ID\_ATTRS

DBA\_HIER\_LEVEL\_ID\_ATTRS describes the attributes that uniquely identify members of the levels of all hierarchies in the database. Its columns are the same as those in ALL\_HIER\_LEVEL\_ID\_ATTRS.



**See Also:**

["ALL\\_HIER\\_LEVEL\\_ID\\_ATTRS"](#)

## 5.378 DBA\_HIER\_LEVEL\_ID\_ATTRS\_AE

DBA\_HIER\_LEVEL\_ID\_ATTRS\_AE describes the attributes that uniquely identify members of the levels of all hierarchies (across all editions) in the database. Its columns are the same as those in ALL\_HIER\_LEVEL\_ID\_ATTRS\_AE.



**See Also:**

["ALL\\_HIER\\_LEVEL\\_ID\\_ATTRS\\_AE"](#)

## 5.379 DBA\_HIER\_LEVELS

DBA\_HIER\_LEVELS describes the levels of all hierarchies in the database. Its columns are the same as those in ALL\_HIER\_LEVELS.



**See Also:**

["ALL\\_HIER\\_LEVELS"](#)

## 5.380 DBA\_HIER\_LEVELS\_AE

DBA\_HIER\_LEVELS\_AE describes the levels of all hierarchies (across all editions) in the database. Its columns are the same as those in ALL\_HIER\_LEVELS\_AE.



**See Also:**

["ALL\\_HIER\\_LEVELS\\_AE"](#)

## 5.381 DBA\_HIERARCHIES

DBA\_HIERARCHIES describes all hierarchies in the database. Its columns are the same as those in ALL\_HIERARCHIES.



**See Also:**

["ALL\\_HIERARCHIES"](#)

## 5.382 DBA\_HIERARCHIES\_AE

DBA\_HIERARCHIES\_AE describes all hierarchies (across all editions) in the database. Its columns are the same as those in ALL\_HIERARCHIES\_AE.



**See Also:**

"ALL\_HIERARCHIES\_AE"

## 5.383 DBA\_HIGH\_WATER\_MARK\_STATISTICS

DBA\_HIGH\_WATER\_MARK\_STATISTICS displays information about database high-watermark statistics.

| Column      | Datatype       | NULL     | Description                                                                    |
|-------------|----------------|----------|--------------------------------------------------------------------------------|
| DBID        | NUMBER         | NOT NULL | Identifier of the database for which the high-watermark statistics are tracked |
| NAME        | VARCHAR2 (64)  | NOT NULL | Name of the high-watermark statistic (see <a href="#">Table 5-1</a> )          |
| VERSION     | VARCHAR2 (17)  | NOT NULL | Database version in which the high watermarks were tracked                     |
| HIGHWATER   | NUMBER         |          | Highest value of the statistic seen at sampling time                           |
| LAST_VALUE  | NUMBER         |          | Value of the statistic at the last sample time                                 |
| DESCRIPTION | VARCHAR2 (128) |          | Description of the high-watermark statistics (see <a href="#">Table 5-1</a> )  |

**Table 5-1 DBA\_HIGH\_WATER\_MARK\_STATISTICS Statistics**

| Name              | Description                                                |
|-------------------|------------------------------------------------------------|
| ACTIVE_SESSIONS   | Maximum Number of Active Sessions seen in the system       |
| CPU_COUNT         | Maximum Number of CPUs                                     |
| DATAFILES         | Maximum Number of Datafiles                                |
| DB_SIZE           | Maximum Size of the Database (Bytes)                       |
| EXADATA_DISKS     | Number of physical disks                                   |
| INSTANCES         | Oracle Database instances                                  |
| PART_INDEXES      | Maximum Number of Partitions belonging to an User Index    |
| PART_TABLES       | Maximum Number of Partitions belonging to an User Table    |
| QUERY_LENGTH      | Maximum Query Length                                       |
| SEGMENT_SIZE      | Size of Largest Segment (Bytes)                            |
| SESSIONS          | Maximum Number of Concurrent Sessions seen in the database |
| SQL_NCHAR_COLUMNS | Maximum Number of SQL NCHAR Columns                        |
| TABLESPACES       | Maximum Number of Tablespaces                              |
| USER_INDEXES      | Number of User Indexes                                     |
| USER_MV           | Maximum Number of Materialized Views (User)                |

**Table 5-1 (Cont.) DBA\_HIGH\_WATER\_MARK\_STATISTICS Statistics**

| Name        | Description           |
|-------------|-----------------------|
| USER_TABLES | Number of User Tables |

## 5.384 DBA\_HIST\_ACTIVE\_SESS\_HISTORY

DBA\_HIST\_ACTIVE\_SESS\_HISTORY displays the history of the contents of the in-memory active session history of recent system activity.

DBA\_HIST\_ACTIVE\_SESS\_HISTORY contains snapshots of V\$ACTIVE\_SESSION\_HISTORY. See ["V\\$ACTIVE\\_SESSION\\_HISTORY"](#) for further interpretation details for many of these columns (except SNAP\_ID, DBID, and INSTANCE\_NUMBER).



### Note:

If you want to perform a join with the snapshots view, use the DBA\_HIST\_ASH\_SNAPSHOT view instead of the DBA\_HIST\_SNAPSHOT view.

| Column           | Datatype     | NULL     | Description                                                                                        |
|------------------|--------------|----------|----------------------------------------------------------------------------------------------------|
| SNAP_ID          | NUMBER       | NOT NULL | Unique snapshot ID                                                                                 |
| DBID             | NUMBER       | NOT NULL | Database ID for the snapshot                                                                       |
| INSTANCE_NUMBER  | NUMBER       | NOT NULL | Instance number for the snapshot                                                                   |
| SAMPLE_ID        | NUMBER       | NOT NULL | ID of the sample                                                                                   |
| SAMPLE_TIME      | TIMESTAMP(3) | NOT NULL | Time of the sample                                                                                 |
| SAMPLE_TIME_UTC  | TIMESTAMP(3) |          | SAMPLE_TIME in UTC                                                                                 |
| USECS_PER_ROW    | NUMBER       |          | Time in microseconds since the last active session history sample                                  |
| SESSION_ID       | NUMBER       | NOT NULL | Session identifier                                                                                 |
| SESSION_SERIAL#  | NUMBER       |          | Session serial number (used to uniquely identify a session's objects)                              |
| SESSION_TYPE     | VARCHAR2(10) |          | Session type: <ul style="list-style-type: none"> <li>• FOREGROUND</li> <li>• BACKGROUND</li> </ul> |
| FLAGS            | NUMBER       |          | Reserved for future use                                                                            |
| USER_ID          | NUMBER       |          | Oracle user identifier                                                                             |
| SQL_ID           | VARCHAR2(13) |          | SQL identifier of the SQL statement that is currently being executed                               |
| IS_SQLID_CURRENT | VARCHAR2(1)  |          | Indicates whether the SQL identifier in the SQL_ID column is being executed (Y) or not (N)         |
| SQL_CHILD_NUMBER | NUMBER       |          | Child number of the SQL statement that is currently being executed                                 |
| SQL_OPCODE       | NUMBER       |          | Indicates what phase of operation the SQL statement is in                                          |
| SQL_OPNAME       | VARCHAR2(64) |          | SQL command name                                                                                   |



| Column                     | Datatype      | NULL | Description                                                                                                                                                                                                              |
|----------------------------|---------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FORCE_MATCHING_SIGNATURE   | NUMBER        |      | Signature used when the <code>CURSOR_SHARING</code> parameter is set to <code>FORCE</code>                                                                                                                               |
| TOP_LEVEL_SQL_ID           | VARCHAR2 (13) |      | SQL identifier of the top level SQL statement                                                                                                                                                                            |
| TOP_LEVEL_SQL_OPCODE       | NUMBER        |      | Indicates what phase of operation the top level SQL statement was in                                                                                                                                                     |
| SQL_PLAN_HASH_VALUE        | NUMBER        |      | Numerical representation of the SQL plan for the cursor                                                                                                                                                                  |
| SQL_FULL_PLAN_HASH_VALUE   | NUMBER        |      | Numerical representation of the complete SQL plan for the cursor being executed by this session                                                                                                                          |
| SQL_ADAPTIVE_PLAN_RESOLVED | NUMBER        |      | Indicates whether the SQL plan of the sampled database session is a resolved adaptive plan or not                                                                                                                        |
| SQL_PLAN_LINE_ID           | NUMBER        |      | SQL plan line ID                                                                                                                                                                                                         |
| SQL_PLAN_OPERATION         | VARCHAR2 (64) |      | Plan operation name                                                                                                                                                                                                      |
| SQL_PLAN_OPTIONS           | VARCHAR2 (64) |      | Plan operation options                                                                                                                                                                                                   |
| SQL_EXEC_ID                | NUMBER        |      | SQL execution identifier                                                                                                                                                                                                 |
| SQL_EXEC_START             | DATE          |      | Time when the execution of the SQL started                                                                                                                                                                               |
| PLSQL_ENTRY_OBJECT_ID      | NUMBER        |      | Object ID of the top-most PL/SQL subprogram on the stack (or NULL if there is no PL/SQL subprogram on the stack)                                                                                                         |
| PLSQL_ENTRY_SUBPROGRAM_ID  | NUMBER        |      | Subprogram ID of the top-most PL/SQL subprogram on the stack (or NULL if there is no PL/SQL subprogram on the stack)                                                                                                     |
| PLSQL_OBJECT_ID            | NUMBER        |      | Object ID of the currently executing PL/SQL subprogram (or NULL if executing SQL)                                                                                                                                        |
| PLSQL_SUBPROGRAM_ID        | NUMBER        |      | Subprogram ID of the currently executing PL/SQL object (or NULL if executing SQL)                                                                                                                                        |
| QC_INSTANCE_ID             | NUMBER        |      | Query coordinator instance ID                                                                                                                                                                                            |
| QC_SESSION_ID              | NUMBER        |      | Query coordinator session ID                                                                                                                                                                                             |
| QC_SESSION_SERIAL#         | NUMBER        |      | Query coordinator session serial number                                                                                                                                                                                  |
| PX_FLAGS                   | NUMBER        |      | Reserved for internal use                                                                                                                                                                                                |
| EVENT                      | VARCHAR2 (64) |      | If <code>SESSION_STATE</code> = <code>WAITING</code> , then the event for which the session was waiting at the time of sampling.<br>If <code>SESSION_STATE</code> = <code>ON CPU</code> , then this column will be NULL. |
| EVENT_ID                   | NUMBER        |      | Identifier of the resource or event for which the session is waiting or for which the session last waited                                                                                                                |
| SEQ#                       | NUMBER        |      | Sequence number that uniquely identifies the wait (incremented for each wait)                                                                                                                                            |
| P1TEXT                     | VARCHAR2 (64) |      | Text of first additional parameter                                                                                                                                                                                       |
| P1                         | NUMBER        |      | First additional parameter                                                                                                                                                                                               |
| P2TEXT                     | VARCHAR2 (64) |      | Text of second additional parameter                                                                                                                                                                                      |
| P2                         | NUMBER        |      | Second additional parameter                                                                                                                                                                                              |
| P3TEXT                     | VARCHAR2 (64) |      | Text of third additional parameter                                                                                                                                                                                       |
| P3                         | NUMBER        |      | Third additional parameter                                                                                                                                                                                               |

| Column                   | Datatype      | NULL | Description                                                                                                                                                                                                                                                |
|--------------------------|---------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WAIT_CLASS               | VARCHAR2 (64) |      | Wait class name of the event for which the session was waiting at the time of sampling. Interpretation is similar to that of the <code>EVENT</code> column. Maps to <code>V\$SESSION.WAIT_CLASS</code> .                                                   |
| WAIT_CLASS_ID            | NUMBER        |      | Wait class identifier of the event for which the session was waiting at the time of sampling. Interpretation is similar to that of the <code>EVENT</code> column. Maps to <code>V\$SESSION.WAIT_CLASS_ID</code> .                                          |
| WAIT_TIME                | NUMBER        |      | Total wait time (in microseconds) for the event for which the session last waited (0 if currently waiting)                                                                                                                                                 |
| SESSION_STATE            | VARCHAR2 (7)  |      | Session state: <ul style="list-style-type: none"> <li>• WAITING</li> <li>• ON CPU</li> </ul>                                                                                                                                                               |
| TIME_WAITED              | NUMBER        |      | Time that the current session actually spent waiting for the event (in microseconds). This column is set for waits that were in progress at the time the sample was taken.                                                                                 |
| BLOCKING_SESSION_STATUS  | VARCHAR2 (11) |      | Status of the blocking session: <ul style="list-style-type: none"> <li>• VALID</li> <li>• NO HOLDER</li> <li>• GLOBAL</li> <li>• NOT IN WAIT</li> <li>• UNKNOWN</li> </ul>                                                                                 |
| BLOCKING_SESSION         | NUMBER        |      | Session identifier of the blocking session. Populated only when the session was waiting for enqueues or a "buffer busy" wait. Maps to <code>V\$SESSION.BLOCKING_SESSION</code> .                                                                           |
| BLOCKING_SESSION_SERIAL# | NUMBER        |      | Serial number of the blocking session                                                                                                                                                                                                                      |
| BLOCKING_INST_ID         | NUMBER        |      | Instance number of the blocker shown in <code>BLOCKING_SESSION</code>                                                                                                                                                                                      |
| BLOCKING_HANGCHAIN_INFO  | VARCHAR2 (1)  |      | Indicates whether the information about <code>BLOCKING_SESSION</code> comes from the hang chain (Y) or not (N)                                                                                                                                             |
| CURRENT_OBJ#             | NUMBER        |      | Object ID of the object that the session is currently referencing. This information is only available if the session was waiting for Application, Cluster, Concurrency, and User I/O wait events. Maps to <code>V\$SESSION.ROW_WAIT_OBJ#</code> .          |
| CURRENT_FILE#            | NUMBER        |      | File number of the file containing the block that the session is currently referencing. This information is only available if the session was waiting for Cluster, Concurrency, and User I/O wait events. Maps to <code>V\$SESSION.ROW_WAIT_FILE#</code> . |
| CURRENT_BLOCK#           | NUMBER        |      | ID of the block that the session is currently referencing                                                                                                                                                                                                  |
| CURRENT_ROW#             | NUMBER        |      | Row identifier that the session is referencing                                                                                                                                                                                                             |
| TOP_LEVEL_CALL#          | NUMBER        |      | Oracle top level call number                                                                                                                                                                                                                               |
| TOP_LEVEL_CALL_NAME      | VARCHAR2 (64) |      | Oracle top level call name                                                                                                                                                                                                                                 |
| CONSUMER_GROUP_ID        | NUMBER        |      | Consumer group ID                                                                                                                                                                                                                                          |

| Column                   | Datatype     | NULL | Description                                                                                                                                                              |
|--------------------------|--------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| XID                      | RAW (8)      |      | Transaction ID that the session was working on at the time of sampling. V\$SESSION does not contain this information.                                                    |
| REMOTE_INSTANCE#         | NUMBER       |      | Remote instance identifier that will serve the block that this session is waiting for. This information is only available if the session was waiting for cluster events. |
| TIME_MODEL               | NUMBER       |      | Time model information                                                                                                                                                   |
| IN_CONNECTION_MGMT       | VARCHAR2 (1) |      | Indicates whether the session was doing connection management at the time of sampling (Y) or not (N)                                                                     |
| IN_PARSE                 | VARCHAR2 (1) |      | Indicates whether the session was parsing at the time of sampling (Y) or not (N)                                                                                         |
| IN_HARD_PARSE            | VARCHAR2 (1) |      | Indicates whether the session was hard parsing at the time of sampling (Y) or not (N)                                                                                    |
| IN_SQL_EXECUTION         | VARCHAR2 (1) |      | Indicates whether the session was executing SQL statements at the time of sampling (Y) or not (N)                                                                        |
| IN_PLSQL_EXECUTION       | VARCHAR2 (1) |      | Indicates whether the session was executing PL/SQL at the time of sampling (Y) or not (N)                                                                                |
| IN_PLSQL_RPC             | VARCHAR2 (1) |      | Indicates whether the session was executing inbound PL/SQL RPC calls at the time of sampling (Y) or not (N)                                                              |
| IN_PLSQL_COMPILATION     | VARCHAR2 (1) |      | Indicates whether the session was compiling PL/SQL at the time of sampling (Y) or not (N)                                                                                |
| IN_JAVA_EXECUTION        | VARCHAR2 (1) |      | Indicates whether the session was executing Java at the time of sampling (Y) or not (N)                                                                                  |
| IN_BIND                  | VARCHAR2 (1) |      | Indicates whether the session was doing bind operations at the time of sampling (Y) or not (N)                                                                           |
| IN_CURSOR_CLOSE          | VARCHAR2 (1) |      | Indicates whether the session was closing a cursor at the time of sampling (Y) or not (N)                                                                                |
| IN_SEQUENCE_LOAD         | VARCHAR2 (1) |      | Indicates whether the session is loading in sequence (in sequence load code) (Y) or not (N)                                                                              |
| IN_INMEMORY_QUERY        | VARCHAR2 (1) |      | Indicates whether the session was querying the In-Memory Column Store (IM column store) at the time of sampling (Y) or not (N)                                           |
| IN_INMEMORY_POPULATE     | VARCHAR2 (1) |      | Indicates whether the session was populating the IM column store at the time of sampling (Y) or not (N)                                                                  |
| IN_INMEMORY_PREPOPULATE  | VARCHAR2 (1) |      | Indicates whether the session was prepopulating the IM column store at the time of sampling (Y) or not (N)                                                               |
| IN_INMEMORY_REPOPULATE   | VARCHAR2 (1) |      | Indicates whether the session was repopulating the IM column store at the time of sampling (Y) or not (N)                                                                |
| IN_INMEMORY_TREPOPULATE  | VARCHAR2 (1) |      | Indicates whether the session was trickle repopulating the IM column store at the time of sampling (Y) or not (N)                                                        |
| IN_TABLESPACE_ENCRYPTION | VARCHAR2 (1) |      | Indicates whether encryption or decryption of a tablespace occurred at the time of sampling (Y) or not (N)                                                               |
| CAPTURE_OVERHEAD         | VARCHAR2 (1) |      | Indicates whether the session is executing capture code (Y) or not (N)                                                                                                   |
| REPLAY_OVERHEAD          | VARCHAR2 (1) |      | Indicates whether the session is executing replay code (Y) or not (N)                                                                                                    |

| Column                      | Datatype      | NULL | Description                                                                                                                                                             |
|-----------------------------|---------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IS_CAPTURED                 | VARCHAR2 (1)  |      | Indicates whether the session is being captured (Y) or not (N)                                                                                                          |
| IS_REPLAYED                 | VARCHAR2 (1)  |      | Indicates whether the session is being replayed (Y) or not (N)                                                                                                          |
| IS_REPLAY_SYNC_TOKEN_HOLDER | VARCHAR2 (1)  |      | Indicates whether the session is holding a synchronization token (Y) or not (N) during workload replay                                                                  |
| SPID                        | VARCHAR2 (24) |      | Operating system process identifier                                                                                                                                     |
| STID                        | VARCHAR2 (24) |      | Operating system thread identifier                                                                                                                                      |
| SERVICE_HASH                | NUMBER        |      | Hash that identifies the Service                                                                                                                                        |
| PROGRAM                     | VARCHAR2 (84) |      | Name of the operating system program                                                                                                                                    |
| MODULE                      | VARCHAR2 (64) |      | Name of the currently executing module as set by the DBMS_APPLICATION_INFO.SET_MODULE procedure                                                                         |
| ACTION                      | VARCHAR2 (64) |      | Name of the currently executing action as set by the DBMS_APPLICATION_INFO.SET_ACTION procedure                                                                         |
| CLIENT_ID                   | VARCHAR2 (64) |      | Client identifier of the session                                                                                                                                        |
| CLIENT_INFO                 | VARCHAR2 (64) |      | Client information for the session                                                                                                                                      |
| MACHINE                     | VARCHAR2 (64) |      | Client's operating system machine name                                                                                                                                  |
| PORT                        | NUMBER        |      | Client port number                                                                                                                                                      |
| ECID                        | VARCHAR2 (64) |      | Execution context identifier (sent by Application Server)                                                                                                               |
| DBREPLAY_FILE_ID            | NUMBER        |      | If the session is being captured or replayed, then DBREPLAY_FILE_ID is the file ID for the workload capture or workload replay; otherwise it is NULL.                   |
| DBREPLAY_CALL_COUNTER       | NUMBER        |      | If the session is being captured or replayed, then DBREPLAY_CALL_COUNTER is the call counter of the user call that is being captured or replayed; otherwise it is NULL. |
| TM_DELTA_TIME               | NUMBER        |      | Time interval (in microseconds) over which TM_DELTA_CPU_TIME and TM_DELTA_DB_TIME are accumulated                                                                       |
| TM_DELTA_CPU_TIME           | NUMBER        |      | Amount of time this session spent on CPU over the last TM_DELTA_TIME microseconds                                                                                       |
| TM_DELTA_DB_TIME            | NUMBER        |      | Amount of time spent by this session in database calls over the last TM_DELTA_TIME microseconds                                                                         |
| DELTA_TIME                  | NUMBER        |      | Time interval (in microseconds) since the last time this session was sampled or created, over which the next five statistics are accumulated                            |
| DELTA_READ_IO_REQUESTS      | NUMBER        |      | Number of read I/O requests made by this session over the last DELTA_TIME microseconds                                                                                  |
| DELTA_WRITE_IO_REQUESTS     | NUMBER        |      | Number of write I/O requests made by this session over the last DELTA_TIME microseconds                                                                                 |
| DELTA_READ_IO_BYTES         | NUMBER        |      | Number of I/O bytes read by this session over the last DELTA_TIME microseconds                                                                                          |
| DELTA_WRITE_IO_BYTES        | NUMBER        |      | Number of I/O bytes written by this session over the last DELTA_TIME microseconds                                                                                       |

| Column                      | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------|---------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DELTA_INTERCONNECT_IO_BYTES | NUMBER        |      | Number of I/O bytes sent over the I/O interconnect over the last <code>DELTA_TIME</code> microseconds                                                                                                                                                                                                                                                                                                                                                      |
| PGA_ALLOCATED               | NUMBER        |      | Amount of PGA memory (in bytes) consumed by this session at the time this sample was taken                                                                                                                                                                                                                                                                                                                                                                 |
| TEMP_SPACE_ALLOCATED        | NUMBER        |      | Amount of TEMP memory (in bytes) consumed by this session at the time this sample was taken                                                                                                                                                                                                                                                                                                                                                                |
| DBOP_NAME                   | VARCHAR2 (64) |      | Database operation name. If the type is SQL, the <code>DBOP_NAME</code> will be NULL.                                                                                                                                                                                                                                                                                                                                                                      |
| DBOP_EXEC_ID                | NUMBER        |      | Database operation execution identifier for the current execution. If the type is SQL, the <code>DBOP_EXEC_ID</code> will be NULL.                                                                                                                                                                                                                                                                                                                         |
| CON_DBID                    | NUMBER        |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID                      | NUMBER        |      | The ID of the container that <code>CON_DBID</code> identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

- ["DBA\\_HIST\\_ASH\\_SNAPSHOT"](#)
- ["DBA\\_HIST\\_SNAPSHOT"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_APPLICATION_INFO` package

## 5.385 DBA\_HIST\_APPLY\_SUMMARY

`DBA_HIST_APPLY_SUMMARY` displays historical statistics information about each apply process for Oracle GoldenGate, and Oracle XStream. This view is intended for use with Automatic Workload Repository (AWR).

| Column                         | Datatype       | NULL     | Description                                                                |
|--------------------------------|----------------|----------|----------------------------------------------------------------------------|
| SNAP_ID                        | NUMBER         | NOT NULL | Unique snapshot ID                                                         |
| DBID                           | NUMBER         | NOT NULL | Database ID for the snapshot                                               |
| INSTANCE_NUMBER                | NUMBER         | NOT NULL | Instance number for the snapshot                                           |
| APPLY_NAME                     | VARCHAR2 (128) | NOT NULL | Name of the apply process                                                  |
| STARTUP_TIME                   | DATE           | NOT NULL | The time that the apply process was last started                           |
| READER_TOTAL_MESSAGES_DEQUEUED | NUMBER         |          | Total number of messages dequeued since the apply process was last started |

| Column                        | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                            |
|-------------------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| READER_LAG                    | NUMBER         |          | For captured messages, the delay (in seconds) between the creation of the last message and it being received by the apply process. For user enqueued messages, the delay between the message being enqueued in the local database and being received by the apply process.                             |
| COORD_TOTAL_RECEIVED          | NUMBER         |          | Total number of transactions received by the coordinator process since the apply process was last started                                                                                                                                                                                              |
| COORD_TOTAL_APPLIED           | NUMBER         |          | Total number of transactions applied by the apply process since the apply process was last started                                                                                                                                                                                                     |
| COORD_TOTAL_ROLLBACKS         | NUMBER         |          | Number of transactions which were rolled back due to unexpected contention                                                                                                                                                                                                                             |
| COORD_TOTAL_WAIT_DEPS         | NUMBER         |          | Number of times since the apply process was last started that an apply server waited to apply a logical change record (LCR) in a transaction until another apply server applied a transaction because of a dependency between the transactions                                                         |
| COORD_TOTAL_WAIT_CMTS         | NUMBER         |          | Number of times since the apply process was last started that an apply server waited to commit a transaction until another apply server committed a transaction to serialize commits                                                                                                                   |
| COORD_LWM_LAG                 | NUMBER         |          | For captured messages, the delay (in seconds) between the creation of the message corresponding to the low watermark and it being applied by the apply process. For user enqueued messages, the delay between the message being enqueued in the local database and being applied by the apply process. |
| SERVER_TOTAL_MESSAGES_APPLIED | NUMBER         |          | Total number of messages applied by all the apply servers since the apply process was last started                                                                                                                                                                                                     |
| SERVER_ELAPSED_DEQUEUE_TIME   | NUMBER         |          | Time elapsed (in hundredths of a second) dequeuing messages by all the apply servers since the apply process was last started                                                                                                                                                                          |
| SERVER_ELAPSED_APPLY_TIME     | NUMBER         |          | Time elapsed (in hundredths of a second) applying messages by all the apply servers since the apply process was last started                                                                                                                                                                           |
| CON_DBID                      | NUMBER         |          | The database ID of the PDB                                                                                                                                                                                                                                                                             |
| REPLICAT_NAME                 | VARCHAR2 (128) |          | The name of the replicat group created from GGSCI using GoldenGate                                                                                                                                                                                                                                     |
| UNASSIGNED_COMPLETE_TXN       | NUMBER         |          | Total number of complete transactions that the coordinator has not assigned to any apply servers                                                                                                                                                                                                       |
| TOTAL_LCRS_RETRIED            | NUMBER         |          | Total number of LCRs retried by this server                                                                                                                                                                                                                                                            |
| TOTAL_TRANSACTIONS_RETRIED    | NUMBER         |          | Total transactions retried by this server                                                                                                                                                                                                                                                              |
| TOTAL_ERRORS                  | NUMBER         |          | Number of transactions applied by the apply process that resulted in an apply error since the apply process was last started                                                                                                                                                                           |
| SESSION_MODULE                | VARCHAR2 (64)  | NOT NULL | Session module. Valid values: <ul style="list-style-type: none"> <li>• XStream</li> <li>• GoldenGate</li> </ul>                                                                                                                                                                                        |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 5.386 DBA\_HIST\_ASH\_SNAPSHOT

DBA\_HIST\_ASH\_SNAPSHOT provides the list of snapshots that contains Active Session History (ASH) data.

This view differs from DBA\_HIST\_SNAPSHOT in that it provides snapshots which had errors flushing some Automatic Workload Repository (AWR) tables, but for which ASH data may be successfully flushed (DBA\_HIST\_SNAPSHOT filters out snapshots which had errors flushing AWR tables).

| Column              | Datatype                        | NULL     | Description                                                                                                                                                                                                                                                                                       |
|---------------------|---------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID             | NUMBER                          | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                |
| DBID                | NUMBER                          | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                      |
| INSTANCE_NUMBER     | NUMBER                          | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                  |
| STARTUP_TIME        | TIMESTAMP(3)                    | NOT NULL | Startup time of the instance                                                                                                                                                                                                                                                                      |
| BEGIN_INTERVAL_TIME | TIMESTAMP(3)                    | NOT NULL | Time at the beginning of the snapshot interval                                                                                                                                                                                                                                                    |
| END_INTERVAL_TIME   | TIMESTAMP(3)                    | NOT NULL | Time at the end of the snapshot interval; the actual time the snapshot was taken                                                                                                                                                                                                                  |
| FLUSH_ELAPSED       | INTERVAL DAY(5)<br>TO SECOND(1) |          | Amount of time to perform the snapshot                                                                                                                                                                                                                                                            |
| SNAP_LEVEL          | NUMBER                          |          | Snapshot level                                                                                                                                                                                                                                                                                    |
| STATUS              | NUMBER                          |          | <p>Indicates if the snapshot was successfully flushed without any errors. Possible values:</p> <ul style="list-style-type: none"> <li>0 - No errors</li> <li>1 - Errors on some AWR tables</li> </ul>                                                                                             |
| ERROR_COUNT         | NUMBER                          |          | Number of errors occurring in the tables for the particular snapshot                                                                                                                                                                                                                              |
| BL_MOVED            | NUMBER                          |          | Reserved for internal use                                                                                                                                                                                                                                                                         |
| SNAP_FLAG           | NUMBER                          |          | <p>Condition under which the snapshot was inserted. Possible values are:</p> <ul style="list-style-type: none"> <li>1 - Manual snapshot created using a PL/SQL package</li> <li>2 - Imported snapshot</li> <li>4 - Snapshot taken while Diagnostic Pack or Tuning Pack was not enabled</li> </ul> |
| SNAP_TIMEZONE       | INTERVAL DAY(0)<br>TO SECOND(0) |          | Snapshot time zone expressed as offset from UTC (Coordinated Universal Time) time zone                                                                                                                                                                                                            |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"DBA\_HIST\_SNAPSHOT"

## 5.387 DBA\_HIST\_BASELINE

DBA\_HIST\_BASELINE displays information on baselines taken in the system.

For each baseline, this view displays the complete time range and whether the baseline is the default baseline.

| Column             | Datatype      | NULL | Description                                                                                                                                                                                                                                                                       |
|--------------------|---------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID               | NUMBER        |      | Database ID                                                                                                                                                                                                                                                                       |
| BASELINE_ID        | NUMBER        |      | Internal ID for the baseline                                                                                                                                                                                                                                                      |
| BASELINE_NAME      | VARCHAR2 (64) |      | User-specified name for the baseline                                                                                                                                                                                                                                              |
| BASELINE_TYPE      | VARCHAR2 (13) |      | <p>The baseline type, as follows:</p> <p>STATIC - baselines that are created manually by the user</p> <p>MOVING WINDOW - baselines that have dynamic start and end snapshot IDs</p> <p>GENERATED - baselines that are automatically generated by the system, using a template</p> |
| START_SNAP_ID      | NUMBER        |      | Start snapshot ID for the baseline                                                                                                                                                                                                                                                |
| START_SNAP_TIME    | TIMESTAMP (3) |      | Time associated with the start snapshot ID                                                                                                                                                                                                                                        |
| END_SNAP_ID        | NUMBER        |      | End snapshot ID for the baseline                                                                                                                                                                                                                                                  |
| END_SNAP_TIME      | TIMESTAMP (3) |      | Time associated with the end snapshot ID                                                                                                                                                                                                                                          |
| MOVING_WINDOW_SIZE | NUMBER        |      | <p>If BASELINE_TYPE is MOVING WINDOW, this field is the size of the moving window in number of days.</p> <p>If NULL, then the window size is the value of the AWR retention setting.</p>                                                                                          |
| CREATION_TIME      | DATE          |      | Time the baseline was created                                                                                                                                                                                                                                                     |
| EXPIRATION         | NUMBER        |      | How long to keep the baseline, in number of days. A NULL value means that the baseline will be kept forever.                                                                                                                                                                      |
| TEMPLATE_NAME      | VARCHAR2 (64) |      | Name of the template that created this baseline, if any.                                                                                                                                                                                                                          |



| Column             | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------|----------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LAST_TIME_COMPUTED | DATE     |      | Last time that statistics were computed on the baseline.                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID             | NUMBER   |      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 5.388 DBA\_HIST\_BASELINE\_DETAILS

DBA\_HIST\_BASELINE\_DETAILS displays details about the baseline.

| Column             | Datatype      | NULL | Description                                                                                                                                                                                                                                                    |
|--------------------|---------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID               | NUMBER        |      | Database ID                                                                                                                                                                                                                                                    |
| INSTANCE_NUMBER    | NUMBER        |      | Instance ID for the baseline data                                                                                                                                                                                                                              |
| BASLINE_ID         | NUMBER        |      | Internal ID for the baseline                                                                                                                                                                                                                                   |
| BASLINE_NAME       | VARCHAR2 (64) |      | User-specified name for the baseline                                                                                                                                                                                                                           |
| BASLINE_TYPE       | VARCHAR2 (13) |      | The baseline type, as follows:<br>STATIC - baselines that are created manually by the user<br>MOVING WINDOW - baselines that have dynamic start and end snapshot IDs<br>GENERATED - baselines that are automatically generated by the system, using a template |
| START_SNAP_ID      | NUMBER        |      | Start snapshot ID for the baseline                                                                                                                                                                                                                             |
| START_SNAP_TIME    | TIMESTAMP (3) |      | Start snapshot time for the baseline                                                                                                                                                                                                                           |
| END_SNAP_ID        | NUMBER        |      | End snapshot ID for the baseline                                                                                                                                                                                                                               |
| END_SNAP_TIME      | TIMESTAMP (3) |      | End snapshot time for the baseline                                                                                                                                                                                                                             |
| SHUTDOWN           | VARCHAR2 (3)  |      | Whether or not there is a database startup or shutdown in this interval (YES, NO, or NULL).                                                                                                                                                                    |
| ERROR_COUNT        | NUMBER        |      | Number of errors in the snapshots in the baseline snapshot range                                                                                                                                                                                               |
| PCT_TOTAL_TIME     | NUMBER        |      | Amount of time captured in snapshots, divided by the total possible time for this baseline                                                                                                                                                                     |
| LAST_TIME_COMPUTED | DATE          |      | Last time that statistics were computed on the baseline                                                                                                                                                                                                        |
| MOVING_WINDOW_SIZE | NUMBER        |      | If BASELINE_TYPE is MOVING WINDOW, this field is the size of the moving window in number of days.<br>If NULL, then the window size is the value of the AWR retention setting.                                                                                  |
| CREATION_TIME      | DATE          |      | Time the baseline was created                                                                                                                                                                                                                                  |

| Column        | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|---------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EXPIRATION    | NUMBER        |      | How long to keep the baseline, in number of days. A value of NULL indicates that the baseline will be kept forever.                                                                                                                                                                                                                                                                                                                             |
| TEMPLATE_NAME | VARCHAR2 (64) |      | Name of the template that created this baseline, if any.                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID        | NUMBER        |      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 5.389 DBA\_HIST\_BASELINE\_METADATA

DBA\_HIST\_BASELINE\_METADATA displays metadata information for the baseline.

| Column             | Datatype      | NULL     | Description                                                                                                                                                                                                                                                    |
|--------------------|---------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID               | NUMBER        | NOT NULL | Database ID                                                                                                                                                                                                                                                    |
| BASLINE_ID         | NUMBER        | NOT NULL | Internal ID for the baseline                                                                                                                                                                                                                                   |
| BASLINE_NAME       | VARCHAR2 (64) |          | User-specified name for the baseline                                                                                                                                                                                                                           |
| BASLINE_TYPE       | VARCHAR2 (13) |          | The baseline type, as follows:<br>STATIC - baselines that are created manually by the user<br>MOVING WINDOW - baselines that have dynamic start and end snapshot IDs<br>GENERATED - baselines that are automatically generated by the system, using a template |
| START_SNAP_ID      | NUMBER        |          | Start snapshot ID for the baseline                                                                                                                                                                                                                             |
| END_SNAP_ID        | NUMBER        |          | End snapshot ID for the baseline                                                                                                                                                                                                                               |
| MOVING_WINDOW_SIZE | NUMBER        |          | If BASELINE_TYPE is MOVING WINDOW, this field is the size of the moving window in number of days.<br>If NULL, then the window size is the value of the AWR retention setting.                                                                                  |
| CREATION_TIME      | DATE          |          | Time the baseline was created                                                                                                                                                                                                                                  |
| EXPIRATION         | NUMBER        |          | How long to keep the baseline, in number of days. If the value is NULL, the baseline will be kept forever.                                                                                                                                                     |
| TEMPLATE_NAME      | VARCHAR2 (64) |          | Name of the template that created this baseline, if any                                                                                                                                                                                                        |
| LAST_TIME_COMPUTED | DATE          |          | Last time that statistics were computed on the baseline                                                                                                                                                                                                        |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 5.390 DBA\_HIST\_BASELINE\_TEMPLATE

DBA\_HIST\_BASELINE\_TEMPLATE displays the templates used by the system for baseline generation.

The system uses this information to determine which baselines should be automatically created or removed.

| Column              | Datatype       | NULL     | Description                                                                                                                                                                                                                                   |
|---------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID                | NUMBER         | NOT NULL | Database ID                                                                                                                                                                                                                                   |
| TEMPLATE_ID         | NUMBER         | NOT NULL | Internal ID for the template                                                                                                                                                                                                                  |
| TEMPLATE_NAME       | VARCHAR2 (128) | NOT NULL | Name of the template                                                                                                                                                                                                                          |
| TEMPLATE_TYPE       | VARCHAR2 (9)   | NOT NULL | <p>Type of the template, as follows:</p> <p>SINGLE - one time period</p> <p>REPEATING - maintain a time period</p>                                                                                                                            |
| BASLINE_NAME_PREFIX | VARCHAR2 (128) | NOT NULL | <p>Name to use for the baselines that are created:</p> <p>For a template type of SINGLE, the BASLINE_NAME_PREFIX is the name that will be used.</p> <p>For a template type of REPEATING, the BASLINE_NAME will be the prefix to the name.</p> |
| START_TIME          | DATE           | NOT NULL | <p>For a template type of SINGLE, this is the start time for future baselines</p> <p>For a template type of REPEATING, this is the effective start time that baselines should start being generated.</p>                                      |
| END_TIME            | DATE           | NOT NULL | <p>For a template type of SINGLE, this is the end time for future baselines.</p> <p>For a template type of REPEATING, this is the effective end time that baselines should stop being generated.</p>                                          |
| DAY_OF_WEEK         | VARCHAR2 (9)   |          | <p>For a template type of REPEATING, this indicates the day of the week to create the baseline: SUNDAY, MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY, SATURDAY, ALL.</p>                                                                      |
| HOURL_IN_DAY        | NUMBER         |          | <p>For a template type of REPEATING, a value from 0 - 23 to indicate the hour of the day to create the baseline for.</p>                                                                                                                      |
| DURATION            | NUMBER         |          | <p>For a template type of REPEATING, the length of time for the baseline to be created.</p>                                                                                                                                                   |
| EXPIRATION          | NUMBER         |          | How long to keep the baseline, in number of days                                                                                                                                                                                              |

| Column          | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REPEAT_INTERVAL | VARCHAR2 (128) |      | String that represents the time repeating information in the format used by the DBMS_SCHEDULER package                                                                                                                                                                                                                                                                                                                                      |
| LAST_GENERATED  | DATE           |      | Last time a baseline was generated for this template                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID          | NUMBER         |      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

*Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_SCHEDULER package

## 5.391 DBA\_HIST\_BG\_EVENT\_SUMMARY

DBA\_HIST\_BG\_EVENT\_SUMMARY displays the historical summary background event activity.

This view contains snapshots from V\$SESSION\_EVENT.

| Column            | Datatype      | NULL     | Description                                                 |
|-------------------|---------------|----------|-------------------------------------------------------------|
| SNAP_ID           | NUMBER        | NOT NULL | Unique snapshot ID                                          |
| DBID              | NUMBER        | NOT NULL | Database ID for the snapshot                                |
| INSTANCE_NUMBER   | NUMBER        | NOT NULL | Instance number for the snapshot                            |
| EVENT_ID          | NUMBER        | NOT NULL | Identifier of the wait event                                |
| EVENT_NAME        | VARCHAR2 (64) | NOT NULL | Name of the wait event                                      |
| WAIT_CLASS_ID     | NUMBER        |          | Identifier of the class of the wait event                   |
| WAIT_CLASS        | VARCHAR2 (64) |          | Name of the class of the wait event                         |
| TOTAL_WAITS       | NUMBER        |          | Total number of waits for the event                         |
| TOTAL_TIMEOUTS    | NUMBER        |          | Total number of timeouts for the event                      |
| TIME_WAITED_MICRO | NUMBER        |          | Total amount of time waited for the event (in microseconds) |
| CON_DBID          | NUMBER        |          | The database ID of the PDB for the sampled session          |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$SESSION\_EVENT"

## 5.392 DBA\_HIST\_BUFFER\_POOL\_STAT

DBA\_HIST\_BUFFER\_POOL\_STAT displays historical statistics about all buffer pools available for the instance.

This view contains snapshots of V\$BUFFER\_POOL\_STATISTICS.

| Column                  | Datatype      | NULL     | Description                               |
|-------------------------|---------------|----------|-------------------------------------------|
| SNAP_ID                 | NUMBER        | NOT NULL | Unique snapshot ID                        |
| DBID                    | NUMBER        | NOT NULL | Database ID for the snapshot              |
| INSTANCE_NUMBER         | NUMBER        | NOT NULL | Instance number for the snapshot          |
| ID                      | NUMBER        | NOT NULL | Buffer pool identifier number             |
| NAME                    | VARCHAR2 (20) |          | Name of the buffer pool                   |
| BLOCK_SIZE              | NUMBER        |          | Block Size                                |
| SET_MSIZE               | NUMBER        |          | Buffer pool maximum set size              |
| CNUM_REPL               | NUMBER        |          | Number of buffers on the replacement list |
| CNUM_WRITE              | NUMBER        |          | Number of buffers on the write list       |
| CNUM_SET                | NUMBER        |          | Number of buffers in the set              |
| BUF_GOT                 | NUMBER        |          | Number of buffers gotten by the set       |
| SUM_WRITE               | NUMBER        |          | Number of buffers written by the set      |
| SUM_SCAN                | NUMBER        |          | Number of buffers scanned in the set      |
| FREE_BUFFER_WAIT        | NUMBER        |          | Free buffer wait statistic                |
| WRITE_COMPLETE_WAIT     | NUMBER        |          | Write complete wait statistic             |
| BUFFER_BUSY_WAIT        | NUMBER        |          | Buffer busy wait statistic                |
| FREE_BUFFER_INSPECTED   | NUMBER        |          | Free buffer inspected statistic           |
| DIRTY_BUFFERS_INSPECTED | NUMBER        |          | Dirty buffers inspected statistic         |
| DB_BLOCK_CHANGE         | NUMBER        |          | Database blocks changed statistic         |
| DB_BLOCK_GETS           | NUMBER        |          | Database blocks gotten statistic          |

| Column          | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------|----------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CONSISTENT_GETS | NUMBER   |      | Consistent gets statistic                                                                                                                                                                                                                                                                                                                                                                                                                                |
| PHYSICAL_READS  | NUMBER   |      | Physical reads statistic                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PHYSICAL_WRITES | NUMBER   |      | Physical writes statistic                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_DBID        | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID          | NUMBER   |      | <p>The ID of the container that CON_DBID identifies.<br/>Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$BUFFER\_POOL\_STATISTICS"

## 5.393 DBA\_HIST\_BUFFERED\_QUEUES

DBA\_HIST\_BUFFERED\_QUEUES displays historical information about all buffered queues available for the instance.

| Column          | Datatype       | NULL     | Description                                                                                                                                              |
|-----------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER         | NOT NULL | Unique snapshot ID                                                                                                                                       |
| DBID            | NUMBER         | NOT NULL | Database ID for the snapshot                                                                                                                             |
| INSTANCE_NUMBER | NUMBER         | NOT NULL | Instance number for the snapshot                                                                                                                         |
| QUEUE_SCHEMA    | VARCHAR2 (128) | NOT NULL | Owner of the queue                                                                                                                                       |
| QUEUE_NAME      | VARCHAR2 (128) | NOT NULL | Name of the queue                                                                                                                                        |
| STARTUP_TIME    | DATE           | NOT NULL | Startup time of the instance                                                                                                                             |
| QUEUE_ID        | NUMBER         | NOT NULL | ID of the queue                                                                                                                                          |
| NUM_MSGS        | NUMBER         |          | Total number of outstanding messages currently enqueued in the buffered queue for the subscriber (includes the count of the messages overflowed to disk) |
| SPILL_MSGS      | NUMBER         |          | Current number of overflow messages spilled to disk from the buffered queue                                                                              |
| CNUM_MSGS       | NUMBER         |          | Cumulative total number of messages enqueued into the buffered queue since the buffered queue was created.                                               |
| CSPILL_MSGS     | NUMBER         |          | Cumulative total number of overflow messages spilled to disk from the buffered queue since the buffered queue was created                                |
| EXPIRED_MSGS    | NUMBER         |          | Number of expired messages                                                                                                                               |

| Column                       | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------|---------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OLDEST_MSGID                 | RAW (16)      |      | Message ID of the oldest message                                                                                                                                                                                                                                                                                                                                                                                                              |
| OLDEST_MSG_ENQTM             | TIMESTAMP (3) |      | Enqueue time of the oldest message                                                                                                                                                                                                                                                                                                                                                                                                            |
| QUEUE_STATE                  | VARCHAR2 (25) |      | Indicates whether the queue is in recovery mode (QUEUE IS IN RECOVERY MODE) or not (NORMAL)                                                                                                                                                                                                                                                                                                                                                   |
| ELAPSED_ENQUEUE_TIME         | NUMBER        |      | Total time spent in enqueue (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                       |
| ELAPSED_DEQUEUE_TIME         | NUMBER        |      | Total time spent in dequeue (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                       |
| ELAPSED_TRANSFORMATION_TIME  | NUMBER        |      | Total time for evaluating transformations (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                         |
| ELAPSED_RULE_EVALUATION_TIME | NUMBER        |      | Total time for rule evaluations (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                   |
| ENQUEUE_CPU_TIME             | NUMBER        |      | Total CPU time for enqueue (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                        |
| DEQUEUE_CPU_TIME             | NUMBER        |      | Total CPU time for dequeue (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                        |
| LAST_ENQUEUE_TIME            | TIMESTAMP (3) |      | Last message enqueue time                                                                                                                                                                                                                                                                                                                                                                                                                     |
| LAST_DEQUEUE_TIME            | TIMESTAMP (3) |      | Last message dequeue time                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_DBID                     | NUMBER        |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID                       | NUMBER        |      | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 5.394 DBA\_HIST\_BUFFERED\_SUBSCRIBERS

DBA\_HIST\_BUFFERED\_SUBSCRIBERS displays historical information about the subscribers for all buffered queues in the instance.

| Column             | Datatype        | NULL     | Description                                     |
|--------------------|-----------------|----------|-------------------------------------------------|
| SNAP_ID            | NUMBER          | NOT NULL | Unique snapshot ID                              |
| DBID               | NUMBER          | NOT NULL | Database ID for the snapshot                    |
| INSTANCE_NUMBER    | NUMBER          | NOT NULL | Instance number for the snapshot                |
| QUEUE_SCHEMA       | VARCHAR2 (128)  | NOT NULL | Owner of the queue                              |
| QUEUE_NAME         | VARCHAR2 (128)  | NOT NULL | Name of the queue                               |
| SUBSCRIBER_ID      | NUMBER          | NOT NULL | Internal subscriber number (for identification) |
| SUBSCRIBER_NAME    | VARCHAR2 (128)  |          | Name of the subscriber                          |
| SUBSCRIBER_ADDRESS | VARCHAR2 (1024) |          | Address of the subscribing agent                |

| Column               | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SUBSCRIBER_TYPE      | VARCHAR2 (128) |          | Type of subscriber: <ul style="list-style-type: none"> <li>• PROXY - Proxy subscriber</li> <li>• SUBSCRIBOR</li> </ul>                                                                                                                                                                                                                                                                                                                              |
| STARTUP_TIME         | DATE           | NOT NULL | Startup time of the instance                                                                                                                                                                                                                                                                                                                                                                                                                        |
| LAST_BROWSED_SEQ     | NUMBER         |          | Sequence number of the most recently browsed message for the subscriber (comparable to the number of messages in the V\$STREAMS_APPLY_READER view)                                                                                                                                                                                                                                                                                                  |
| LAST_BROWSED_NUM     | NUMBER         |          | Internal Message number for the most recently browsed message for the subscriber                                                                                                                                                                                                                                                                                                                                                                    |
| LAST_DEQUEUED_SEQ    | NUMBER         |          | Sequence number of the most recently dequeued message for the subscriber (comparable to the number of messages in the V\$STREAMS_APPLY_COORDINATOR view)                                                                                                                                                                                                                                                                                            |
| LAST_DEQUEUED_NUM    | NUMBER         |          | Internal Message number for the most recently dequeued message for the subscriber                                                                                                                                                                                                                                                                                                                                                                   |
| CURRENT_ENQ_SEQ      | NUMBER         |          | Current sequence number of the most recently enqueued message for the subscriber                                                                                                                                                                                                                                                                                                                                                                    |
| NUM_MSGS             | NUMBER         |          | Total number of outstanding messages currently enqueued in the buffered queue for the subscriber (includes the count of the messages overflowed to disk)                                                                                                                                                                                                                                                                                            |
| CNUM_MSGS            | NUMBER         |          | Cumulative total number of messages enqueued for the subscriber since the creation of the buffered queue                                                                                                                                                                                                                                                                                                                                            |
| TOTAL_DEQUEUED_MSG   | NUMBER         |          | Total number of messages dequeued by the subscriber                                                                                                                                                                                                                                                                                                                                                                                                 |
| TOTAL_SPILLED_MSG    | NUMBER         |          | Total number of spilled messages for the subscriber                                                                                                                                                                                                                                                                                                                                                                                                 |
| EXPIRED_MSGS         | NUMBER         |          | Number of expired messages                                                                                                                                                                                                                                                                                                                                                                                                                          |
| MESSAGE_LAG          | NUMBER         |          | Message lag of the subscriber                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ELAPSED_DEQUEUE_TIME | NUMBER         |          | Total time spent in dequeue (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                             |
| DEQUEUE_CPU_TIME     | NUMBER         |          | Total CPU time for dequeue (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                              |
| LAST_DEQUEUE_TIME    | TIMESTAMP (3)  |          | Last message dequeue time                                                                                                                                                                                                                                                                                                                                                                                                                           |
| OLDEST_MSGID         | RAW (16)       |          | Message ID of the oldest message                                                                                                                                                                                                                                                                                                                                                                                                                    |
| OLDEST_MSG_ENQTM     | TIMESTAMP (3)  |          | Enqueue time of the oldest message                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_DBID             | NUMBER         |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID               | NUMBER         |          | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



## 5.395 DBA\_HIST\_CAPTURE

DBA\_HIST\_CAPTURE displays historical statistics information about each capture process for Oracle GoldenGate, and XStream capture operations.

This view is intended for use with Automatic Workload Repository (AWR).

| Column                  | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID                 | NUMBER         | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DBID                    | NUMBER         | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                          |
| INSTANCE_NUMBER         | NUMBER         | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CAPTURE_NAME            | VARCHAR2 (128) | NOT NULL | Name of the capture process                                                                                                                                                                                                                                                                                                                                                                                                                           |
| STARTUP_TIME            | DATE           | NOT NULL | Time that the capture process was last started                                                                                                                                                                                                                                                                                                                                                                                                        |
| LAG                     | NUMBER         |          | Delay (in seconds) between the creation and capture of the most recently captured message                                                                                                                                                                                                                                                                                                                                                             |
| TOTAL_MESSAGES_CAPTURED | NUMBER         |          | Total changes captured since the capture process was last started                                                                                                                                                                                                                                                                                                                                                                                     |
| TOTAL_MESSAGES_ENQUEUED | NUMBER         |          | Total number of messages enqueued since the capture process was last started                                                                                                                                                                                                                                                                                                                                                                          |
| ELAPSED_RULE_TIME       | NUMBER         |          | Elapsed time (in hundredths of a second) evaluating rules since the capture process was last started                                                                                                                                                                                                                                                                                                                                                  |
| ELAPSED_ENQUEUE_TIME    | NUMBER         |          | Elapsed time (in hundredths of a second) enqueueing messages since the capture process was last started                                                                                                                                                                                                                                                                                                                                               |
| ELAPSED_REDO_WAIT_TIME  | NUMBER         |          | Elapsed time (in hundredths of a second) spent by the capture process in the WAITING FOR REDO state since the capture process was last started.                                                                                                                                                                                                                                                                                                       |
| ELAPSED_PAUSE_TIME      | NUMBER         |          | Elapsed pause time (in hundredths of a second) spent by the capture process since the capture process was last restarted                                                                                                                                                                                                                                                                                                                              |
| CON_DBID                | NUMBER         |          | The database ID of the PDB                                                                                                                                                                                                                                                                                                                                                                                                                            |
| EXTRACT_NAME            | VARCHAR2 (128) |          | Name of the extract process, if applicable                                                                                                                                                                                                                                                                                                                                                                                                            |
| BYTES_REDO_MINED        | NUMBER         |          | The total amount of redo data mined (in bytes) since the capture process last started                                                                                                                                                                                                                                                                                                                                                                 |
| BYTES_SENT              | NUMBER         |          | Total number of bytes sent by the capture process to the extract process since the last time the extract process attached to the capture process                                                                                                                                                                                                                                                                                                      |
| SESSION_MODULE          | VARCHAR2 (64)  | NOT NULL | Session module. Valid values: <ul style="list-style-type: none"> <li>• XStream</li> <li>• GoldenGate</li> </ul>                                                                                                                                                                                                                                                                                                                                       |
| CON_ID                  | NUMBER         |          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 5.396 DBA\_HIST\_CHANNEL\_WAITS

DBA\_HIST\_CHANNEL\_WAITS display the amount of messages broadcast on KSR and KSXR channels as well as the total time taken for the broadcast to complete.

KSR channels are local to an instance, that is, only processes within an instance subscribed to the channel can receive the message. KSXR channels allow messages to be broadcast across instances. The messages broadcast and the total time to broadcast are cumulative from the start of the instance. Channels with high overall average wait times could indicate potential problems with a subscriber on that channel which can lead to poor scaled performance.

| Column             | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------|---------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID            | NUMBER        |      | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                            |
| DBID               | NUMBER        |      | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                  |
| INSTANCE_NUMBER    | NUMBER        |      | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                              |
| CHANNEL            | VARCHAR2 (64) |      | The name of the KSR or KSXR channel                                                                                                                                                                                                                                                                                                                                                                                                           |
| MESSAGES_PUBLISHED | NUMBER        |      | The cumulative count of messages published on the channel (from instance startup)                                                                                                                                                                                                                                                                                                                                                             |
| WAIT_COUNT         | NUMBER        |      | The total number of times a publisher has waited for a broadcast to complete. This metric is only pertinent for asynchronous broadcasts where the broadcast can be dispatched and publisher can wait for completion at a later point of time. A high wait count along with increased wait time can indicate a potential performance bottleneck.                                                                                               |
| WAIT_TIME_USEC     | NUMBER        |      | The cumulative amount of time in microseconds that publishers have waited for message broadcast to complete. Average time for broadcast on a channel can be computed by dividing WAIT_TIME_USEC by WAIT_COUNT. A high average time can indicate a potential performance bottleneck.                                                                                                                                                           |
| CON_DBID           | NUMBER        |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID             | NUMBER        |      | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 5.397 DBA\_HIST\_CLUSTER\_INTERCON

DBA\_HIST\_CLUSTER\_INTERCON displays information about the devices used by the instance to access the interconnect (that is, communicate with other instances).

| Column  | Datatype | NULL     | Description                  |
|---------|----------|----------|------------------------------|
| SNAP_ID | NUMBER   | NOT NULL | Unique snapshot ID           |
| DBID    | NUMBER   | NOT NULL | Database ID for the snapshot |

| Column          | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INSTANCE_NUMBER | NUMBER         | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                       |
| NAME            | VARCHAR2 (256) | NOT NULL | Operating system name of the device                                                                                                                                                                                                                                                                                                                                                                                                                    |
| IP_ADDRESS      | VARCHAR2 (64)  | NOT NULL | IP address of the device                                                                                                                                                                                                                                                                                                                                                                                                                               |
| IS_PUBLIC       | VARCHAR2 (3)   |          | Indicates whether the device is a public interface (YES) or a private interface (NO)<br><br>Public interfaces can be listened to by outside applications, which may be a security problem. Oracle recommends using private interfaces for interconnect.                                                                                                                                                                                                |
| SOURCE          | VARCHAR2 (31)  |          | Describes the type of device                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_DBID        | NUMBER         |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID          | NUMBER         |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 5.398 DBA\_HIST\_COLORED\_SQL

DBA\_HIST\_COLORED\_SQL displays the SQL IDs that have been marked for AWR SQL capture.

If a SQL statement is colored using the DBMS\_WORKLOAD\_REPOSITORY.ADD\_COLORED\_SQL procedure, then AWR will always capture the SQL statistics for the colored SQL ID. A SQL statement can be removed from coloring using the DBMS\_WORKLOAD\_REPOSITORY.REMOVE\_COLORED\_SQL procedure.

| Column      | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------|---------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID        | NUMBER        | NOT NULL | Database ID                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SQL_ID      | VARCHAR2 (13) | NOT NULL | SQL ID of colored SQL statement                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CREATE_TIME | DATE          | NOT NULL | Time the SQL ID was colored                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID      | NUMBER        |          | The ID of the container to which the data pertains.<br>Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**

*Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_WORKLOAD_REPOSITORY` package.

## 5.399 DBA\_HIST\_COMP\_IOSTAT

`DBA_HIST_COMP_IOSTAT` displays information about I/O statistics aggregated on the component level.

| Column                       | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------|---------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>SNAP_ID</code>         | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <code>DBID</code>            | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <code>INSTANCE_NUMBER</code> | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <code>COMPONENT</code>       | VARCHAR2 (64) | NOT NULL | Component name                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <code>FILE_TYPE</code>       | VARCHAR2 (64) | NOT NULL | File type                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <code>IO_TYPE</code>         | CHAR (5)      | NOT NULL | The type of I/O performed                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <code>OPERATION</code>       | CHAR (5)      | NOT NULL | Operation name                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <code>BYTES</code>           | NUMBER        | NOT NULL | Number of bytes                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <code>IO_COUNT</code>        | NUMBER        | NOT NULL | Number of I/Os that were performed                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <code>CON_DBID</code>        | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                            |
| <code>CON_ID</code>          | NUMBER        |          | The ID of the container that <code>CON_DBID</code> identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 5.400 DBA\_HIST\_CON\_SYS\_TIME\_MODEL

`DBA_HIST_CON_SYS_TIME_MODEL` displays historical system time model statistics, including OLAP timed statistics. This view contains snapshots of `V$SYS_TIME_MODEL`.

| Column                       | Datatype      | NULL | Description                                        |
|------------------------------|---------------|------|----------------------------------------------------|
| <code>SNAP_ID</code>         | NUMBER        |      | Unique snapshot ID                                 |
| <code>DBID</code>            | NUMBER        |      | Database ID for the snapshot                       |
| <code>INSTANCE_NUMBER</code> | NUMBER        |      | Instance number for the snapshot                   |
| <code>STAT_ID</code>         | NUMBER        |      | Statistic ID                                       |
| <code>STAT_NAME</code>       | VARCHAR2 (64) |      | Statistic name                                     |
| <code>VALUE</code>           | NUMBER        |      | Statistic value                                    |
| <code>CON_DBID</code>        | NUMBER        |      | The database ID of the PDB for the sampled session |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------|----------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>When queried from a non-CDB, the statistics for that instance are returned, and the CON_ID value is 0.</li> <li>When queried from the root of a CDB, the statistics in every container are returned, and the CON_ID value indicates the container to which the statistics belong.</li> <li>When queried from a PDB, statistics from that PDB are returned, and the CON_ID value is the container ID for that PDB.</li> </ul> |



#### See Also:

- ["V\\$CON\\_SYSMETRIC"](#)
- ["DBA\\_HIST\\_SYS\\_TIME\\_MODEL"](#)
- ["V\\$SYS\\_TIME\\_MODEL"](#)

## 5.401 DBA\_HIST\_CON\_SYSMETRIC\_HIST

DBA\_HIST\_CON\_SYSMETRIC\_HIST externalizes all available history of the system metric values for the entire set of data kept in the database. This view contains snapshots of V\$CON\_SYSMETRIC\_HISTORY.



#### Note:

This view is not populated and is reserved for future use.

| Column          | Datatype      | NULL | Description                               |
|-----------------|---------------|------|-------------------------------------------|
| SNAP_ID         | NUMBER        |      | Unique snapshot ID                        |
| DBID            | NUMBER        |      | Database ID for the snapshot              |
| INSTANCE_NUMBER | NUMBER        |      | Instance number for the snapshot          |
| BEGIN_TIME      | DATE          |      | Begin time of the interval                |
| END_TIME        | DATE          |      | End time of the interval                  |
| INTSIZE         | NUMBER        |      | Interval size (in hundredths of a second) |
| GROUP_ID        | NUMBER        |      | Group ID                                  |
| METRIC_ID       | NUMBER        |      | Metric ID                                 |
| METRIC_NAME     | VARCHAR2 (64) |      | Metric name                               |
| VALUE           | NUMBER        |      | Metric value                              |
| METRIC_UNIT     | VARCHAR2 (64) |      | Unit of measurement                       |

| Column   | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------|----------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_DBID | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID   | NUMBER   |      | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>When queried from a non-CDB, the statistics for that instance are returned, and the CON_ID value is 0.</li> <li>When queried from the root of a CDB, the statistics in every container are returned, and the CON_ID value indicates the container to which the statistics belong.</li> <li>When queried from a PDB, statistics from that PDB are returned, and the CON_ID value is the container ID for that PDB.</li> </ul> |



#### See Also:

- "V\$CON\_SYSMETRIC\_HISTORY"
- "DBA\_HIST\_SYSMETRIC\_HISTORY"

## 5.402 DBA\_HIST\_CON\_SYSMETRIC\_SUMM

DBA\_HIST\_CON\_SYSMETRIC\_SUMM displays a history of statistical summary of all metric values in the system metrics long duration (60-second) group. This view contains snapshots of V\$CON\_SYSMETRIC\_SUMMARY.

| Column             | Datatype      | NULL | Description                                 |
|--------------------|---------------|------|---------------------------------------------|
| SNAP_ID            | NUMBER        |      | Unique snapshot ID                          |
| DBID               | NUMBER        |      | Database ID for the snapshot                |
| INSTANCE_NUMBER    | NUMBER        |      | Instance number for the snapshot            |
| BEGIN_TIME         | DATE          |      | Begin time of the interval                  |
| END_TIME           | DATE          |      | End time of the interval                    |
| INTSIZE            | NUMBER        |      | Interval size (in hundredths of a second)   |
| GROUP_ID           | NUMBER        |      | Group ID                                    |
| METRIC_ID          | NUMBER        |      | Metric ID                                   |
| METRIC_NAME        | VARCHAR2 (64) |      | Metric name                                 |
| METRIC_UNIT        | VARCHAR2 (64) |      | Unit of measurement                         |
| NUM_INTERVAL       | NUMBER        |      | Number of intervals observed                |
| MINVAL             | NUMBER        |      | Minimum value observed                      |
| MAXVAL             | NUMBER        |      | Maximum value observed                      |
| AVERAGE            | NUMBER        |      | Average over the period                     |
| STANDARD_DEVIATION | NUMBER        |      | One standard deviation                      |
| SUM_SQUARES        | NUMBER        |      | Sum of the squared deviations from the mean |

| Column   | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------|----------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_DBID | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID   | NUMBER   |      | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>When queried from a non-CDB, the statistics for that instance are returned, and the CON_ID value is 0.</li> <li>When queried from the root of a CDB, the statistics in every container are returned, and the CON_ID value indicates the container to which the statistics belong.</li> <li>When queried from a PDB, statistics from that PDB are returned, and the CON_ID value is the container ID for that PDB.</li> </ul> |

**Note:**

- "V\$CON\_SYSMETRIC\_SUMMARY"
- "DBA\_HIST\_SYSMETRIC\_SUMMARY"

## 5.403 DBA\_HIST\_CON\_SYSSTAT

DBA\_HIST\_CON\_SYSSTAT displays historical system statistics information, including OLAP kernel statistics. This view contains snapshots of V\$CON\_SYSSTAT.

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------|---------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DBID            | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| STAT_ID         | NUMBER        | NOT NULL | Statistic identifier                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| STAT_NAME       | VARCHAR2 (64) | NOT NULL | Statistic name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| VALUE           | NUMBER        |          | Statistic value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_DBID        | NUMBER        | NOT NULL | The database ID for the PDB of the sampled session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID          | NUMBER        | NOT NULL | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>When queried from a non-CDB, the statistics for that instance are returned, and the CON_ID value is 0.</li> <li>When queried from the root of a CDB, the statistics in every container are returned, and the CON_ID value indicates the container to which the statistics belong.</li> <li>When queried from a PDB, statistics from that PDB are returned, and the CON_ID value is the container ID for that PDB.</li> </ul> |

**See Also:**

- "V\$CON\_SYSSTAT"
- "DBA\_HIST\_SYSSTAT"

## 5.404 DBA\_HIST\_CON\_SYSTEM\_EVENT

DBA\_HIST\_CON\_SYSTEM\_EVENT displays historical information on total waits for an event in a container. This view contains snapshots of V\$CON\_SYSTEM\_EVENT.

| Column               | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID              | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DBID                 | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                           |
| INSTANCE_NUMBER      | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                       |
| EVENT_ID             | NUMBER        | NOT NULL | Identifier of the wait event                                                                                                                                                                                                                                                                                                                                                                                                                           |
| EVENT_NAME           | VARCHAR2 (64) | NOT NULL | Name of the wait event                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| WAIT_CLASS_ID        | NUMBER        |          | Identifier of the Class of the Wait Event                                                                                                                                                                                                                                                                                                                                                                                                              |
| WAIT_CLASS           | VARCHAR2 (64) |          | Name of the Class of the Wait Event                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TOTAL_WAITS          | NUMBER        |          | Total number of waits for the event                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TOTAL_TIMEOUTS       | NUMBER        |          | Total number of timeouts for the event                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TIME_WAITED_MICRO    | NUMBER        |          | Total amount of time waited for the event (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                            |
| TOTAL_WAITS_FG       | NUMBER        |          | Total number of waits for the event, from foreground sessions                                                                                                                                                                                                                                                                                                                                                                                          |
| TOTAL_TIMEOUTS_FG    | NUMBER        |          | Total number of timeouts for the event, from foreground sessions                                                                                                                                                                                                                                                                                                                                                                                       |
| TIME_WAITED_MICRO_FG | NUMBER        |          | Amount of time waited for the event (in microseconds), from foreground sessions                                                                                                                                                                                                                                                                                                                                                                        |
| CON_DBID             | NUMBER        | NOT NULL | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID               | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**

- "V\$CON\_SYSTEM\_EVENT"



## 5.405 DBA\_HIST\_CR\_BLOCK\_SERVER

DBA\_HIST\_CR\_BLOCK\_SERVER displays historical statistics on the Global Cache Service processes (LMS) used in cache fusion.

This view contains snapshots of V\$CR\_BLOCK\_SERVER.

| Column                 | Datatype | NULL     | Description                                                                                                                                                               |
|------------------------|----------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID                | NUMBER   | NOT NULL | Unique snapshot ID                                                                                                                                                        |
| DBID                   | NUMBER   | NOT NULL | Database ID for the snapshot                                                                                                                                              |
| INSTANCE_NUMBER        | NUMBER   | NOT NULL | Instance number for the snapshot                                                                                                                                          |
| CR_REQUESTS            | NUMBER   |          | Number of CR blocks served due to remote CR block requests                                                                                                                |
| CURRENT_REQUESTS       | NUMBER   |          | Number of current blocks served due to remote CR block requests<br><br>CR_REQUESTS + CURRENT_REQUESTS = global cache CR blocks served (from V\$SYSSTAT).                  |
| DATA_REQUESTS          | NUMBER   |          | Number of current or CR requests for data blocks                                                                                                                          |
| UNDO_REQUESTS          | NUMBER   |          | Number of CR requests for undo blocks                                                                                                                                     |
| TX_REQUESTS            | NUMBER   |          | Number of CR requests for undo segment header blocks<br><br>DATA_REQUESTS + UNDO_REQUESTS + TX_REQUESTS = total number of requests handled by the LMS processes           |
| CURRENT_RESULTS        | NUMBER   |          | Number of requests for which no changes were rolled out of the block returned to the requesting instance                                                                  |
| PRIVATE_RESULTS        | NUMBER   |          | Number of requests for which changes were rolled out of the block returned to the requesting instance, and only the requesting transaction can use the resulting CR block |
| ZERO_RESULTS           | NUMBER   |          | Number of requests for which changes were rolled out of the block returned to the requesting instance. Only zero-XID transactions can use the block.                      |
| DISK_READ_RESULTS      | NUMBER   |          | Number of requests for which the requesting instance had to read the requested block from disk                                                                            |
| FAIL_RESULTS           | NUMBER   |          | Number of requests that failed; the requesting transaction must reissue the request                                                                                       |
| FAIRNESS_DOWN_CONVERTS | NUMBER   |          | Number of times an instance receiving a request has down-converted an X lock on a block because it was not modifying the block                                            |
| FLUSHES                | NUMBER   |          | Number of times the log has been flushed by an LMS process                                                                                                                |
| FLUSHES                | NUMBER   |          | Number of times the log has been flushed by an LMS process                                                                                                                |
| BUILDS                 | NUMBER   |          | Number of requests for which the server had to fabricate a CR block                                                                                                       |

| Column      | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------|----------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LIGHT_WORKS | NUMBER   |      | Number of times the light-work rule was evoked. This rule prevents the LMS processes from going to disk while responding to CR requests for data, undo, or undo segment header blocks. This rule can prevent the LMS process from completing its response to the CR request.                                                                                                                                                                  |
| ERRORS      | NUMBER   |      | Number of times an error was signalled by an LMS process                                                                                                                                                                                                                                                                                                                                                                                      |
| CON_DBID    | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID      | NUMBER   |      | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$CR\_BLOCK\_SERVER"

## 5.406 DBA\_HIST\_CURRENT\_BLOCK\_SERVER

DBA\_HIST\_CURRENT\_BLOCK\_SERVER displays historical statistics on the Global Cache Service processes (LMS) used in cache fusion.

This view contains snapshots of V\$CURRENT\_BLOCK\_SERVER.

| Column          | Datatype | NULL     | Description                                      |
|-----------------|----------|----------|--------------------------------------------------|
| SNAP_ID         | NUMBER   | NOT NULL | Unique snapshot ID                               |
| DBID            | NUMBER   | NOT NULL | Database ID for the snapshot                     |
| INSTANCE_NUMBER | NUMBER   | NOT NULL | Instance number for the snapshot                 |
| PIN0            | NUMBER   |          | Pins taking less than 100 microseconds           |
| PIN1            | NUMBER   |          | Pins taking 100 microseconds to 1 millisecond    |
| PIN10           | NUMBER   |          | Pins taking 1 to 10 milliseconds                 |
| PIN100          | NUMBER   |          | Pins taking 10 to 100 milliseconds               |
| PIN1000         | NUMBER   |          | Pins taking 100 to 1000 milliseconds             |
| PIN10000        | NUMBER   |          | Pins taking 1000 to 10000 milliseconds           |
| PINOVER         | NUMBER   |          | Pins taking more than 10000 milliseconds         |
| FLUSH0          | NUMBER   |          | Flushes taking less than 100 microseconds        |
| FLUSH1          | NUMBER   |          | Flushes taking 100 microseconds to 1 millisecond |
| FLUSH10         | NUMBER   |          | Flushes taking 1 to 10 milliseconds              |

| Column     | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FLUSH100   | NUMBER   |      | Flushes taking 10 to 100 milliseconds                                                                                                                                                                                                                                                                                                                                                                                                            |
| FLUSH1000  | NUMBER   |      | Flushes taking 100 to 1000 milliseconds                                                                                                                                                                                                                                                                                                                                                                                                          |
| FLUSH10000 | NUMBER   |      | Flushes taking 1000 to 10000 milliseconds                                                                                                                                                                                                                                                                                                                                                                                                        |
| FLUSHOVER  | NUMBER   |      | Flushes taking more than 10000 milliseconds                                                                                                                                                                                                                                                                                                                                                                                                      |
| CON_DBID   | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID     | NUMBER   |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$CURRENT\_BLOCK\_SERVER"

## 5.407 DBA\_HIST\_DATABASE\_INSTANCE

DBA\_HIST\_DATABASE\_INSTANCE displays the databases and instances in the Workload Repository.

| Column             | Datatype       | NULL     | Description                                                                                                                                  |
|--------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------|
| DBID               | NUMBER         | NOT NULL | Database ID                                                                                                                                  |
| INSTANCE_NUMBER    | NUMBER         | NOT NULL | Instance number                                                                                                                              |
| STARTUP_TIME       | TIMESTAMP (3)  | NOT NULL | Startup time of the instance                                                                                                                 |
| PARALLEL           | VARCHAR2 (3)   | NOT NULL | Indicates whether the instance is running in an Oracle Real Application Clusters (Oracle RAC) environment (YES) or not (NO)                  |
| VERSION            | VARCHAR2 (17)  | NOT NULL | Database version                                                                                                                             |
| DB_NAME            | VARCHAR2 (9)   |          | Name of the database                                                                                                                         |
| INSTANCE_NAME      | VARCHAR2 (16)  |          | Name of the instance                                                                                                                         |
| HOST_NAME          | VARCHAR2 (64)  |          | Name of the host                                                                                                                             |
| LAST_ASH_SAMPLE_ID | NUMBER         | NOT NULL | Last sample ID for the active session history                                                                                                |
| PLATFORM_NAME      | VARCHAR2 (101) |          | Platform on which the instance is running                                                                                                    |
| CDB                | VARCHAR2 (3)   |          | Possible values are: <ul style="list-style-type: none"> <li>YES if the database is a CDB</li> <li>NO if the database is not a CDB</li> </ul> |

| Column          | Datatype                    | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------|-----------------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EDITION         | VARCHAR2 (7)                |      | The edition of the database: <ul style="list-style-type: none"> <li>• PO: Personal Edition</li> <li>• FREE: Oracle Database Free</li> <li>• SE2: Standard Edition or Standard Edition 2</li> <li>• EE: Enterprise Edition</li> <li>• HP: Enterprise Edition - High Performance</li> <li>• XP: Enterprise Edition - Extreme Performance</li> </ul>                                                                                                     |
| DB_UNIQUE_NAME  | VARCHAR2 (30)               |      | Unique database name                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DATABASE_ROLE   | VARCHAR2 (16)               |      | Current role of the database: <ul style="list-style-type: none"> <li>• SNAPSHOT STANDBY</li> <li>• LOGICAL STANDBY</li> <li>• PHYSICAL STANDBY</li> <li>• PRIMARY</li> <li>• FAR SYNC</li> </ul>                                                                                                                                                                                                                                                      |
| CDB_ROOT_DBID   | NUMBER                      |      | The database ID of the CDB root for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID          | NUMBER                      |      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| STARTUP_TIME_TZ | TIMESTAMP(3) WITH TIME ZONE |      | Startup time of the instance                                                                                                                                                                                                                                                                                                                                                                                                                          |



**See Also:**

"DB\_UNIQUE\_NAME"

## 5.408 DBA\_HIST\_DATAFILE

DBA\_HIST\_DATAFILE displays a history of the data file information from the control file.

This view contains snapshots of V\$DATAFILE.

| Column           | Datatype       | NULL     | Description                                      |
|------------------|----------------|----------|--------------------------------------------------|
| DBID             | NUMBER         | NOT NULL | Database ID                                      |
| FILE#            | NUMBER         | NOT NULL | File identification number                       |
| CREATION_CHANGE# | NUMBER         | NOT NULL | Change number at which the data file was created |
| FILENAME         | VARCHAR2 (513) | NOT NULL | Name of the data file                            |
| TS#              | NUMBER         | NOT NULL | Tablespace number                                |
| TSNAME           | VARCHAR2 (30)  |          | Name of the tablespace                           |

| Column     | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BLOCK_SIZE | NUMBER   |      | Block size of the data file                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CON_DBID   | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID     | NUMBER   |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



See Also:

"V\$DATAFILE"

## 5.409 DBA\_HIST\_DB\_CACHE\_ADVICE

DBA\_HIST\_DB\_CACHE\_ADVICE displays historical predictions of the number of physical reads for the cache size corresponding to each row.

This view contains snapshots of V\$DB\_CACHE\_ADVICE.

| Column                  | Datatype      | NULL     | Description                                                                                                                                                                              |
|-------------------------|---------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID                 | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                       |
| DBID                    | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                             |
| INSTANCE_NUMBER         | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                         |
| BPID                    | NUMBER        | NOT NULL | Buffer Pool identifier (ranges from 1 to 8)                                                                                                                                              |
| BUFFERS_FOR_ESTIMATE    | NUMBER        | NOT NULL | Cache size for prediction (in terms of buffers)                                                                                                                                          |
| NAME                    | VARCHAR2 (20) |          | Buffer pool name                                                                                                                                                                         |
| BLOCK_SIZE              | NUMBER        |          | Block size in bytes for buffers in the pool (the standard block size, the power of 2 nonstandard block sizes, 2048, 4096, 8192, 16384, or 32768)                                         |
| ADVICE_STATUS           | VARCHAR2 (3)  |          | Status of the advisory: <ul style="list-style-type: none"> <li>ON - Currently running</li> <li>OFF - Disabled (the estimates are historical and calculated when last enabled)</li> </ul> |
| SIZE_FOR_ESTIMATE       | NUMBER        |          | Cache size for prediction (in megabytes)                                                                                                                                                 |
| SIZE_FACTOR             | NUMBER        |          | Size factor with respect to the current cache size                                                                                                                                       |
| PHYSICAL_READS          | NUMBER        |          | Physical reads for the cache size                                                                                                                                                        |
| BASE_PHYSICAL_READS     | NUMBER        |          | Base physical reads for the cache size                                                                                                                                                   |
| ACTUAL_PHYSICAL_READS   | NUMBER        |          | Actual physical reads for the cache size                                                                                                                                                 |
| ESTD_PHYSICAL_READ_TIME | NUMBER        |          | Estimated physical read time for the cache size                                                                                                                                          |
| CON_DBID                | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                       |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$DB\_CACHE\_ADVICE"

## 5.410 DBA\_HIST\_DISPATCHER

DBA\_HIST\_DISPATCHER displays historical information for each dispatcher process present at the time of the snapshot.

This view contains snapshots of information from V\$DISPATCHER and V\$QUEUE.

| Column             | Datatype     | NULL     | Description                                                                                                                                                                                                                                                                                            |
|--------------------|--------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID            | NUMBER       | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                     |
| DBID               | NUMBER       | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                           |
| INSTANCE_NUMBER    | NUMBER       | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                       |
| NAME               | VARCHAR2 (4) | NOT NULL | Name of the dispatcher process                                                                                                                                                                                                                                                                         |
| SERIAL#            | NUMBER       |          | Serial number of the dispatcher process                                                                                                                                                                                                                                                                |
| IDLE               | NUMBER       |          | Total idle time for the dispatcher (in hundredths of a second)                                                                                                                                                                                                                                         |
| BUSY               | NUMBER       |          | Total busy time for the dispatcher (in hundredths of a second)                                                                                                                                                                                                                                         |
| WAIT               | NUMBER       |          | Total time that all items in the dispatcher queue have waited (in hundredths of a second). Divide by TOTALQ for average wait per item.                                                                                                                                                                 |
| TOTALQ             | NUMBER       |          | Total number of items that have ever been in the dispatcher queue                                                                                                                                                                                                                                      |
| SAMPLED_TOTAL_CONN | NUMBER       |          | Cumulative sum of total number of connections to the dispatcher over all samples. To determine the average number of connections to the dispatcher between two snapshots, divide the difference in SAMPLED_TOTAL_CONN by the difference in NUM_SAMPLES (obtained from DBA_HIST_SHARED_SERVER_SUMMARY). |
| CON_DBID           | NUMBER       |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                     |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------|----------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

- "V\$DISPATCHER"
- "V\$QUEUE"

## 5.411 DBA\_HIST\_DLM\_MISC

DBA\_HIST\_DLM\_MISC displays miscellaneous Oracle Real Application Clusters (Oracle RAC) statistics.

This view contains snapshots of V\$DLM\_MISC.

| Column          | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------|---------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER        |      | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DBID            | NUMBER        |      | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                       |
| INSTANCE_NUMBER | NUMBER        |      | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                   |
| STATISTIC#      | NUMBER        |      | Statistic number                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| NAME            | VARCHAR2 (38) |      | Statistic name                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| VALUE           | NUMBER        |      | Statistic value                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_DBID        | NUMBER        |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID          | NUMBER        |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 5.412 DBA\_HIST\_DYN\_REMASTER\_STATS

DBA\_HIST\_DYN\_REMASTER\_STATS displays historical statistical information about the dynamic remastering process.

All times are given in hundredths of a second, except where otherwise noted, and total values reflect what has been collected since instance startup. This view contains snapshots of V\$DYNAMIC\_REMASTER\_STATS.

| Column              | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                               |
|---------------------|---------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID             | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                        |
| DBID                | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                              |
| INSTANCE_NUMBER     | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                          |
| REMASTER_TYPE       | VARCHAR2 (11) | NOT NULL | Remaster process type. Possible values: <ul style="list-style-type: none"> <li>AFFINITY: This value is used for the row containing statistics that pertain to dynamic remastering activity on object affinity.</li> <li>READ-MOSTLY: This value is used for the row containing statistics that pertain to dynamic remastering activity on read-mostly objects.</li> </ul> |
| PERSISTENT_OBJECTS  | NUMBER        |          | Current number of objects that are marked persistent read-mostly in the cluster                                                                                                                                                                                                                                                                                           |
| REMASTER_OPS        | NUMBER        |          | Total number of dynamic remastering operations                                                                                                                                                                                                                                                                                                                            |
| REMASTER_TIME       | NUMBER        |          | Total dynamic remastering time                                                                                                                                                                                                                                                                                                                                            |
| REMASTERED_OBJECTS  | NUMBER        |          | Total number of objects dynamically remastered due to affinity                                                                                                                                                                                                                                                                                                            |
| QUIESCE_TIME        | NUMBER        |          | Total quiesce step time                                                                                                                                                                                                                                                                                                                                                   |
| FREEZE_TIME         | NUMBER        |          | Total freeze step time                                                                                                                                                                                                                                                                                                                                                    |
| CLEANUP_TIME        | NUMBER        |          | Total cleanup step time                                                                                                                                                                                                                                                                                                                                                   |
| REPLAY_TIME         | NUMBER        |          | Total replay step time                                                                                                                                                                                                                                                                                                                                                    |
| FIXWRITE_TIME       | NUMBER        |          | Total fixwrite step time                                                                                                                                                                                                                                                                                                                                                  |
| SYNC_TIME           | NUMBER        |          | Total synchronization step time                                                                                                                                                                                                                                                                                                                                           |
| REMASTERED_BUFFERS  | NUMBER        |          | Total sum of the sizes (number of buffers) of all dynamically remastered objects<br>The size of a buffer is specified by the DB_BLOCK_SIZE initialization parameter. The default is 8192 bytes.                                                                                                                                                                           |
| AVG_BUFFER_AGE      | NUMBER        |          | Average time (in seconds) that buffers spent in the request queue, waiting to be processed                                                                                                                                                                                                                                                                                |
| FILTERED_OBJECTS    | NUMBER        |          | Number of requests that were filtered (not processed)                                                                                                                                                                                                                                                                                                                     |
| FILTERED_BUFFERS    | NUMBER        |          | Total sum of the sizes (number of buffers) of all requests that were filtered<br>The size of a buffer is specified by the DB_BLOCK_SIZE initialization parameter. The default is 8192 bytes.                                                                                                                                                                              |
| RESOURCES_CLEANED   | NUMBER        |          | Total number of resources cleaned in the cleanup steps                                                                                                                                                                                                                                                                                                                    |
| REPLAYED_LOCKS_SENT | NUMBER        |          | Total number of locks replayed to other instances in the replay steps                                                                                                                                                                                                                                                                                                     |



| Column                  | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------|----------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REPLAYED_LOCKS_RECEIVED | NUMBER   |      | Total number of locks received from other instances in the replay steps                                                                                                                                                                                                                                                                                                                                                                       |
| CURRENT_OBJECTS         | NUMBER   |      | Current number of objects remastered on this instance due to affinity or the current number of objects that are marked read-mostly in the cluster                                                                                                                                                                                                                                                                                             |
| CON_DBID                | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID                  | NUMBER   |      | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$DYNAMIC\_REMASTER\_STATS"

## 5.413 DBA\_HIST\_ENQUEUE\_STAT

DBA\_HIST\_ENQUEUE\_STAT displays historical statistics on the number of enqueue (lock) requests for each type of lock.

This view contains snapshots of V\$ENQUEUE\_STATISTICS.

| Column          | Datatype      | NULL     | Description                                                                                |
|-----------------|---------------|----------|--------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER        | NOT NULL | Unique snapshot ID                                                                         |
| DBID            | NUMBER        | NOT NULL | Database ID for the snapshot                                                               |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number for the snapshot                                                           |
| EQ_TYPE         | VARCHAR2 (2)  | NOT NULL | Type of enqueue requested                                                                  |
| REQ_REASON      | VARCHAR2 (64) | NOT NULL | Reason for the enqueue request                                                             |
| TOTAL_REQ#      | NUMBER        |          | Total number of enqueue requests or enqueue conversions for this type of enqueue           |
| TOTAL_WAIT#     | NUMBER        |          | Total number of times an enqueue request or conversion resulted in a wait                  |
| SUCC_REQ#       | NUMBER        |          | Number of times an enqueue request or conversion was granted                               |
| FAILED_REQ#     | NUMBER        |          | Number of times an enqueue request or conversion failed                                    |
| CUM_WAIT_TIME   | NUMBER        |          | Total amount of time (in milliseconds) spent waiting for the enqueue or enqueue conversion |
| EVENT#          | NUMBER        |          | Event number                                                                               |
| CON_DBID        | NUMBER        |          | The database ID of the PDB for the sampled session                                         |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$ENQUEUE\_STATISTICS"

## 5.414 DBA\_HIST\_EVENT\_HISTOGRAM

DBA\_HIST\_EVENT\_HISTOGRAM displays event histogram historical statistics information.

This view contains snapshots of V\$EVENT\_HISTOGRAM.

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------|---------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| DBID            | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                         |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EVENT_ID        | NUMBER        | NOT NULL | Identifier of the wait event                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EVENT_NAME      | VARCHAR2 (64) | NOT NULL | Name of the wait event                                                                                                                                                                                                                                                                                                                                                                                                                               |
| WAIT_CLASS_ID   | NUMBER        |          | Identifier of the class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                            |
| WAIT_CLASS      | VARCHAR2 (64) |          | Name of the class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                                  |
| WAIT_TIME_MILLI | NUMBER        | NOT NULL | Wait time (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                                                          |
| WAIT_COUNT      | NUMBER        |          | Wait count                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_DBID        | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID          | NUMBER        |          | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**["V\\$EVENT\\_HISTOGRAM"](#)

## 5.415 DBA\_HIST\_EVENT\_NAME

DBA\_HIST\_EVENT\_NAME displays information about wait events.

This view contains a snapshot of V\$EVENT\_NAME.

| Column        | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID          | NUMBER        | NOT NULL | Database ID                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| EVENT_ID      | NUMBER        | NOT NULL | Identifier of the wait event                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EVENT_NAME    | VARCHAR2 (64) | NOT NULL | Name of the wait event                                                                                                                                                                                                                                                                                                                                                                                                                           |
| PARAMETER1    | VARCHAR2 (64) |          | Description of the first parameter for the wait event                                                                                                                                                                                                                                                                                                                                                                                            |
| PARAMETER2    | VARCHAR2 (64) |          | Description of the second parameter for the wait event                                                                                                                                                                                                                                                                                                                                                                                           |
| PARAMETER3    | VARCHAR2 (64) |          | Description of the third parameter for the wait event                                                                                                                                                                                                                                                                                                                                                                                            |
| WAIT_CLASS_ID | NUMBER        |          | Identifier of the class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                        |
| WAIT_CLASS    | VARCHAR2 (64) |          | Name of the class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_DBID      | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID        | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**["V\\$EVENT\\_NAME"](#)

## 5.416 DBA\_HIST\_FILEMETRIC\_HISTORY

DBA\_HIST\_FILEMETRIC\_HISTORY displays the history of file metrics collected in the Workload Repository.

| Column          | Datatype | NULL     | Description                      |
|-----------------|----------|----------|----------------------------------|
| SNAP_ID         | NUMBER   | NOT NULL | Unique snapshot ID               |
| DBID            | NUMBER   | NOT NULL | Database ID for the snapshot     |
| INSTANCE_NUMBER | NUMBER   | NOT NULL | Instance number for the snapshot |
| FILEID          | NUMBER   | NOT NULL | File number                      |

| Column        | Datatype | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------|----------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CREATIONTIME  | NUMBER   | NOT NULL | File creation time                                                                                                                                                                                                                                                                                                                                                                                                                               |
| BEGIN_TIME    | DATE     | NOT NULL | Begin time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                       |
| END_TIME      | DATE     | NOT NULL | End time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                         |
| INTSIZE       | NUMBER   | NOT NULL | Interval size (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                        |
| GROUP_ID      | NUMBER   | NOT NULL | ID of the group to which the file belongs                                                                                                                                                                                                                                                                                                                                                                                                        |
| AVGREADTIME   | NUMBER   | NOT NULL | Average file read time                                                                                                                                                                                                                                                                                                                                                                                                                           |
| AVGWRTETIME   | NUMBER   | NOT NULL | Average file write time                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PHYSICALREAD  | NUMBER   | NOT NULL | Number of physical reads                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PHYSICALWRITE | NUMBER   | NOT NULL | Number of physical writes                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PHYBLKREAD    | NUMBER   | NOT NULL | Number of physical block reads                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PHYBLKWRITE   | NUMBER   | NOT NULL | Number of physical block writes                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_DBID      | NUMBER   |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID        | NUMBER   |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 5.417 DBA\_HIST\_FILESTATXS

DBA\_HIST\_FILESTATXS displays information about file read/write statistics.

This view contains snapshots of V\$FILESTAT.

| Column           | Datatype       | NULL     | Description                                                                                                                  |
|------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID          | NUMBER         | NOT NULL | Unique snapshot ID                                                                                                           |
| DBID             | NUMBER         | NOT NULL | Database ID for the snapshot                                                                                                 |
| INSTANCE_NUMBER  | NUMBER         | NOT NULL | Instance number for the snapshot                                                                                             |
| FILE#            | NUMBER         | NOT NULL | File identification number                                                                                                   |
| CREATION_CHANGE# | NUMBER         | NOT NULL | Change number at which the data file was created                                                                             |
| FILENAME         | VARCHAR2 (513) | NOT NULL | Name of the data file                                                                                                        |
| TS#              | NUMBER         | NOT NULL | Tablespace number                                                                                                            |
| TSNAME           | VARCHAR2 (30)  |          | Name of the tablespace                                                                                                       |
| BLOCK_SIZE       | NUMBER         |          | Block size of the data file                                                                                                  |
| PHYRDS           | NUMBER         |          | Number of physical reads done                                                                                                |
| PHYWRTS          | NUMBER         |          | Number of times DBWR is required to write                                                                                    |
| SINGLEBLKRDS     | NUMBER         |          | Number of single block reads                                                                                                 |
| READTIM          | NUMBER         |          | Time (in hundredths of a second) spent doing reads if the TIMED_STATISTICS parameter is true; 0 if TIMED_STATISTICS is false |

| Column             | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WRITETIM           | NUMBER   |      | Time (in hundredths of a second) spent doing writes if the <code>TIMED_STATISTICS</code> parameter is <code>true</code> ; 0 if <code>TIMED_STATISTICS</code> is <code>false</code>                                                                                                                                                                                                                                                                         |
| SINGLEBLKRD        | NUMBER   |      | Cumulative single block read time (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                              |
| PHYBLKRD           | NUMBER   |      | Number of physical blocks read                                                                                                                                                                                                                                                                                                                                                                                                                             |
| PHYBLKWRT          | NUMBER   |      | Number of blocks written to disk, which may be the same as <code>PHYWRTS</code> if all writes are single blocks                                                                                                                                                                                                                                                                                                                                            |
| WAIT_COUNT         | NUMBER   |      | Shows the number of waits at the file level for contended buffers. This value includes the individual wait events that are included in the buffer busy waits wait event.<br><b>See Also:</b> "buffer busy waits"                                                                                                                                                                                                                                           |
| TIME               | NUMBER   |      | Time spent waiting for the wait events in the <code>WAIT_COUNT</code> column                                                                                                                                                                                                                                                                                                                                                                               |
| OPTIMIZED_PHYBLKRD | NUMBER   |      | Number of physical reads from Database Smart Flash Cache blocks                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_DBID           | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID             | NUMBER   |      | The ID of the container that <code>CON_DBID</code> identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$FILESTAT"

## 5.418 DBA\_HIST\_IC\_CLIENT\_STATS

`DBA_HIST_IC_CLIENT_STATS` displays information about the usage of an interconnect device by the instance.

The information is divided into several areas of the Oracle Database, each identified by the `NAME` value.

| Column          | Datatype | NULL     | Description                      |
|-----------------|----------|----------|----------------------------------|
| SNAP_ID         | NUMBER   | NOT NULL | Unique snapshot ID               |
| DBID            | NUMBER   | NOT NULL | Database ID for the snapshot     |
| INSTANCE_NUMBER | NUMBER   | NOT NULL | Instance number for the snapshot |

| Column         | Datatype     | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------|--------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME           | VARCHAR2 (9) | NOT NULL | Identifies the area of the Oracle Database: <ul style="list-style-type: none"> <li>ipq - Parallel query communications</li> <li>d1m - Database lock management</li> <li>cache - Global cache communications</li> </ul> All other values are internal to Oracle and are not expected to have high usage.                                                                                                                         |
| BYTES_SENT     | NUMBER       |          | Number of bytes sent by the instance since instance startup for the software area identified by NAME. This information is aggregated across all devices used by the instance.                                                                                                                                                                                                                                                   |
| BYTES_RECEIVED | NUMBER       |          | Number of bytes received by the instance since instance startup for the software area identified by NAME. This information is aggregated across all devices used by the instance.                                                                                                                                                                                                                                               |
| CON_DBID       | NUMBER       |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID         | NUMBER       |          | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul> |

## 5.419 DBA\_HIST\_IC\_DEVICE\_STATS

DBA\_HIST\_IC\_DEVICE\_STATS displays operating system information about the usage of interconnect devices by the machine.

This usage contains Oracle usage but is not limited to it. The quality of the information depends on the operating system.

| Column           | Datatype       | NULL     | Description                                                                |
|------------------|----------------|----------|----------------------------------------------------------------------------|
| SNAP_ID          | NUMBER         | NOT NULL | Unique snapshot ID                                                         |
| DBID             | NUMBER         | NOT NULL | Database ID for the snapshot                                               |
| INSTANCE_NUMBER  | NUMBER         | NOT NULL | Instance number for the snapshot                                           |
| IF_NAME          | VARCHAR2 (256) | NOT NULL | Name of the device (same as NAME in DBA_HIST_CLUSTER_INTERCON)             |
| IP_ADDR          | VARCHAR2 (64)  | NOT NULL | IP address of the device (same as IP_ADDRESS in DBA_HIST_CLUSTER_INTERCON) |
| NET_MASK         | VARCHAR2 (16)  |          | Network mask                                                               |
| FLAGS            | VARCHAR2 (32)  |          | Flags                                                                      |
| MTU              | NUMBER         |          | Maximum transmission unit                                                  |
| BYTES_RECEIVED   | NUMBER         |          | Number of bytes received since operating system start time                 |
| PACKETS_RECEIVED | NUMBER         |          | Number of packets received since operating system start time               |

| Column            | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RECEIVE_ERRORS    | NUMBER   |      | Number of receive errors since operating system start time                                                                                                                                                                                                                                                                                                                                                                                       |
| RECEIVE_DROPPED   | NUMBER   |      | Number of receive messages that were dropped                                                                                                                                                                                                                                                                                                                                                                                                     |
| RECEIVE_BUF_OR    | NUMBER   |      | Number of receive buffer overruns experienced                                                                                                                                                                                                                                                                                                                                                                                                    |
| RECEIVE_FRAME_ERR | NUMBER   |      | Number of receive errors due to frame error                                                                                                                                                                                                                                                                                                                                                                                                      |
| BYTES_SENT        | NUMBER   |      | Number of bytes sent since operating system start time                                                                                                                                                                                                                                                                                                                                                                                           |
| PACKETS_SENT      | NUMBER   |      | Number of packets sent since operating system start time                                                                                                                                                                                                                                                                                                                                                                                         |
| SEND_ERRORS       | NUMBER   |      | Number of send errors since operating system start time                                                                                                                                                                                                                                                                                                                                                                                          |
| SENDS_DROPPED     | NUMBER   |      | Number of send messages that were dropped                                                                                                                                                                                                                                                                                                                                                                                                        |
| SEND_BUF_OR       | NUMBER   |      | Number of send buffer overruns experienced                                                                                                                                                                                                                                                                                                                                                                                                       |
| SEND_CARRIER_LOST | NUMBER   |      | Number of send errors due to carrier lost                                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_DBID          | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID            | NUMBER   |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 5.420 DBA\_HIST\_IM\_SEG\_STAT

DBA\_HIST\_IM\_SEG\_STAT displays information about historical in-memory segment statistics.

| Column                 | Datatype | NULL     | Description                                                                                                  |
|------------------------|----------|----------|--------------------------------------------------------------------------------------------------------------|
| SNAP_ID                | NUMBER   | NOT NULL | Unique snapshot ID                                                                                           |
| DBID                   | NUMBER   | NOT NULL | Database ID for the snapshot                                                                                 |
| INSTANCE_NUMBER        | NUMBER   | NOT NULL | Instance number for the snapshot                                                                             |
| TS#                    | NUMBER   | NOT NULL | Tablespace number                                                                                            |
| OBJ#                   | NUMBER   | NOT NULL | Dictionary object number                                                                                     |
| DATAOBJ#               | NUMBER   | NOT NULL | Data object number                                                                                           |
| MEMBYTES               | NUMBER   |          | Size of in-memory version of the segment in bytes                                                            |
| SCANS                  | NUMBER   |          | Count of segment statistics                                                                                  |
| SCANS_DELTA            | NUMBER   |          | Delta values for in-memory scans                                                                             |
| DB_BLOCK_CHANGES       | NUMBER   |          | The total number of changes that were part of an update or delete operation that were made to segment blocks |
| DB_BLOCK_CHANGES_DELTA | NUMBER   |          | Delta value for database block changes                                                                       |
| POPULATE_CUS           | NUMBER   |          | Count of compression units (CUs) populated per segment                                                       |

| Column               | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POPULATE_CUS_DELTA   | NUMBER   |      | Delta value for compression unit (CU) populate operations                                                                                                                                                                                                                                                                                                                                                                                        |
| REPOPULATE_CUS       | NUMBER   |      | Count of CUs repopulated per segment                                                                                                                                                                                                                                                                                                                                                                                                             |
| REPOPULATE_CUS_DELTA | NUMBER   |      | Delta value for compression unit (CU) repopulate operations                                                                                                                                                                                                                                                                                                                                                                                      |
| CON_DBID             | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID               | NUMBER   |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 5.421 DBA\_HIST\_IM\_SEG\_STAT\_OBJ

DBA\_HIST\_IM\_SEG\_STAT\_OBJ displays information about object metadata for historical in-memory segments.

| Column          | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID            | NUMBER         | NOT NULL | Database id for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TS#             | NUMBER         | NOT NULL | Tablespace number                                                                                                                                                                                                                                                                                                                                                                                                                                |
| OBJ#            | NUMBER         | NOT NULL | Dictionary object number                                                                                                                                                                                                                                                                                                                                                                                                                         |
| DATAOBJ#        | NUMBER         | NOT NULL | Data object number                                                                                                                                                                                                                                                                                                                                                                                                                               |
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the object                                                                                                                                                                                                                                                                                                                                                                                                                              |
| OBJECT_NAME     | VARCHAR2 (128) |          | Name of the object                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SUBOBJECT_NAME  | VARCHAR2 (128) |          | Name of the subobject                                                                                                                                                                                                                                                                                                                                                                                                                            |
| OBJECT_TYPE     | VARCHAR2 (128) |          | Type of the object                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TABLESPACE_NAME | VARCHAR2 (128) |          | Tablespace name for the object                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_DBID        | NUMBER         |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID          | NUMBER         |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



## 5.422 DBA\_HIST\_INST\_CACHE\_TRANSFER

DBA\_HIST\_INST\_CACHE\_TRANSFER displays the historical statistics on the cache blocks transferred among instances.

This view contains snapshots of V\$INSTANCE\_CACHE\_TRANSFER.

| Column             | Datatype      | NULL     | Description                                                                                                                                                   |
|--------------------|---------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID            | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                            |
| DBID               | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                  |
| INSTANCE_NUMBER    | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                              |
| INSTANCE           | NUMBER        | NOT NULL | Instance from which the blocks are transferred                                                                                                                |
| CLASS              | VARCHAR2 (18) | NOT NULL | Class of the cache block                                                                                                                                      |
| CR_BLOCK           | NUMBER        |          | CR block transfers not affected by remote processing delays                                                                                                   |
| CR_BUSY            | NUMBER        |          | Current block transfers affected by remote contention                                                                                                         |
| CR_CONGESTED       | NUMBER        |          | CR block transfers affected by remote system load                                                                                                             |
| CURRENT_BLOCK      | NUMBER        |          | Current block transfers not affected by remote processing delays                                                                                              |
| CURRENT_BUSY       | NUMBER        |          | Current block transfers affected by remote contention                                                                                                         |
| CURRENT_CONGESTED  | NUMBER        |          | Current block transfers affected by remote system load                                                                                                        |
| LOST               | NUMBER        |          | The number of blocks that were sent by a particular instance but that never arrived in this instance                                                          |
| CR_2HOP            | NUMBER        |          | The count of CR blocks which were received by this instance from a particular instance after a 2-way round-trip                                               |
| CR_3HOP            | NUMBER        |          | The count of CR blocks which were received by this instance from a particular instance after a 3-way round-trip                                               |
| CR_RDMA            | NUMBER        |          | The count of CR Blocks which were directly read from a remote instance via RDMA                                                                               |
| CURRENT_2HOP       | NUMBER        |          | The count of current blocks which were received by this instance from a particular instance after a 2-way round-trip                                          |
| CURRENT_3HOP       | NUMBER        |          | The count of current blocks which were received by this instance from a particular instance after a 3-way round-trip                                          |
| CURRENT_RDMA       | NUMBER        |          | The count of current blocks which were directly read from a remote instance via RDMA                                                                          |
| CR_BLOCK_TIME      | NUMBER        |          | Total time waited for CR blocks from a particular instance (includes the other times)                                                                         |
| CR_BUSY_TIME       | NUMBER        |          | The time waited for CR blocks which were received by this instance from a particular instance and which were delayed by a log flushed on the sending instance |
| CR_CONGESTED_TIME  | NUMBER        |          | The time waited for CR blocks which were received by this instance from a particular instance and which were delayed because LMS was busy                     |
| CURRENT_BLOCK_TIME | NUMBER        |          | Total time waited for CR blocks from a particular instance (includes the other times)                                                                         |

| Column                 | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------|----------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CURRENT_BUSY_TIME      | NUMBER   |      | The time waited for current blocks which were received by this instance from a particular instance and which were delayed by a log flushed on the sending instance                                                                                                                                                                                                                                                                            |
| CURRENT_CONGESTED_TIME | NUMBER   |      | The time waited for current blocks which were received by this instance from a particular instance and which were delayed because LMS was busy                                                                                                                                                                                                                                                                                                |
| LOST_TIME              | NUMBER   |      | The time waited for blocks that were sent by a particular instance but that never arrived in this instance                                                                                                                                                                                                                                                                                                                                    |
| CR_2HOP_TIME           | NUMBER   |      | The time waited for CR blocks which were received by this instance from a particular instance after a 2-way round-trip                                                                                                                                                                                                                                                                                                                        |
| CR_3HOP_TIME           | NUMBER   |      | The time waited for CR blocks which were received by this instance from a particular instance after a 3-way round-trip                                                                                                                                                                                                                                                                                                                        |
| CR_RDMA_TIME           | NUMBER   |      | Total time waited to directly read CR blocks from a remote instance via RDMA (in centiseconds)                                                                                                                                                                                                                                                                                                                                                |
| CURRENT_2HOP_TIME      | NUMBER   |      | The time waited for current blocks which were received by this instance from a particular instance after a 2-way round-trip                                                                                                                                                                                                                                                                                                                   |
| CURRENT_3HOP_TIME      | NUMBER   |      | The time waited for current blocks which were received by this instance from a particular instance after a 3-way round-trip                                                                                                                                                                                                                                                                                                                   |
| CURRENT_RDMA_TIME      | NUMBER   |      | Total time waited to directly read current blocks from a remote instance via RDMA (in centiseconds)                                                                                                                                                                                                                                                                                                                                           |
| CON_DBID               | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID                 | NUMBER   |      | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$INSTANCE\_CACHE\_TRANSFER"

## 5.423 DBA\_HIST\_INSTANCE\_RECOVERY

DBA\_HIST\_INSTANCE\_RECOVERY displays the historical monitoring of the mechanisms available to the user to limit recovery I/O.

This view contains snapshots of V\$INSTANCE\_RECOVERY.

| Column                         | Datatype | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------|----------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID                        | NUMBER   | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DBID                           | NUMBER   | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| INSTANCE_NUMBER                | NUMBER   | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| RECOVERY_ESTIMATED_IOS         | NUMBER   |          | Number of dirty buffers in the buffer cache.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| ACTUAL_REDO_BLKs               | NUMBER   |          | Current actual number of redo blocks required for recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TARGET_REDO_BLKs               | NUMBER   |          | Current target number of redo blocks that must be processed for recovery. This value is the minimum value of the following 3 columns, and identifies which of the 3 user-defined limits determines checkpointing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| LOG_FILE_SIZE_REDO_BLKs        | NUMBER   |          | Maximum number of redo blocks required to guarantee that a log switch does not occur before the checkpoint completes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| LOG_CHKPT_TIMEOUT_REDO_BLKs    | NUMBER   |          | Number of redo blocks that need to be processed during recovery to satisfy the LOG_CHECKPOINT_TIMEOUT parameter. The value displayed is not meaningful unless LOG_CHECKPOINT_TIMEOUT has been set.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| LOG_CHKPT_INTERVAL_REDO_BLKs   | NUMBER   |          | Number of redo blocks that need to be processed during recovery to satisfy the LOG_CHECKPOINT_INTERVAL parameter. The value displayed is not meaningful unless LOG_CHECKPOINT_INTERVAL has been set.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| FAST_START_IO_TARGET_REDO_BLKs | NUMBER   |          | This column is obsolete and maintained for backward compatibility. The value of this column is always null.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TARGET_MTTR                    | NUMBER   |          | Effective MTTR (mean time to recover) target value in seconds. The TARGET_MTTR value is calculated based on the value of the FAST_START_MTTR_TARGET parameter (the TARGET_MTTR value is used internally), and is usually an approximation of the parameter's value. However, if the FAST_START_MTTR_TARGET parameter value is very small (for example, one second), or very large (for example, 3600 seconds), then the calculation will produce a target value dictated by system limitations.<br><br>In such cases, the TARGET_MTTR value will be the shortest calculated time, or the longest calculated time that recovery is expected to take. If FAST_START_MTTR_TARGET is not specified, then the value of this field is the current estimated MTTR. |
| ESTIMATED_MTTR                 | NUMBER   |          | Current estimated mean time to recover (MTTR) based on the number of dirty buffers and log blocks (0 if FAST_START_MTTR_TARGET is not specified). This value tells you how long you can expect recovery to take based on the work the system is doing right now.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CKPT_BLOCK_WRITES              | NUMBER   |          | Number of blocks written by checkpoint writes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| OPTIMAL_LOGFILE_SIZE           | NUMBER   |          | Redo log file size (in megabytes) that is considered optimal based on the current setting of FAST_START_MTTR_TARGET. It is recommended that all online redo logs be configured to be at least this value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Column                        | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ESTD_CLUSTER_AVAILABLE_TIME   | NUMBER   |      | Estimated time (in seconds) that the cluster would become partially available should the instance fail. This column is only meaningful in an Oracle Real Application Clusters (Oracle RAC) environment. In a non-Oracle RAC environment, the value of this column is null.                                                                                                                                                                                 |
| WRITES_MTTR                   | NUMBER   |      | Number of writes driven by the <code>FAST_START_MTTR_TARGET</code> parameter                                                                                                                                                                                                                                                                                                                                                                               |
| WRITES_LOGFILE_SIZE           | NUMBER   |      | Number of writes driven by the smallest redo log file size                                                                                                                                                                                                                                                                                                                                                                                                 |
| WRITES_LOG_CHECKPOINT_SECONDS | NUMBER   |      | Number of writes driven by the <code>LOG_CHECKPOINT_INTERVAL</code> parameter or the <code>LOG_CHECKPOINT_TIMEOUT</code> parameter                                                                                                                                                                                                                                                                                                                         |
| WRITES_OTHER_SETTINGS         | NUMBER   |      | Number of writes driven by other reasons (such as the deprecated <code>FAST_START_IO_TARGET</code> parameter)                                                                                                                                                                                                                                                                                                                                              |
| WRITES_AUTOTUNE               | NUMBER   |      | Number of writes due to auto-tune checkpointing                                                                                                                                                                                                                                                                                                                                                                                                            |
| WRITES_FULL_THREAD_CKPT       | NUMBER   |      | Number of writes due to full thread checkpoints                                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_DBID                      | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID                        | NUMBER   |      | The ID of the container that <code>CON_DBID</code> identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"`V$INSTANCE_RECOVERY`"

## 5.424 DBA\_HIST\_INTERCONNECT\_PINGS

`DBA_HIST_INTERCONNECT_PINGS` displays information about measured latency of interconnect messages (round-trip) from instance to instance.

In Oracle Database 11g and later releases, the `PING` process assesses the latencies associated with communications for each pair of instances.

Every few seconds, the process in one instance (`INSTANCE_NUMBER` value) sends two messages to each instance (`TARGET_INSTANCE` value). One message has a size of 500 bytes and the other has a size of 8 KB. The message is received by the `PING` process on the target instance and is immediately acknowledged. The time for the round-trip is measured and collected.

| Column          | Datatype | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------|----------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER   | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DBID            | NUMBER   | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                     |
| INSTANCE_NUMBER | NUMBER   | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TARGET_INSTANCE | NUMBER   | NOT NULL | Target instance number                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CNT_500B        | NUMBER   |          | Number of pings of size 500 bytes from INSTANCE_NUMBER to TARGET_INSTANCE since the startup of the source instance (INSTANCE_NUMBER)                                                                                                                                                                                                                                                                                                             |
| WAIT_500B       | NUMBER   |          | Sum of round-trip times for messages of size 500 bytes from INSTANCE_NUMBER to TARGET_INSTANCE since the startup of the source instance (INSTANCE_NUMBER). Dividing by CNT_500B gives the average latency.                                                                                                                                                                                                                                       |
| WAITSQ_500B     | NUMBER   |          | Sum of squares (divided by 1000) of round-trip times for messages of size 500 bytes from INSTANCE_NUMBER to TARGET_INSTANCE since the startup of the source instance (INSTANCE_NUMBER). When used with CNT_500B and WAIT_500B, the standard deviation of the latency can be calculated.                                                                                                                                                          |
| CNT_8K          | NUMBER   |          | Number of pings of size 8 KB from INSTANCE_NUMBER to TARGET_INSTANCE since the startup of the source instance (INSTANCE_NUMBER)                                                                                                                                                                                                                                                                                                                  |
| WAIT_8K         | NUMBER   |          | Sum of round-trip times for messages of size 8 KB from INSTANCE_NUMBER to TARGET_INSTANCE since the startup of the source instance (INSTANCE_NUMBER). Dividing by CNT_8K gives the average latency.                                                                                                                                                                                                                                              |
| WAITSQ_8K       | NUMBER   |          | Sum of squares (divided by 1000) of round-trip times for messages of size 8 KB from INSTANCE_NUMBER to TARGET_INSTANCE since the startup of the source instance (INSTANCE_NUMBER). When used with CNT_8K and WAIT_8K, the standard deviation of the latency can be calculated.                                                                                                                                                                   |
| CON_DBID        | NUMBER   |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID          | NUMBER   |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 5.425 DBA\_HIST\_IOSTAT\_DETAIL

DBA\_HIST\_IOSTAT\_DETAIL displays I/O statistics aggregated by combination of file type and function (component).

This view contains snapshots of V\$IOSTAT\_FILE and V\$IOSTAT\_FUNCTION.

| Column                | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------|---------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID               | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                            |
| DBID                  | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                  |
| INSTANCE_NUMBER       | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                              |
| FUNCTION_ID           | NUMBER        | NOT NULL | Function ID                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| FUNCTION_NAME         | VARCHAR2 (30) | NOT NULL | Function name                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| FILETYPE_ID           | NUMBER        | NOT NULL | Type of file (for example, log file, data file, and so on)                                                                                                                                                                                                                                                                                                                                                                                    |
| FILETYPE_NAME         | VARCHAR2 (30) | NOT NULL | Name of the file, in the case of a data file or temp file. For all other files, a corresponding string to be displayed (for example, ARCHIVELOG).                                                                                                                                                                                                                                                                                             |
| SMALL_READ_MEGABYTES  | NUMBER        | NOT NULL | Number of single block megabytes read                                                                                                                                                                                                                                                                                                                                                                                                         |
| SMALL_WRITE_MEGABYTES | NUMBER        | NOT NULL | Number of single block megabytes written                                                                                                                                                                                                                                                                                                                                                                                                      |
| LARGE_READ_MEGABYTES  | NUMBER        | NOT NULL | Number of multiblock megabytes read                                                                                                                                                                                                                                                                                                                                                                                                           |
| LARGE_WRITE_MEGABYTES | NUMBER        | NOT NULL | Number of multiblock megabytes written                                                                                                                                                                                                                                                                                                                                                                                                        |
| SMALL_READ_REQS       | NUMBER        | NOT NULL | Number of single block read requests                                                                                                                                                                                                                                                                                                                                                                                                          |
| SMALL_WRITE_REQS      | NUMBER        | NOT NULL | Number of single block write requests                                                                                                                                                                                                                                                                                                                                                                                                         |
| LARGE_READ_REQS       | NUMBER        | NOT NULL | Number of multiblock read requests                                                                                                                                                                                                                                                                                                                                                                                                            |
| LARGE_WRITE_REQS      | NUMBER        | NOT NULL | Number of multiblock write requests                                                                                                                                                                                                                                                                                                                                                                                                           |
| NUMBER_OF_WAITS       | NUMBER        | NOT NULL | Number of I/O waits by functionality                                                                                                                                                                                                                                                                                                                                                                                                          |
| WAIT_TIME             | NUMBER        | NOT NULL | Total wait time (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_DBID              | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID                | NUMBER        |          | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

#### See Also:

- ["V\\$IOSTAT\\_FILE"](#)
- ["V\\$IOSTAT\\_FUNCTION"](#)

## 5.426 DBA\_HIST\_IOSTAT\_FILETYPE

DBA\_HIST\_IOSTAT\_FILETYPE displays historical I/O statistics by file type.

This view contains snapshots of V\$IOSTAT\_FILE.

| Column                  | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------|---------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID                 | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                            |
| DBID                    | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                  |
| INSTANCE_NUMBER         | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                              |
| FILETYPE_ID             | NUMBER        | NOT NULL | Type of file (for example, log file, data file, and so on)                                                                                                                                                                                                                                                                                                                                                                                    |
| FILETYPE_NAME           | VARCHAR2 (30) | NOT NULL | Name of the file, in the case of a data file or temp file. For all other files, a corresponding string to be displayed (for example, ARCHIVELOG).                                                                                                                                                                                                                                                                                             |
| SMALL_READ_MEGABYTES    | NUMBER        | NOT NULL | Number of single block megabytes read                                                                                                                                                                                                                                                                                                                                                                                                         |
| SMALL_WRITE_MEGABYTES   | NUMBER        | NOT NULL | Number of single block megabytes written                                                                                                                                                                                                                                                                                                                                                                                                      |
| LARGE_READ_MEGABYTES    | NUMBER        | NOT NULL | Number of multiblock megabytes read                                                                                                                                                                                                                                                                                                                                                                                                           |
| LARGE_WRITE_MEGABYTES   | NUMBER        | NOT NULL | Number of multiblock megabytes written                                                                                                                                                                                                                                                                                                                                                                                                        |
| SMALL_READ_REQS         | NUMBER        | NOT NULL | Number of single block read requests                                                                                                                                                                                                                                                                                                                                                                                                          |
| SMALL_WRITE_REQS        | NUMBER        | NOT NULL | Number of single block write requests                                                                                                                                                                                                                                                                                                                                                                                                         |
| SMALL_SYNC_READ_REQS    | NUMBER        | NOT NULL | Number of synchronous single block read requests                                                                                                                                                                                                                                                                                                                                                                                              |
| LARGE_READ_REQS         | NUMBER        | NOT NULL | Number of multiblock read requests                                                                                                                                                                                                                                                                                                                                                                                                            |
| LARGE_WRITE_REQS        | NUMBER        | NOT NULL | Number of multiblock write requests                                                                                                                                                                                                                                                                                                                                                                                                           |
| SMALL_READ_SERVICETIME  | NUMBER        | NOT NULL | Total service time (in milliseconds) for single block read requests                                                                                                                                                                                                                                                                                                                                                                           |
| SMALL_WRITE_SERVICETIME | NUMBER        | NOT NULL | Total service time (in milliseconds) for single block write requests                                                                                                                                                                                                                                                                                                                                                                          |
| SMALL_SYNC_READ_LATENCY | NUMBER        | NOT NULL | Latency for single block synchronous reads (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                  |
| LARGE_READ_SERVICETIME  | NUMBER        | NOT NULL | Total service time (in milliseconds) for multiblock read requests                                                                                                                                                                                                                                                                                                                                                                             |
| LARGE_WRITE_SERVICETIME | NUMBER        | NOT NULL | Total service time (in milliseconds) for multiblock write requests                                                                                                                                                                                                                                                                                                                                                                            |
| RETRIES_ON_ERROR        | NUMBER        | NOT NULL | Number of read retries on error                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_DBID                | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID                  | NUMBER        |          | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

"V\$IOSTAT\_FILE"

## 5.427 DBA\_HIST\_IOSTAT\_FILETYPE\_NAME

DBA\_HIST\_IOSTAT\_FILETYPE\_NAME displays historical I/O statistics for file type names.

This view contains snapshots of V\$IOSTAT\_FILE.

| Column        | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------|---------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID          | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FILETYPE_ID   | NUMBER        | NOT NULL | Type of file (for example, log file, data file, and so on)                                                                                                                                                                                                                                                                                                                                                                                    |
| FILETYPE_NAME | VARCHAR2 (30) | NOT NULL | Name of the file, in the case of a data file or temp file. For all other files, a corresponding string to be displayed (for example, ARCHIVELOG).                                                                                                                                                                                                                                                                                             |
| CON_DBID      | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID        | NUMBER        |          | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$IOSTAT\_FILE"

## 5.428 DBA\_HIST\_IOSTAT\_FUNCTION

DBA\_HIST\_IOSTAT\_FUNCTION displays historical I/O statistics by function.

This view contains snapshots of V\$IOSTAT\_FUNCTION.

| Column                | Datatype       | NULL     | Description                              |
|-----------------------|----------------|----------|------------------------------------------|
| SNAP_ID               | NUMBER         | NOT NULL | Unique snapshot ID                       |
| DBID                  | NUMBER         | NOT NULL | Database ID for the snapshot             |
| INSTANCE_NUMBER       | NUMBER         | NOT NULL | Instance number for the snapshot         |
| FUNCTION_ID           | NUMBER         | NOT NULL | Function ID                              |
| FUNCTION_NAME         | VARCHAR2 (128) | NOT NULL | Function name                            |
| SMALL_READ_MEGABYTES  | NUMBER         | NOT NULL | Number of single block megabytes read    |
| SMALL_WRITE_MEGABYTES | NUMBER         | NOT NULL | Number of single block megabytes written |
| LARGE_READ_MEGABYTES  | NUMBER         | NOT NULL | Number of multiblock megabytes read      |
| LARGE_WRITE_MEGABYTES | NUMBER         | NOT NULL | Number of multiblock megabytes written   |
| SMALL_READ_REQS       | NUMBER         | NOT NULL | Number of single block read requests     |
| SMALL_WRITE_REQS      | NUMBER         | NOT NULL | Number of single block write requests    |



| Column           | Datatype | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------|----------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LARGE_READ_REQS  | NUMBER   | NOT NULL | Number of multiblock read requests                                                                                                                                                                                                                                                                                                                                                                                                           |
| LARGE_WRITE_REQS | NUMBER   | NOT NULL | Number of multiblock write requests                                                                                                                                                                                                                                                                                                                                                                                                          |
| NUMBER_OF_WAITS  | NUMBER   | NOT NULL | Number of I/O waits by functionality                                                                                                                                                                                                                                                                                                                                                                                                         |
| WAIT_TIME        | NUMBER   | NOT NULL | Total wait time (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_DBID         | NUMBER   |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID           | NUMBER   |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**["V\\$IOSTAT\\_FUNCTION"](#)

## 5.429 DBA\_HIST\_IOSTAT\_FUNCTION\_NAME

DBA\_HIST\_IOSTAT\_FUNCTION\_NAME displays historical I/O statistics by function names.

This view contains snapshots of V\$IOSTAT\_FUNCTION.

| Column        | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID          | NUMBER         | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                 |
| FUNCTION_ID   | NUMBER         | NOT NULL | Function ID                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FUNCTION_NAME | VARCHAR2 (128) | NOT NULL | Function name                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_DBID      | NUMBER         |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID        | NUMBER         |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**["V\\$IOSTAT\\_FUNCTION"](#)

## 5.430 DBA\_HIST\_JAVA\_POOL\_ADVICE

DBA\_HIST\_JAVA\_POOL\_ADVICE displays historical information about estimated parse time in the Java pool for different pool sizes.

This view contains snapshots of V\$JAVA\_POOL\_ADVICE.

| Column                      | Datatype | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------|----------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID                     | NUMBER   | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DBID                        | NUMBER   | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                 |
| INSTANCE_NUMBER             | NUMBER   | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                             |
| JAVA_POOL_SIZE_FOR_ESTIMATE | NUMBER   | NOT NULL | Java pool size for the estimate (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                               |
| JAVA_POOL_SIZE_FACTOR       | NUMBER   |          | Size factor with respect to the current Java pool size                                                                                                                                                                                                                                                                                                                                                                                       |
| ESTD_LC_SIZE                | NUMBER   |          | Estimated memory in use by the library cache (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                  |
| ESTD_LC_MEMORY_OBJECTS      | NUMBER   |          | Estimated number of library cache memory objects in the Java pool of the specified size                                                                                                                                                                                                                                                                                                                                                      |
| ESTD_LC_TIME_SAVED          | NUMBER   |          | Estimated elapsed parse time saved (in seconds), owing to library cache memory objects being found in a Java pool of the specified size. This is the time that would have been spent in reloading the required objects in the Java pool had they been aged out due to insufficient amount of available free memory.                                                                                                                          |
| ESTD_LC_TIME_SAVED_FACTOR   | NUMBER   |          | Estimated parse time saved factor with respect to the current Java pool size                                                                                                                                                                                                                                                                                                                                                                 |
| ESTD_LC_LOAD_TIME           | NUMBER   |          | Estimated elapsed time (in seconds) for parsing in a Java pool of the specified size.                                                                                                                                                                                                                                                                                                                                                        |
| ESTD_LC_LOAD_TIME_FACTOR    | NUMBER   |          | Estimated load time factor with respect to the current Java pool size                                                                                                                                                                                                                                                                                                                                                                        |
| ESTD_LC_MEMORY_OBJECT_HITS  | NUMBER   |          | Estimated number of times a library cache memory object was found in a Java pool of the specified size                                                                                                                                                                                                                                                                                                                                       |
| CON_DBID                    | NUMBER   |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID                      | NUMBER   |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



### See Also:

"V\$JAVA\_POOL\_ADVICE"

# 6

## Static Data Dictionary Views: DBA\_HIST\_LATCH to DBA\_STORED\_SETTINGS

This chapter contains the static data dictionary views `DBA_HIST_LATCH` through `DBA_STORED_SETTINGS`.

### 6.1 DBA\_HIST\_LATCH

`DBA_HIST_LATCH` displays historical aggregate latch statistics for both parent and child latches, grouped by latch name.

This view contains snapshots of `V$LATCH`.

| Column                            | Datatype      | NULL     | Description                                                                                                                                                                                  |
|-----------------------------------|---------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>SNAP_ID</code>              | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                           |
| <code>DBID</code>                 | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                 |
| <code>INSTANCE_NUMBER</code>      | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                             |
| <code>LATCH_HASH</code>           | NUMBER        | NOT NULL | Latch hash                                                                                                                                                                                   |
| <code>LATCH_NAME</code>           | VARCHAR2 (64) | NOT NULL | Latch name                                                                                                                                                                                   |
| <code>LEVEL#</code>               | NUMBER        |          | Latch level                                                                                                                                                                                  |
| <code>GETS</code>                 | NUMBER        |          | Number of times the latch was requested in willing-to-wait mode                                                                                                                              |
| <code>MISSES</code>               | NUMBER        |          | Number of times the latch was requested in willing-to-wait mode and the requester had to wait                                                                                                |
| <code>SLEEPS</code>               | NUMBER        |          | Number of times a willing-to-wait latch request resulted in a session sleeping while waiting for the latch                                                                                   |
| <code>IMMEDIATE_GETS</code>       | NUMBER        |          | Number of times a latch was requested in no-wait mode                                                                                                                                        |
| <code>IMMEDIATE_MISSES</code>     | NUMBER        |          | Number of times a no-wait latch request did not succeed (that is, missed)                                                                                                                    |
| <code>SPIN_GETS</code>            | NUMBER        |          | Number of willing-to-wait latch requests which missed the first try but succeeded while spinning                                                                                             |
| <code>SLEEP[1   2   3   4]</code> | NUMBER        |          | These columns have been deprecated and are present only for compatibility with previous releases of Oracle. No data is accumulated for these columns; they will always have a value of zero. |
| <code>WAIT_TIME</code>            | NUMBER        |          | Elapsed time spent waiting for the latch (in microseconds)                                                                                                                                   |
| <code>CON_DBID</code>             | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                           |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire multitenant container database (CDB). This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$LATCH"

## 6.2 DBA\_HIST\_LATCH\_CHILDREN

DBA\_HIST\_LATCH\_CHILDREN displays historical statistics about child latches.

This view includes all columns of DBA\_HIST\_LATCH plus the CHILD# column. Note that child latches have the same parent if their LATCH# columns match each other. This view contains snapshots of V\$LATCH\_CHILDREN.

| Column           | Datatype      | NULL     | Description                                                                                                |
|------------------|---------------|----------|------------------------------------------------------------------------------------------------------------|
| SNAP_ID          | NUMBER        | NOT NULL | Unique snapshot ID                                                                                         |
| DBID             | NUMBER        | NOT NULL | Database ID for the snapshot                                                                               |
| INSTANCE_NUMBER  | NUMBER        | NOT NULL | Instance number for the snapshot                                                                           |
| LATCH_HASH       | NUMBER        | NOT NULL | Latch hash                                                                                                 |
| LATCH_NAME       | VARCHAR2 (64) | NOT NULL | Latch name                                                                                                 |
| CHILD#           | NUMBER        | NOT NULL | Child latch number (unique only to each parent latch)                                                      |
| GETS             | NUMBER        |          | Number of times the latch was requested in willing-to-wait mode                                            |
| MISSES           | NUMBER        |          | Number of times the latch was requested in willing-to-wait mode and the requester had to wait              |
| SLEEPS           | NUMBER        |          | Number of times a willing-to-wait latch request resulted in a session sleeping while waiting for the latch |
| IMMEDIATE_GETS   | NUMBER        |          | Number of times a latch was requested in no-wait mode                                                      |
| IMMEDIATE_MISSES | NUMBER        |          | Number of times a no-wait latch request did not succeed (that is, missed)                                  |
| SPIN_GETS        | NUMBER        |          | Number of willing-to-wait latch requests which missed the first try but succeeded while spinning           |

| Column               | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------|----------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SLEEP[1   2   3   4] | NUMBER   |      | These columns have been deprecated and are present only for compatibility with previous releases of Oracle. No data is accumulated for these columns; they will always have a value of zero.                                                                                                                                                                                                                                              |
| WAIT_TIME            | NUMBER   |      | Elapsed time spent waiting for the latch (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                |
| CON_DBID             | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID               | NUMBER   |      | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

- "DBA\_HIST\_LATCH"
- "V\$LATCH"

## 6.3 DBA\_HIST\_LATCH\_MISSES\_SUMMARY

DBA\_HIST\_LATCH\_MISSES\_SUMMARY displays historical summary statistics about missed attempts to acquire a latch.

This view contains snapshots of V\$LATCH\_MISSES.

| Column          | Datatype      | NULL     | Description                                                  |
|-----------------|---------------|----------|--------------------------------------------------------------|
| SNAP_ID         | NUMBER        | NOT NULL | Unique snapshot ID                                           |
| DBID            | NUMBER        | NOT NULL | Database ID for the snapshot                                 |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number for the snapshot                             |
| PARENT_NAME     | VARCHAR2 (50) | NOT NULL | Latch name of a parent latch                                 |
| WHERE_IN_CODE   | VARCHAR2 (64) | NOT NULL | Location that attempted to acquire the latch                 |
| NWFAIL_COUNT    | NUMBER        |          | Number of times that no-wait acquisition of the latch failed |
| SLEEP_COUNT     | NUMBER        |          | Number of times that acquisition attempts caused sleeps      |
| WTR_SLP_COUNT   | NUMBER        |          | Number of times a waiter slept                               |
| CON_DBID        | NUMBER        |          | The database ID of the PDB for the sampled session           |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------|----------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

"V\$LATCH\_MISSES"

## 6.4 DBA\_HIST\_LATCH\_NAME

DBA\_HIST\_LATCH\_NAME displays information about decoded latch names for the latches shown in DBA\_HIST\_LATCH.

This view contains a snapshot of V\$LATCHNAME.

| Column     | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------|---------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID       | NUMBER        | NOT NULL | Database ID                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| LATCH_HASH | NUMBER        | NOT NULL | Latch hash                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LATCH_NAME | VARCHAR2 (64) | NOT NULL | Latch name                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_DBID   | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID     | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

- "DBA\_HIST\_LATCH"
- "V\$LATCHNAME"

## 6.5 DBA\_HIST\_LATCH\_PARENT

DBA\_HIST\_LATCH\_PARENT displays historical statistics about parent latches.

This view contains snapshots of V\$LATCH\_PARENT.

| Column               | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID              | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                             |
| DBID                 | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                   |
| INSTANCE_NUMBER      | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                               |
| LATCH_HASH           | NUMBER        | NOT NULL | Latch hash                                                                                                                                                                                                                                                                                                                                                                                                                     |
| LATCH_NAME           | VARCHAR2 (64) | NOT NULL | Latch name                                                                                                                                                                                                                                                                                                                                                                                                                     |
| LEVEL#               | NUMBER        | NOT NULL | Latch level                                                                                                                                                                                                                                                                                                                                                                                                                    |
| GETS                 | NUMBER        |          | Number of times the latch was requested in willing-to-wait mode                                                                                                                                                                                                                                                                                                                                                                |
| MISSES               | NUMBER        |          | Number of times the latch was requested in willing-to-wait mode and the requester had to wait                                                                                                                                                                                                                                                                                                                                  |
| SLEEPS               | NUMBER        |          | Number of times a willing-to-wait latch request resulted in a session sleeping while waiting for the latch                                                                                                                                                                                                                                                                                                                     |
| IMMEDIATE_GETS       | NUMBER        |          | Number of times a latch was requested in no-wait mode                                                                                                                                                                                                                                                                                                                                                                          |
| IMMEDIATE_MISSES     | NUMBER        |          | Number of times a no-wait latch request did not succeed (that is, missed)                                                                                                                                                                                                                                                                                                                                                      |
| SPIN_GETS            | NUMBER        |          | Number of willing-to-wait latch requests which missed the first try but succeeded while spinning                                                                                                                                                                                                                                                                                                                               |
| SLEEP[1   2   3   4] | NUMBER        |          | These columns have been deprecated and are present only for compatibility with previous releases of Oracle. No data is accumulated for these columns; they will always have a value of zero.                                                                                                                                                                                                                                   |
| WAIT_TIME            | NUMBER        |          | Elapsed time spent waiting for the latch (in microseconds)                                                                                                                                                                                                                                                                                                                                                                     |
| CON_DBID             | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID               | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li>n: Where n is the applicable container ID for the rows containing data</li></ul> |



**See Also:**

["V\\$LATCH\\_PARENT"](#)

## 6.6 DBA\_HIST\_LIBRARYCACHE

DBA\_HIST\_LIBRARYCACHE displays historical statistics about library cache performance and activity.

This view contains snapshots of V\$LIBRARYCACHE.

| Column                    | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID                   | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DBID                      | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                     |
| INSTANCE_NUMBER           | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                 |
| NAMESPACE                 | VARCHAR2 (15) | NOT NULL | Library cache namespace                                                                                                                                                                                                                                                                                                                                                                                                                          |
| GETS                      | NUMBER        |          | Number of times a lock was requested for objects of the namespace                                                                                                                                                                                                                                                                                                                                                                                |
| GETHITS                   | NUMBER        |          | Number of times an object's handle was found in memory                                                                                                                                                                                                                                                                                                                                                                                           |
| PINS                      | NUMBER        |          | Number of times a PIN was requested for objects of the namespace                                                                                                                                                                                                                                                                                                                                                                                 |
| PINHITS                   | NUMBER        |          | Number of times all of the metadata pieces of the library object were found in memory                                                                                                                                                                                                                                                                                                                                                            |
| RELOADS                   | NUMBER        |          | Any PIN of an object that is not the first PIN performed since the object handle was created, and which requires loading the object from disk                                                                                                                                                                                                                                                                                                    |
| INVALIDATIONS             | NUMBER        |          | Total number of times objects in the namespace were marked invalid because a dependent object was modified                                                                                                                                                                                                                                                                                                                                       |
| DLM_LOCK_REQUESTS         | NUMBER        |          | Number of GET requests lock instance locks                                                                                                                                                                                                                                                                                                                                                                                                       |
| DLM_PIN_REQUESTS          | NUMBER        |          | Number of PIN requests lock instance locks                                                                                                                                                                                                                                                                                                                                                                                                       |
| DLM_PIN_RELEASES          | NUMBER        |          | Number of release requests PIN instance locks                                                                                                                                                                                                                                                                                                                                                                                                    |
| DLM_INVALIDATION_REQUESTS | NUMBER        |          | Number of GET requests for invalidation instance locks                                                                                                                                                                                                                                                                                                                                                                                           |
| DLM_INVALIDATIONS         | NUMBER        |          | Number of invalidation pings received from other instances                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_DBID                  | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID                    | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$LIBRARYCACHE"



## 6.7 DBA\_HIST\_LOG

DBA\_HIST\_LOG displays historical log file information from the control file. This view contains snapshots of V\$LOG.

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------|---------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| DBID            | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| GROUP#          | NUMBER        | NOT NULL | Log group number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| THREAD#         | NUMBER        | NOT NULL | Log thread number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SEQUENCE#       | NUMBER        | NOT NULL | Log sequence number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| BYTES           | NUMBER        |          | Size of the log (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| MEMBERS         | NUMBER        |          | Number of members in the log group                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ARCHIVED        | VARCHAR2 (3)  |          | Archive status (YES) or NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| STATUS          | VARCHAR2 (16) |          | Log status: <ul style="list-style-type: none"> <li>• <b>UNUSED</b> - Online redo log has never been written to. This is the state of a redo log that was just added, or just after a RESETLOGS, when it is not the current redo log.</li> <li>• <b>CURRENT</b> - Current redo log. This implies that the redo log is active. The redo log could be open or closed.</li> <li>• <b>ACTIVE</b> - Log is active but is not the current log. It is needed for crash recovery. It may be in use for block recovery. It may or may not be archived.</li> <li>• <b>CLEARING</b> - Log is being re-created as an empty log after an ALTER DATABASE CLEAR LOGFILE statement. After the log is cleared, the status changes to UNUSED.</li> <li>• <b>CLEARING_CURRENT</b> - Current log is being cleared of a closed thread. The log can stay in this status if there is some failure in the switch such as an I/O error writing the new log header.</li> <li>• <b>INACTIVE</b> - Log is no longer needed for instance recovery. It may be in use for media recovery. It may or may not be archived.</li> <li>• <b>INVALIDATED</b> - Archived the current redo log without a log switch.</li> </ul> |
| FIRST_CHANGE#   | NUMBER        |          | Lowest system change number (SCN) in the log                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| FIRST_TIME      | DATE          |          | Time of the first SCN in the log                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_DBID        | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

 **See Also:**  
"V\$LOG"

## 6.8 DBA\_HIST\_MEM\_DYNAMIC\_COMP

DBA\_HIST\_MEM\_DYNAMIC\_COMP displays historical memory component sizes.

This view contains snapshots of V\$MEMORY\_DYNAMIC\_COMPONENTS.

| Column              | Datatype      | NULL     | Description                                                                                                                                                                                              |
|---------------------|---------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID             | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                       |
| DBID                | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                             |
| INSTANCE_NUMBER     | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                         |
| COMPONENT           | VARCHAR2 (64) | NOT NULL | Component name                                                                                                                                                                                           |
| CURRENT_SIZE        | NUMBER        |          | Current size of the component                                                                                                                                                                            |
| MIN_SIZE            | NUMBER        |          | Minimum size of the component since instance startup                                                                                                                                                     |
| MAX_SIZE            | NUMBER        |          | Maximum size of the component since instance startup                                                                                                                                                     |
| USER_SPECIFIED_SIZE | NUMBER        |          | Value of the user parameter for the component                                                                                                                                                            |
| OPER_COUNT          | NUMBER        |          | Number of operations since instance startup                                                                                                                                                              |
| LAST_OPER_TYPE      | VARCHAR2 (13) |          | <p>Last completed operation for the component:</p> <ul style="list-style-type: none"> <li>STATIC</li> <li>INITIALIZING</li> <li>DISABLED</li> <li>GROW</li> <li>SHRINK</li> <li>SHRINK_CANCEL</li> </ul> |
| LAST_OPER_MODE      | VARCHAR2 (9)  |          | <p>Mode of the last completed operation:</p> <ul style="list-style-type: none"> <li>MANUAL</li> <li>DEFERRED</li> <li>IMMEDIATE</li> </ul>                                                               |
| LAST_OPER_TIME      | DATE          |          | Start time of the last completed operation                                                                                                                                                               |
| GRANULE_SIZE        | NUMBER        |          | Granularity of the GROW or SHRINK operation                                                                                                                                                              |

| Column   | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_DBID | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID   | NUMBER   |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

["V\\$MEMORY\\_DYNAMIC\\_COMPONENTS"](#)

## 6.9 DBA\_HIST\_MEMORY\_RESIZE\_OPS

DBA\_HIST\_MEMORY\_RESIZE\_OPS displays memory resize operations history.

This view contains snapshots of V\$MEMORY\_RESIZE\_OPS.

| Column          | Datatype      | NULL     | Description                                                                                                                                                           |
|-----------------|---------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                    |
| DBID            | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                          |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                      |
| COMPONENT       | VARCHAR2 (64) | NOT NULL | Component name                                                                                                                                                        |
| OPER_TYPE       | VARCHAR2 (13) | NOT NULL | Operation type: <ul style="list-style-type: none"> <li>STATIC</li> <li>INITIALIZING</li> <li>DISABLED</li> <li>GROW</li> <li>SHRINK</li> <li>SHRINK_CANCEL</li> </ul> |
| START_TIME      | DATE          | NOT NULL | Start time of the operation                                                                                                                                           |
| END_TIME        | DATE          | NOT NULL | End time of the operation                                                                                                                                             |
| TARGET_SIZE     | NUMBER        | NOT NULL | Requested value of the parameter after the resize                                                                                                                     |
| OPER_MODE       | VARCHAR2 (9)  |          | Operation mode: <ul style="list-style-type: none"> <li>MANUAL</li> <li>DEFERRED</li> <li>IMMEDIATE</li> </ul>                                                         |
| PARAMETER       | VARCHAR2 (80) |          | Name of the parameter for the resize operation                                                                                                                        |
| INITIAL_SIZE    | NUMBER        |          | Parameter value at the start of the operation                                                                                                                         |
| FINAL_SIZE      | NUMBER        |          | Real value of the parameter after the resize                                                                                                                          |

| Column   | Datatype     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|--------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS   | VARCHAR2 (9) |      | Completion status of the operation: <ul style="list-style-type: none"> <li>• INACTIVE</li> <li>• PENDING</li> <li>• COMPLETE</li> <li>• CANCELLED</li> <li>• ERROR</li> </ul>                                                                                                                                                                                                                                                                          |
| CON_DBID | NUMBER       |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID   | NUMBER       |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$MEMORY\_RESIZE\_OPS"

## 6.10 DBA\_HIST\_MEMORY\_TARGET\_ADVICE

DBA\_HIST\_MEMORY\_TARGET\_ADVICE displays memory target advice history.

This view contains snapshots of V\$MEMORY\_TARGET\_ADVICE.

| Column             | Datatype | NULL     | Description                                                                                                                                                                                                                                                                                 |
|--------------------|----------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID            | NUMBER   | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                          |
| DBID               | NUMBER   | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                |
| INSTANCE_NUMBER    | NUMBER   | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                            |
| MEMORY_SIZE        | NUMBER   | NOT NULL | If the MEMORY_SIZE_FACTOR column has a value of 1, then this column shows the current size of memory, as set by the MEMORY_TARGET initialization parameter.<br>If the value of the MEMORY_SIZE_FACTOR column is less than or greater than 1, then this column shows a proposed memory size. |
| MEMORY_SIZE_FACTOR | NUMBER   |          | A multiplier for the current memory size. Possible values are 0.25, 0.5, 0.75, 1, 1.5, 1.75 and 2. This multiplier times the current memory size equals the value of the MEMORY_SIZE column.                                                                                                |
| ESTD_DB_TIME       | NUMBER   |          | For current memory size (MEMORY_SIZE_FACTOR = 1), the amount of database time required to complete the current workload. For a proposed memory size, the estimated amount of database time that would be required if the MEMORY_TARGET parameter were changed to the proposed size.         |

| Column              | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ESTD_DB_TIME_FACTOR | NUMBER   |      | For a proposed memory size, ratio of estimated database time to current database time                                                                                                                                                                                                                                                                                                                                                                |
| VERSION             | NUMBER   |      | Version number of this recommendation                                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_DBID            | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID              | NUMBER   |      | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

"V\$MEMORY\_TARGET\_ADVICE"

## 6.11 DBA\_HIST\_METRIC\_NAME

DBA\_HIST\_METRIC\_NAME describes attributes of the set of RDBMS metrics.

This view contains a snapshot of V\$METRICNAME.

| Column      | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------|---------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID        | NUMBER        | NOT NULL | Database ID                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| GROUP_ID    | NUMBER        | NOT NULL | Metric Group ID                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| GROUP_NAME  | VARCHAR2 (64) |          | Metric group name                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| METRIC_ID   | NUMBER        | NOT NULL | Metric ID                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| METRIC_NAME | VARCHAR2 (64) | NOT NULL | Metric name                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| METRIC_UNIT | VARCHAR2 (64) | NOT NULL | Unit of measurement                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_DBID    | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID      | NUMBER        |          | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**`"V$METRICNAME"`

## 6.12 DBA\_HIST\_MTTR\_TARGET\_ADVICE

DBA\_HIST\_MTTR\_TARGET\_ADVICE displays historical predictions of the number of physical I/O requests for the MTTR corresponding to each row.

The data also includes a physical I/O factor, which is the ratio of the number of estimated I/O requests to the number of I/O requests actually performed by the current MTTR setting during the measurement interval. This view contains snapshots of V\$MTTR\_TARGET\_ADVICE.

| Column                   | Datatype     | NULL     | Description                                                                                                                                                                                  |
|--------------------------|--------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID                  | NUMBER       | NOT NULL | Unique snapshot ID                                                                                                                                                                           |
| DBID                     | NUMBER       | NOT NULL | Database ID for the snapshot                                                                                                                                                                 |
| INSTANCE_NUMBER          | NUMBER       | NOT NULL | Instance number for the snapshot                                                                                                                                                             |
| MTTR_TARGET_FOR_ESTIMATE | NUMBER       |          | MTTR setting being simulated (equal to the current MTTR setting if this is the first row of the view)                                                                                        |
| ADVICE_STATUS            | VARCHAR2 (5) |          | Current status of MTTR simulation: <ul style="list-style-type: none"> <li>• ON SET</li> <li>• READY SET</li> <li>• OFF</li> </ul>                                                            |
| DIRTY_LIMIT              | NUMBER       |          | Dirty buffer limit derived from the MTTR being simulated                                                                                                                                     |
| ESTD_CACHE_WRITES        | NUMBER       |          | Estimated number of cache physical writes under the MTTR                                                                                                                                     |
| ESTD_CACHE_WRITE_FACTOR  | NUMBER       |          | Estimated cache physical write ratio under the MTTR. It is the ratio of the estimated number of cache writes to the number of cache writes under the current MTTR setting.                   |
| ESTD_TOTAL_WRITES        | NUMBER       |          | Estimated total number of physical writes under the MTTR                                                                                                                                     |
| ESTD_TOTAL_WRITE_FACTOR  | NUMBER       |          | Estimated total physical write ratio under the MTTR. It is the ratio of the estimated total number of physical writes to the total number of physical writes under the current MTTR setting. |
| ESTD_TOTAL_IOS           | NUMBER       |          | Estimated total number of I/O requests under the MTTR                                                                                                                                        |
| ESTD_TOTAL_IO_FACTOR     | NUMBER       |          | Estimated total I/O ratio under the MTTR. It is the ratio of the estimated total number of I/O requests to the total number of I/O requests under the current MTTR setting.                  |
| CON_DBID                 | NUMBER       |          | The database ID of the PDB for the sampled session                                                                                                                                           |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$MTTR\_TARGET\_ADVICE"

## 6.13 DBA\_HIST\_MUTEX\_SLEEP

DBA\_HIST\_MUTEX\_SLEEP displays mutex sleep summary historical statistics information.

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DBID            | NUMBER        | NOT NULL | Database identifier for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                             |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                 |
| MUTEX_TYPE      | VARCHAR2 (32) | NOT NULL | Mutex type                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LOCATION        | VARCHAR2 (40) | NOT NULL | The code location where the waiter slept for the mutex                                                                                                                                                                                                                                                                                                                                                                                           |
| SLEEPS          | NUMBER        |          | Number of sleeps for this MUTEX_TYPE and LOCATION                                                                                                                                                                                                                                                                                                                                                                                                |
| WAIT_TIME       | NUMBER        |          | Wait time in microseconds                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_DBID        | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID          | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.14 DBA\_HIST\_OPTIMIZER\_ENV

DBA\_HIST\_OPTIMIZER\_ENV displays the optimizer environments that have been captured in the Workload Repository.

This view is used with the DBA\_HIST\_SQLSTAT view.

| Column                   | Datatype   | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------|------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID                     | NUMBER     | NOT NULL | Database ID                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| OPTIMIZER_ENV_HASH_VALUE | NUMBER     | NOT NULL | Hash value for the optimizer environment                                                                                                                                                                                                                                                                                                                                                                                                           |
| OPTIMIZER_ENV            | RAW (2000) |          | Optimizer environment                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_DBID                 | NUMBER     |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID                   | NUMBER     |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

"DBA\_HIST\_SQLSTAT"

## 6.15 DBA\_HIST\_OPTIMIZER\_ENV\_DETAILS

DBA\_HIST\_OPTIMIZER\_ENV\_DETAILS displays parameter values for the optimizer environments that have been captured in the Workload Repository.

This view is used with the DBA\_HIST\_SQLSTAT view.

| Column                   | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------|---------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID                     | NUMBER        | NOT NULL | Database ID                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| OPTIMIZER_ENV_HASH_VALUE | NUMBER        | NOT NULL | Hash value for the optimizer environment                                                                                                                                                                                                                                                                                                                                                                                                           |
| NAME                     | VARCHAR2 (50) |          | Parameter name                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| VALUE                    | VARCHAR2 (25) |          | Parameter value                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_DBID                 | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID                   | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**Note:**

This view is available starting with Oracle Database 23ai.



## 6.16 DBA\_HIST\_OSSTAT

DBA\_HIST\_OSSTAT displays historical operating system statistics.

This view contains snapshots of V\$OSSTAT.

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------|---------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DBID            | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                       |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                   |
| STAT_ID         | NUMBER        | NOT NULL | Statistic ID                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| STAT_NAME       | VARCHAR2 (64) | NOT NULL | Statistic name                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| VALUE           | NUMBER        |          | Statistic value                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_DBID        | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID          | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



**See Also:**

"V\$OSSTAT"

## 6.17 DBA\_HIST\_OSSTAT\_NAME

DBA\_HIST\_OSSTAT\_NAME displays the names of the operating system statistics.

This view is used with DBA\_HIST\_OSSTAT.

| Column    | Datatype      | NULL     | Description                                        |
|-----------|---------------|----------|----------------------------------------------------|
| DBID      | NUMBER        | NOT NULL | Database ID                                        |
| STAT_ID   | NUMBER        | NOT NULL | Statistic ID                                       |
| STAT_NAME | VARCHAR2 (64) | NOT NULL | Statistic name                                     |
| CON_DBID  | NUMBER        |          | The database ID of the PDB for the sampled session |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



See Also:

"DBA\_HIST\_OSSTAT"

## 6.18 DBA\_HIST\_PARAMETER

DBA\_HIST\_PARAMETER displays historical information about the initialization parameters that were in effect for the instance.

This view contains snapshots of V\$SYSTEM\_PARAMETER.

| Column          | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER         | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DBID            | NUMBER         | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                           |
| INSTANCE_NUMBER | NUMBER         | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                       |
| PARAMETER_HASH  | NUMBER         | NOT NULL | Parameter hash                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PARAMETER_NAME  | VARCHAR2 (64)  | NOT NULL | Name of the parameter                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| VALUE           | VARCHAR2 (512) |          | Parameter value for the session (if modified within the session); otherwise, the instance-wide parameter value                                                                                                                                                                                                                                                                                                                                         |
| ISDEFAULT       | VARCHAR2 (9)   |          | Indicates whether the parameter is set to the default value ( <b>TRUE</b> ) or the parameter value was specified in the parameter file ( <b>FALSE</b> )                                                                                                                                                                                                                                                                                                |
| ISMODIFIED      | VARCHAR2 (10)  |          | <p>Indicates whether the parameter has been modified after instance startup:</p> <ul style="list-style-type: none"> <li><b>MODIFIED</b> - Parameter has been modified with <b>ALTER SESSION</b></li> <li><b>SYSTEM_MOD</b> - Parameter has been modified with <b>ALTER SYSTEM</b> (which causes all the currently logged in sessions' values to be modified)</li> <li><b>FALSE</b> - Parameter has not been modified after instance startup</li> </ul> |
| CON_DBID        | NUMBER         |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                     |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------|----------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**["V\\$SYSTEM\\_PARAMETER"](#)

## 6.19 DBA\_HIST\_PARAMETER\_NAME

DBA\_HIST\_PARAMETER\_NAME displays information about the parameter names captured in the workload repository.

This view is used with the DBA\_HIST\_PARAMETER view.

| Column         | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------|---------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID           | NUMBER        | NOT NULL | Database ID                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PARAMETER_HASH | NUMBER        | NOT NULL | Parameter hash                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PARAMETER_NAME | VARCHAR2 (64) | NOT NULL | Name of the parameter                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_DBID       | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID         | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**["DBA\\_HIST\\_PARAMETER"](#)

## 6.20 DBA\_HIST\_PDB\_IN\_SNAP

DBA\_HIST\_PDB\_IN\_SNAP captures a list of open pluggable databases (PDBs) at the time of the Automatic Workload Repository (AWR) snapshot. This view can be used with other DBA\_HIST\_ views to construct the number of opened PDBs at the time of the snapshot.

| Column          | Datatype                    | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|-----------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER                      | NOT NULL | AWR snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DBID            | NUMBER                      | NOT NULL | Database ID of the database that took this snapshot                                                                                                                                                                                                                                                                                                                                                                                             |
| INSTANCE_NUMBER | NUMBER                      | NOT NULL | Instance number of the instance that took this snapshot                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_DBID        | NUMBER                      |          | DBID of an open PDB at the time of the snapshot                                                                                                                                                                                                                                                                                                                                                                                                 |
| FLAG            | NUMBER                      |          | Flag field in capture properties of the PDB. Not used at this time.                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID          | NUMBER                      |          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| OPEN_TIME_TZ    | TIMESTAMP(3) WITH TIME ZONE |          | Time the PDB was last opened                                                                                                                                                                                                                                                                                                                                                                                                                    |

## 6.21 DBA\_HIST\_PDB\_INSTANCE

DBA\_HIST\_PDB\_INSTANCE displays the pluggable databases (PDBs) and instances in the Workload Repository.

| Column          | Datatype      | NULL     | Description                                        |
|-----------------|---------------|----------|----------------------------------------------------|
| DBID            | NUMBER        | NOT NULL | Database ID                                        |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number                                    |
| STARTUP_TIME    | TIMESTAMP(3)  | NOT NULL | Startup time of the instance                       |
| CON_DBID        | NUMBER        | NOT NULL | The database ID of the PDB for the sampled session |
| OPEN_TIME       | TIMESTAMP(3)  | NOT NULL | Time the PDB was last opened                       |
| OPEN_MODE       | VARCHAR2(16)  |          | Open mode of the database                          |
| PDB_NAME        | VARCHAR2(128) |          | PDB name                                           |

| Column          | Datatype                    | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------|-----------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID          | NUMBER                      |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| SNAP_ID         | NUMBER                      |      | The unique snapshot identifier of the snapshot that flushed the corresponding row                                                                                                                                                                                                                                                                                                                                                                |
| STARTUP_TIME_TZ | TIMESTAMP(3) WITH TIME ZONE |      | Startup time of the instance                                                                                                                                                                                                                                                                                                                                                                                                                     |
| OPEN_TIME_TZ    | TIMESTAMP(3) WITH TIME ZONE |      | Time the PDB was last opened                                                                                                                                                                                                                                                                                                                                                                                                                     |

## 6.22 DBA\_HIST\_PERSISTENT\_QMN\_CACHE

DBA\_HIST\_PERSISTENT\_QMN\_CACHE displays the historical summary background queue table activity.

This view contains snapshots from V\$PERSISTENT\_QMN\_CACHE.

| Column              | Datatype     | NULL     | Description                                                                    |
|---------------------|--------------|----------|--------------------------------------------------------------------------------|
| SNAP_ID             | NUMBER       | NOT NULL | Unique snapshot ID                                                             |
| DBID                | NUMBER       | NOT NULL | Database ID for the snapshot                                                   |
| INSTANCE_NUMBER     | NUMBER       | NOT NULL | Instance number for the snapshot                                               |
| QUEUE_TABLE_ID      | NUMBER       | NOT NULL | Queue table object ID                                                          |
| TYPE                | VARCHAR2(32) |          | Type of the queue table's queue monitor cache                                  |
| STATUS              | NUMBER       |          | Status of the queue table's queue monitor cache                                |
| NEXT_SERVICE_TIME   | TIMESTAMP(3) |          | Time when the queue table should be serviced by QMON servers                   |
| WINDOW_END_TIME     | TIMESTAMP(3) |          | Time manager activity period for non-owner queue table operations              |
| TOTAL_RUNS          | NUMBER       |          | Total number of times this queue table is served                               |
| TOTAL_LATENCY       | NUMBER       |          | Cumulative latency in serving the queue table (in hundredths of a second)      |
| TOTAL_ELAPSED_TIME  | NUMBER       |          | Total time spent in processing this queue table (in seconds)                   |
| TOTAL_CPU_TIME      | NUMBER       |          | Cumulative CPU time for serving the queue table (in hundredths of a second)    |
| TMGR_ROWS_PROCESSED | NUMBER       |          | Number of time manager entries processed                                       |
| TMGR_ELAPSED_TIME   | NUMBER       |          | Cumulative time for time management activities (in hundredths of a second)     |
| TMGR_CPU_TIME       | NUMBER       |          | Cumulative CPU time for time management activities (in hundredths of a second) |

| Column                         | Datatype     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------|--------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LAST_TMGR_PROCESSING_TIME      | TIMESTAMP(3) |      | Last timer manager processing time                                                                                                                                                                                                                                                                                                                                                                                                               |
| DEQLOG_ROWS_PROCESSED          | NUMBER       |      | Number of dequeue log entries processed                                                                                                                                                                                                                                                                                                                                                                                                          |
| DEQLOG_PROCESSING_ELAPSED_TIME | NUMBER       |      | Total time for processing dequeue log entries (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                        |
| DEQLOG_PROCESSING_CPU_TIME     | NUMBER       |      | Total CPU time for processing dequeue log entries (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                    |
| LAST_DEQLOG_PROCESSING_TIME    | TIMESTAMP(3) |      | Last dequeue log processing time                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DEQUEUE_INDEX_BLOCKS_FREED     | NUMBER       |      | Number of dequeue index blocks freed                                                                                                                                                                                                                                                                                                                                                                                                             |
| HISTORY_INDEX_BLOCKS_FREED     | NUMBER       |      | Number of history index blocks freed                                                                                                                                                                                                                                                                                                                                                                                                             |
| TIME_INDEX_BLOCKS_FREED        | NUMBER       |      | Number of time manager index blocks freed                                                                                                                                                                                                                                                                                                                                                                                                        |
| INDEX_CLEANUP_COUNT            | NUMBER       |      | Number of times index block cleanup was attempted                                                                                                                                                                                                                                                                                                                                                                                                |
| INDEX_CLEANUP_ELAPSED_TIME     | NUMBER       |      | Total time for index block cleanup (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                   |
| INDEX_CLEANUP_CPU_TIME         | NUMBER       |      | Total CPU time for index block cleanup (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                               |
| LAST_INDEX_CLEANUP_TIME        | TIMESTAMP(3) |      | Last index block cleanup time                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_DBID                       | NUMBER       |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID                         | NUMBER       |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

["V\\$PERSISTENT\\_QMN\\_CACHE"](#)

## 6.23 DBA\_HIST\_PERSISTENT\_QUEUES

DBA\_HIST\_PERSISTENT\_QUEUES displays Oracle Database AQ persistent queues historical statistics information.

This view contains snapshots of V\$PERSISTENT\_QUEUES.

| Column  | Datatype | NULL     | Description                  |
|---------|----------|----------|------------------------------|
| SNAP_ID | NUMBER   | NOT NULL | Unique snapshot ID           |
| DBID    | NUMBER   | NOT NULL | Database ID for the snapshot |

| Column                       | Datatype       | NULL     | Description                                                                                                                                                                            |
|------------------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INSTANCE_NUMBER              | NUMBER         | NOT NULL | Instance number for the snapshot                                                                                                                                                       |
| QUEUE_SCHEMA                 | VARCHAR2 (128) | NOT NULL | Owner of the queue                                                                                                                                                                     |
| QUEUE_NAME                   | VARCHAR2 (128) | NOT NULL | Name of the queue                                                                                                                                                                      |
| QUEUE_ID                     | NUMBER         | NOT NULL | Identifier for the queue                                                                                                                                                               |
| FIRST_ACTIVITY_TIME          | TIMESTAMP (6)  |          | First queue activity time since database startup                                                                                                                                       |
| ENQUEUED_MSGS                | NUMBER         |          | Number of messages enqueued                                                                                                                                                            |
| DEQUEUED_MSGS                | NUMBER         |          | Number of messages dequeued<br><b>Note:</b> This column will not be incremented until all the subscribers of the message have dequeued the message and its retention time has elapsed. |
| BROWSED_MSGS                 | NUMBER         |          | Number of messages that have been browsed                                                                                                                                              |
| ELAPSED_ENQUEUE_TIME         | NUMBER         |          | Total time (in hundredths of a second) spent doing enqueue                                                                                                                             |
| ELAPSED_DEQUEUE_TIME         | NUMBER         |          | Total time (in hundredths of a second) spent doing dequeue                                                                                                                             |
| ENQUEUE_CPU_TIME             | NUMBER         |          | Total CPU time for enqueue (in hundredths of a second)                                                                                                                                 |
| DEQUEUE_CPU_TIME             | NUMBER         |          | Total CPU time for dequeue (in hundredths of a second)                                                                                                                                 |
| AVG_MSG_AGE                  | NUMBER         |          | Average age of messages in the queue                                                                                                                                                   |
| DEQUEUED_MSG_LATENCY         | NUMBER         |          | Last dequeued message latency (in seconds)                                                                                                                                             |
| ELAPSED_TRANSFORMATION_TIME  | NUMBER         |          | Total time (in hundredths of a second) spent doing transformation                                                                                                                      |
| ELAPSED_RULE_EVALUATION_TIME | NUMBER         |          | Total time (in hundredths of a second) spent doing rule evaluation                                                                                                                     |
| ENQUEUED_EXPIRY_MSGS         | NUMBER         |          | Number of messages enqueued with expiry                                                                                                                                                |
| ENQUEUED_DELAY_MSGS          | NUMBER         |          | Number of messages enqueued with delay                                                                                                                                                 |
| MSGs_MADE_EXPIRED            | NUMBER         |          | Number of messages expired by time manager                                                                                                                                             |
| MSGs_MADE_READY              | NUMBER         |          | Number of messages made ready by time manager                                                                                                                                          |
| LAST_ENQUEUE_TIME            | TIMESTAMP (6)  |          | Last message enqueue time                                                                                                                                                              |
| LAST_DEQUEUE_TIME            | TIMESTAMP (6)  |          | Last message dequeue time                                                                                                                                                              |
| LAST_TM_EXPIRY_TIME          | TIMESTAMP (6)  |          | Last time message was expired by time manager                                                                                                                                          |
| LAST_TM_READY_TIME           | TIMESTAMP (6)  |          | Last time message was made ready by time manager                                                                                                                                       |
| ENQUEUE_TRANSACTIONS         | NUMBER         |          | Number of enqueue transactions                                                                                                                                                         |
| DEQUEUE_TRANSACTIONS         | NUMBER         |          | Number of dequeue transactions                                                                                                                                                         |
| EXECUTION_COUNT              | NUMBER         |          | Number of executions of the dequeue cursor                                                                                                                                             |
| CON_DBID                     | NUMBER         |          | The database ID of the PDB for the sampled session                                                                                                                                     |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$PERSISTENT\_QUEUES"

## 6.24 DBA\_HIST\_PERSISTENT\_SUBS

DBA\_HIST\_PERSISTENT\_SUBS displays Oracle Database AQ persistent queue subscribers historical statistics information.

This view contains snapshots of V\$PERSISTENT\_SUBSCRIBERS.

| Column               | Datatype        | NULL     | Description                                                                                                                                                                            |
|----------------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID              | NUMBER          | NOT NULL | Unique snapshot ID                                                                                                                                                                     |
| DBID                 | NUMBER          | NOT NULL | Database ID for the snapshot                                                                                                                                                           |
| INSTANCE_NUMBER      | NUMBER          | NOT NULL | Instance number for the snapshot                                                                                                                                                       |
| QUEUE_SCHEMA         | VARCHAR2 (128)  | NOT NULL | Owner of the queue                                                                                                                                                                     |
| QUEUE_NAME           | VARCHAR2 (128)  | NOT NULL | Name of the queue                                                                                                                                                                      |
| SUBSCRIBER_ID        | NUMBER          | NOT NULL | Internal subscriber number                                                                                                                                                             |
| SUBSCRIBER_NAME      | VARCHAR2 (128)  |          | Name of the subscriber                                                                                                                                                                 |
| SUBSCRIBER_ADDRESS   | VARCHAR2 (1024) |          | Address of the subscribing agent                                                                                                                                                       |
| SUBSCRIBER_TYPE      | VARCHAR2 (128)  |          | <p>Type of the subscriber:</p> <ul style="list-style-type: none"> <li>PROXY - Propagation subscriber</li> <li>SUBSCRIBER - Normal subscriber</li> <li>RECIPIENT - Recipient</li> </ul> |
| FIRST_ACTIVITY_TIME  | TIMESTAMP (6)   |          | First subscriber activity time since database startup                                                                                                                                  |
| ENQUEUED_MSGS        | NUMBER          |          | Number of messages enqueued since FIRST_ACTIVITY_TIME                                                                                                                                  |
| DEQUEUED_MSGS        | NUMBER          |          | Number of messages dequeued since FIRST_ACTIVITY_TIME                                                                                                                                  |
| AVG_MSG_AGE          | NUMBER          |          | Average age of messages in the queue                                                                                                                                                   |
| BROWSED_MSGS         | NUMBER          |          | Number of messages that have been browsed                                                                                                                                              |
| EXPIRED_MSGS         | NUMBER          |          | Number of messages expired since FIRST_ACTIVITY_TIME                                                                                                                                   |
| DEQUEUED_MSG_LATENCY | NUMBER          |          | Last dequeued message latency (in seconds)                                                                                                                                             |



| Column               | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------|---------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LAST_ENQUEUE_TIME    | TIMESTAMP (6) |      | Timestamp of the last enqueued message                                                                                                                                                                                                                                                                                                                                                                                                           |
| LAST_DEQUEUE_TIME    | TIMESTAMP (6) |      | Timestamp of the last dequeued message                                                                                                                                                                                                                                                                                                                                                                                                           |
| ELAPSED_DEQUEUE_TIME | NUMBER        |      | Total time spent in dequeue (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                          |
| DEQUEUE_CPU_TIME     | NUMBER        |      | Total CPU time for dequeue (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                           |
| DEQUEUE_TRANSACTIONS | NUMBER        |      | Number of dequeue transactions                                                                                                                                                                                                                                                                                                                                                                                                                   |
| EXECUTION_COUNT      | NUMBER        |      | Number of executions of the dequeue index cursor                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_DBID             | NUMBER        |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID               | NUMBER        |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

"V\$PERSISTENT\_SUBSCRIBERS"

## 6.25 DBA\_HIST\_PGA\_TARGET\_ADVICE

DBA\_HIST\_PGA\_TARGET\_ADVICE displays historical predictions of how the cache hit percentage and over allocation count statistics displayed by the V\$PGASTAT performance view would be impacted if the value of the PGA\_AGGREGATE\_TARGET parameter is changed.

This view contains snapshots of V\$PGA\_TARGET\_ADVICE.

| Column                  | Datatype     | NULL     | Description                                                                                                             |
|-------------------------|--------------|----------|-------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID                 | NUMBER       | NOT NULL | Unique snapshot ID                                                                                                      |
| DBID                    | NUMBER       | NOT NULL | Database ID for the snapshot                                                                                            |
| INSTANCE_NUMBER         | NUMBER       | NOT NULL | Instance number for the snapshot                                                                                        |
| PGA_TARGET_FOR_ESTIMATE | NUMBER       | NOT NULL | Value of PGA_AGGREGATE_TARGET for the prediction (in bytes)                                                             |
| PGA_TARGET_FACTOR       | NUMBER       |          | PGA_TARGET_FOR_ESTIMATE / the current value of the PGA_AGGREGATE_TARGET parameter                                       |
| ADVICE_STATUS           | VARCHAR2 (3) |          | Indicates whether the advice is enabled (ON) or disabled (OFF) depending on the value of the STATISTICS_LEVEL parameter |
| BYTES_PROCESSED         | NUMBER       |          | Total bytes processed by all the work areas considered by this advice (in bytes)                                        |
| ESTD_TIME               | NUMBER       |          | Time (in seconds) required to process the bytes                                                                         |

| Column                        | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------|----------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ESTD_EXTRA_BYTES_RW           | NUMBER   |      | Estimated number of extra bytes which would be read or written if PGA_AGGREGATE_TARGET was set to the value of the PGA_TARGET_FOR_ESTIMATE column. This number is derived from the estimated number and size of work areas which would run in one-pass (or multi-pass) for that value of PGA_AGGREGATE_TARGET.                                                                                                                                |
| ESTD_PGA_CACHE_HIT_PERCENTAGE | NUMBER   |      | Estimated value of the cache hit percentage statistic when PGA_AGGREGATE_TARGET equals PGA_TARGET_FOR_ESTIMATE. This column is derived from the above two columns and is equal to $\text{BYTES\_PROCESSED} / (\text{BYTES\_PROCESSED} + \text{ESTD\_EXTRA\_BYTES\_RW})$                                                                                                                                                                       |
| ESTD_OVERALLOC_COUNT          | NUMBER   |      | Estimated number of PGA memory over-allocations if the value of PGA_AGGREGATE_TARGET is set to PGA_TARGET_FOR_ESTIMATE. A nonzero value means that PGA_TARGET_FOR_ESTIMATE is not large enough to run the work area workload. Hence, PGA_AGGREGATE_TARGET should not be set to PGA_TARGET_FOR_ESTIMATE since Oracle will not be able to honor that target.                                                                                    |
| CON_DBID                      | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID                        | NUMBER   |      | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

- "V\$PGASTAT"
- "V\$PGA\_TARGET\_ADVICE"
- "PGA\_AGGREGATE\_TARGET"

## 6.26 DBA\_HIST\_PGASTAT

DBA\_HIST\_PGASTAT displays historical PGA memory usage statistics as well as statistics about the automatic PGA memory manager when it is enabled.

This view contains snapshots of V\$PGASTAT.

| Column  | Datatype | NULL     | Description                  |
|---------|----------|----------|------------------------------|
| SNAP_ID | NUMBER   | NOT NULL | Unique snapshot ID           |
| DBID    | NUMBER   | NOT NULL | Database ID for the snapshot |

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|---------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Database instance number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NAME            | VARCHAR2 (64) | NOT NULL | <b>Name of the statistic:</b> <ul style="list-style-type: none"> <li>• aggregate PGA auto target</li> <li>• aggregate PGA target parameter</li> <li>• bytes processed</li> <li>• cache hit percentage</li> <li>• extra bytes read/written</li> <li>• global memory bound</li> <li>• max processes count</li> <li>• maximum PGA allocated</li> <li>• maximum PGA used for auto workareas</li> <li>• maximum PGA used for manual workareas</li> <li>• over allocation count</li> <li>• PGA memory freed back to OS</li> <li>• process count</li> <li>• recompute count (total)</li> <li>• total freeable PGA memory</li> <li>• total PGA allocated</li> <li>• total PGA inuse</li> <li>• total PGA used for auto workareas</li> <li>• total PGA used for manual workareas</li> </ul> <b>See Also:</b> V\$PGASTAT for descriptions of the statistics |
| VALUE           | NUMBER        |          | Statistic value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_DBID        | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID          | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                            |



**See Also:**

"V\$PGASTAT"

## 6.27 DBA\_HIST\_PLAN\_OPERATION\_NAME

DBA\_HIST\_PLAN\_OPERATION\_NAME displays historical information about SQL plan operation names.

| Column       | Datatype | NULL     | Description               |
|--------------|----------|----------|---------------------------|
| DBID         | NUMBER   | NOT NULL | Database identifier       |
| OPERATION_ID | NUMBER   | NOT NULL | Plan operation identifier |

| Column         | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------|---------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OPERATION_NAME | VARCHAR2 (64) |      | Plan operation name. This value also appears in the SQL_PLAN_OPERATION column of the DBA_HIST_ACTIVE_SESS_HISTORY view.                                                                                                                                                                                                                                                                                                                      |
| CON_DBID       | NUMBER        |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID         | NUMBER        |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 6.28 DBA\_HIST\_PLAN\_OPTION\_NAME

DBA\_HIST\_PLAN\_OPTION\_NAME displays historical information about SQL plan option names.

| Column      | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------|---------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID        | NUMBER        | NOT NULL | Database identifier                                                                                                                                                                                                                                                                                                                                                                                                                          |
| OPTION_ID   | NUMBER        | NOT NULL | Plan option identifier                                                                                                                                                                                                                                                                                                                                                                                                                       |
| OPTION_NAME | VARCHAR2 (64) |          | Plan option name. This value also appears in the SQL_PLAN_OPTIONS column of the DBA_HIST_ACTIVE_SESS_HISTORY view.                                                                                                                                                                                                                                                                                                                           |
| CON_DBID    | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID      | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 6.29 DBA\_HIST\_PROCESS\_MEM\_SUMMARY

DBA\_HIST\_PROCESS\_MEM\_SUMMARY displays historical information about dynamic PGA memory usage by named component categories for each process.

| Column          | Datatype | NULL     | Description                      |
|-----------------|----------|----------|----------------------------------|
| SNAP_ID         | NUMBER   | NOT NULL | Unique snapshot ID               |
| DBID            | NUMBER   | NOT NULL | Database ID for the snapshot     |
| INSTANCE_NUMBER | NUMBER   | NOT NULL | Instance number for the snapshot |

| Column            | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|---------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CATEGORY          | VARCHAR2 (15) | NOT NULL | Category name. Categories include "SQL", "PL/SQL", "OLAP" and "JAVA". Special categories are "Freeable" and "Other". Freeable memory has been allocated to the process by the operating system, but has not been allocated to a category. "Other" memory has been allocated to a category, but not to one of the named categories                                                                                               |
| IS_INSTANCE_WIDE  | NUMBER        |          | This column shows whether the process memory detail is for only this container or for the whole instance. If the value is 1, the detail is for the whole instance. Any other value is the container ID for the container to which the detail pertains, as seen in the CON_ID column.                                                                                                                                            |
| NUM_PROCESSES     | NUMBER        |          | Number of processes                                                                                                                                                                                                                                                                                                                                                                                                             |
| NON_ZERO_ALLOCS   | NUMBER        |          | Number of processes with nonzero allocations                                                                                                                                                                                                                                                                                                                                                                                    |
| USED_TOTAL        | NUMBER        |          | Bytes of PGA memory used by the process for the category                                                                                                                                                                                                                                                                                                                                                                        |
| ALLOCATED_TOTAL   | NUMBER        |          | Total number of bytes of PGA memory allocated by the process for the category.                                                                                                                                                                                                                                                                                                                                                  |
| ALLOCATED_AVG     | NUMBER        |          | Average number of bytes of PGA memory allocated by the process for the category                                                                                                                                                                                                                                                                                                                                                 |
| ALLOCATED_STDDEV  | NUMBER        |          | Standard deviation of the number of bytes of PGA memory allocated by the process for the category                                                                                                                                                                                                                                                                                                                               |
| ALLOCATED_MAX     | NUMBER        |          | Maximum bytes of PGA memory ever allocated by the process for the category                                                                                                                                                                                                                                                                                                                                                      |
| MAX_ALLOCATED_MAX | NUMBER        |          | Maximum bytes of PGA memory that can be allocated by the process for the category                                                                                                                                                                                                                                                                                                                                               |
| CON_DBID          | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID            | NUMBER        |          | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul> |

## 6.30 DBA\_HIST\_PROCESS\_WAITTIME

DBA\_HIST\_PROCESS\_WAITTIME displays CPU and wait time by process types.

| Column          | Datatype     | NULL     | Description                      |
|-----------------|--------------|----------|----------------------------------|
| SNAP_ID         | NUMBER       | NOT NULL | Unique snapshot ID               |
| DBID            | NUMBER       | NOT NULL | Database ID for the snapshot     |
| INSTANCE_NUMBER | NUMBER       | NOT NULL | Instance number for the snapshot |
| PROCESS_TYPE    | VARCHAR2 (5) | NOT NULL | Process type                     |

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DESCRIPTION     | VARCHAR2 (64) | NOT NULL | Process description                                                                                                                                                                                                                                                                                                                                                                                                                              |
| WAIT_CLASS_TYPE | VARCHAR2 (64) | NOT NULL | Type of wait class                                                                                                                                                                                                                                                                                                                                                                                                                               |
| VALUE           | NUMBER        |          | Wait time or CPU used time in milliseconds                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_DBID        | NUMBER        |          | The database ID of the PDB for the process                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID          | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.31 DBA\_HIST\_RECOVERY\_PROGRESS

DBA\_HIST\_RECOVERY\_PROGRESS displays database recovery progress information for an instance.

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|---------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| DBID            | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| START_TIME      | DATE          | NOT NULL | Start time of the recovery operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TYPE            | VARCHAR2 (64) | NOT NULL | Type of recovery operation being performed: <ul style="list-style-type: none"> <li>CRASH RECOVERY</li> <li>INSTANCE RECOVERY</li> <li>MEDIA RECOVERY</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ITEM            | VARCHAR2 (32) | NOT NULL | Item being measured.<br>When TYPE is CRASH RECOVERY or INSTANCE RECOVERY, the possible values are: <ul style="list-style-type: none"> <li>Log Files</li> <li>Redo Blocks</li> </ul> When TYPE is MEDIA RECOVERY, the possible values are: <ul style="list-style-type: none"> <li>Active Apply Rate</li> <li>Average Apply Rate</li> <li>Maximum Apply Rate</li> <li>Redo Applied</li> <li>Log Files</li> <li>Last Applied Redo</li> <li>Active Time</li> <li>Elapsed Time</li> <li>Apply Time per Log</li> <li>Checkpoint Time per Log</li> <li>Standby Apply Lag</li> <li>Recovery ID</li> </ul> |

| Column    | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------|---------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UNITS     | VARCHAR2 (32) |      | The units of measurement for each item                                                                                                                                                                                                                                                                                                                                                                                                            |
| SOFAR     | NUMBER        |      | Amount of work done so far                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TOTAL     | NUMBER        |      | Total amount of work expected                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TIMESTAMP | DATE          |      | Timestamp of the last redo record applied                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_DBID  | NUMBER        |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID    | NUMBER        |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root.</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.32 DBA\_HIST\_REPLICATION\_TBL\_STATS

DBA\_HIST\_REPLICATION\_TBL\_STATS displays replication table statistics for Oracle GoldenGate and XStream sessions. This view is intended for use with Automatic Workload Repository (AWR).

| Column            | Datatype       | NULL     | Description                                                                                                 |
|-------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------|
| SNAP_ID           | NUMBER         | NOT NULL | Unique snapshot ID                                                                                          |
| DBID              | NUMBER         | NOT NULL | Database ID for the snapshot                                                                                |
| INSTANCE_NUMBER   | NUMBER         | NOT NULL | Instance number for the snapshot                                                                            |
| APPLY_NAME        | VARCHAR2 (128) | NOT NULL | Name of the apply process                                                                                   |
| TABLE_NAME        | VARCHAR2 (128) | NOT NULL | Name of the table                                                                                           |
| TABLE_OWNER       | VARCHAR2 (128) | NOT NULL | Owner of the table                                                                                          |
| SESSION_MODULE    | VARCHAR2 (64)  | NOT NULL | Session module. Valid values: <ul style="list-style-type: none"> <li>XStream</li> <li>GoldenGate</li> </ul> |
| TOTAL_INSERTS     | NUMBER         |          | Number of insert operations on this table processed by this apply server                                    |
| TOTAL_UPDATES     | NUMBER         |          | Number of update operations on this table processed by this apply server                                    |
| TOTAL_DELETES     | NUMBER         |          | Number of delete operations on this table processed by this apply server                                    |
| CDR_SUCCESSFUL    | NUMBER         |          | Number of successfully resolved conflicts                                                                   |
| CDR_FAILED        | NUMBER         |          | Number of conflicts that could not be resolved due to an error during resolution                            |
| REPERR_CNT        | NUMBER         |          | The total number of errors for the replication operation                                                    |
| HANDLE_COLLISIONS | NUMBER         |          | Number of collisions on this table handled by this apply server                                             |
| CON_DBID          | NUMBER         |          | The database ID of the PDB for the sampled session                                                          |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.33 DBA\_HIST\_REPLICATION\_TXN\_STATS

DBA\_HIST\_REPLICATION\_TXN\_STATS displays replication transaction statistics for Oracle GoldenGate and XStream sessions.

| Column           | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID          | NUMBER         | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DBID             | NUMBER         | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                     |
| INSTANCE_NUMBER  | NUMBER         | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                 |
| OBJECT_NAME      | VARCHAR2 (128) | NOT NULL | Object name                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SESSION_TYPE     | VARCHAR2 (64)  | NOT NULL | Type of session                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SESSION_MODULE   | VARCHAR2 (64)  | NOT NULL | Session module. Valid values: <ul style="list-style-type: none"> <li>XStream</li> <li>GoldenGate</li> </ul>                                                                                                                                                                                                                                                                                                                                      |
| SOURCE_DATABASE  | VARCHAR2 (128) |          | Database where the transaction originated                                                                                                                                                                                                                                                                                                                                                                                                        |
| SOURCE_TXN_ID    | VARCHAR2 (128) | NOT NULL | Original transaction ID at the source database                                                                                                                                                                                                                                                                                                                                                                                                   |
| FIRST_LCR_TIME   | DATE           |          | Time of the first LCR (message in an error transaction)                                                                                                                                                                                                                                                                                                                                                                                          |
| TOTAL_LCRS_COUNT | NUMBER         |          | Total number of LCRs for this replication transaction                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_DBID         | NUMBER         |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID           | NUMBER         |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.34 DBA\_HIST\_REPORTS

DBA\_HIST\_REPORTS displays information about XML reports captured into Automatic Workload Repository (AWR).

The reports themselves belong to components such as SQL Monitor, DBOP, and Real-Time ADDM.



Each XML report contains details about some activity of a component. For example, a SQL Monitor report contains a detailed report about a particular execution of a SQL statement, or a Real-Time ADDM report contains system performance data analyzed by Real-Time ADDM.

| Column                  | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------|-----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID                 | NUMBER          |      | ID of the first Automatic Workload Repository (AWR) snapshot that will be taken after this report is generated                                                                                                                                                                                                                                                                                                                                         |
| DBID                    | NUMBER          |      | Database ID of the current database for the report                                                                                                                                                                                                                                                                                                                                                                                                     |
| INSTANCE_NUMBER         | NUMBER          |      | Instance number (for an Oracle RAC system)                                                                                                                                                                                                                                                                                                                                                                                                             |
| REPORT_ID               | NUMBER          |      | ID of the captured report                                                                                                                                                                                                                                                                                                                                                                                                                              |
| COMPONENT_ID            | NUMBER          |      | ID of the component (for example, SQL Monitor) whose report is captured                                                                                                                                                                                                                                                                                                                                                                                |
| SESSION_ID              | NUMBER          |      | ID of the session corresponding to the captured report (currently used only for SQL Monitor reports)                                                                                                                                                                                                                                                                                                                                                   |
| SESSION_SERIAL#         | NUMBER          |      | Session serial number corresponding to the captured report (currently used only for SQL Monitor reports)                                                                                                                                                                                                                                                                                                                                               |
| PERIOD_START_TIME       | DATE            |      | Time when the activity period started                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PERIOD_END_TIME         | DATE            |      | Time when the activity period ended                                                                                                                                                                                                                                                                                                                                                                                                                    |
| GENERATION_TIME         | DATE            |      | Time when this report was generated                                                                                                                                                                                                                                                                                                                                                                                                                    |
| COMPONENT_NAME          | VARCHAR2 (128)  |      | Name of the component whose report this is                                                                                                                                                                                                                                                                                                                                                                                                             |
| REPORT_NAME             | VARCHAR2 (128)  |      | Name of this report                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| REPORT_PARAMETERS       | VARCHAR2 (1024) |      | Parameters associated with this report                                                                                                                                                                                                                                                                                                                                                                                                                 |
| KEY1                    | VARCHAR2 (128)  |      | Key1 associated with the captured report                                                                                                                                                                                                                                                                                                                                                                                                               |
| KEY2                    | VARCHAR2 (128)  |      | Key2 associated with the captured report                                                                                                                                                                                                                                                                                                                                                                                                               |
| KEY3                    | VARCHAR2 (128)  |      | Key3 associated with the captured report                                                                                                                                                                                                                                                                                                                                                                                                               |
| KEY4                    | VARCHAR2 (256)  |      | Key4 associated with the captured report                                                                                                                                                                                                                                                                                                                                                                                                               |
| GENERATION_COST_SECONDS | NUMBER          |      | Time taken to generate this report (in seconds)                                                                                                                                                                                                                                                                                                                                                                                                        |
| REPORT_SUMMARY          | VARCHAR2 (4000) |      | Summary of this report                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_DBID                | NUMBER          |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID                  | NUMBER          |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

"DBA\_HIST\_REPORTS\_DETAILS"

## 6.35 DBA\_HIST\_REPORTS\_CONTROL

DBA\_HIST\_REPORTS\_CONTROL contains control information about the report capture mechanism that automatically captures XML reports to Automatic Workload Repository (AWR).

Reports are captured automatically for components like SQL Monitor and Real-Time Automatic Database Diagnostic Monitor (Real-Time ADDM).

| Column         | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------|---------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID           | NUMBER        |      | Database ID of the current database for the report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EXECUTION_MODE | VARCHAR2 (12) |      | <p>Mode of execution of automatic report capture.<br/>Possible values:</p> <ul style="list-style-type: none"> <li>REGULAR: Regular per-minute report capture subject to DBTIME budget</li> <li>FULL_CAPTURE: Report capture will be run per minute without the DBTIME budget constraints and is provided to capture a more comprehensive set of reports</li> </ul> <p><b>NOTE:</b> The FULL_CAPTURE mode can be started and ended respectively by executing the START_REPORT_CAPTURE and FINISH_REPORT_CAPTURE APIs in the DBMS_AUTO_REPORT package. At all other times, the execution mode should be REGULAR.</p> |



### See Also:

*Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_AUTO\_REPORT package

## 6.36 DBA\_HIST\_REPORTS\_DETAILS

DBA\_HIST\_REPORTS\_DETAILS displays details about each report captured in Automatic Workload Repository (AWR).

Metadata for each report appears in the DBA\_HIST\_REPORTS view while the actual report is available in the DBA\_HIST\_REPORTS\_DETAILS view.

| Column          | Datatype | NULL | Description                                                                                          |
|-----------------|----------|------|------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER   |      | ID of the first AWR snapshot that will be taken after this report is generated                       |
| DBID            | NUMBER   |      | Database ID of the current database for the report                                                   |
| INSTANCE_NUMBER | NUMBER   |      | Instance number (for an Oracle RAC system)                                                           |
| REPORT_ID       | NUMBER   |      | ID of the captured report                                                                            |
| SESSION_ID      | NUMBER   |      | ID of the session corresponding to the captured report (currently used only for SQL Monitor reports) |
| SESSION_SERIAL# | NUMBER   |      | Session serial number relevant to this report (currently used only for SQL Monitor reports)          |

| Column            | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GENERATION_TIME   | DATE     |      | Time when this report was generated                                                                                                                                                                                                                                                                                                                                                                                                              |
| REPORT_COMPRESSED | BLOB     |      | Actual XML report in compressed form                                                                                                                                                                                                                                                                                                                                                                                                             |
| REPORT            | CLOB     |      | Full uncompressed report                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_DBID          | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID            | NUMBER   |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"DBA\_HIST\_REPORTS"

## 6.37 DBA\_HIST\_REPORTS\_TIMEBANDS

DBA\_HIST\_REPORTS\_TIMEBANDS contains bands of time with a new row created every day corresponding to a band of time.

Each band of time represents a period of time, and has a row for every report captured automatically into Automatic Workload Repository (AWR) during that time. If the activity period of a report spans across two bands of time (for example, the activity started before midnight and ended after midnight), then the view contains two rows for that report, with one row for each band of time. The view is partitioned to provide fast access to all reports captured in a given time frame.

| Column                 | Datatype       | NULL | Description                                                             |
|------------------------|----------------|------|-------------------------------------------------------------------------|
| SNAP_ID                | NUMBER         |      | The AWR snapshot id corresponding to the report                         |
| DBID                   | NUMBER         |      | Database ID of the current database for the report                      |
| INSTANCE_NUMBER        | NUMBER         |      | Instance number (for an Oracle RAC system)                              |
| CON_DBID               | NUMBER         |      | CDB ID of the captured report                                           |
| COMPONENT_ID           | NUMBER         |      | ID of the component (for example, SQL Monitor) whose report is captured |
| COMPONENT_NAME         | VARCHAR2 (128) |      | Name of the component whose report is captured                          |
| BAND_START_TIME        | DATE           |      | Starting time of the time band                                          |
| BAND_LENGTH            | NUMBER         |      | Length of time band in days (currently unused)                          |
| REPORT_ID              | NUMBER         |      | ID of the captured report                                               |
| REPORT_GENERATION_TIME | DATE           |      | Time when the report was generated                                      |
| PERIOD_START_TIME      | DATE           |      | Time when the activity period started                                   |
| PERIOD_END_TIME        | DATE           |      | Time when the activity period ended                                     |

| Column          | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KEY1            | VARCHAR2 (128) |      | Key1 associated with the captured report                                                                                                                                                                                                                                                                                                                                                                                                         |
| KEY2            | VARCHAR2 (128) |      | Key2 associated with the captured report                                                                                                                                                                                                                                                                                                                                                                                                         |
| KEY3            | VARCHAR2 (128) |      | Key3 associated with the captured report                                                                                                                                                                                                                                                                                                                                                                                                         |
| KEY4            | VARCHAR2 (256) |      | Key4 associated with the captured report                                                                                                                                                                                                                                                                                                                                                                                                         |
| SESSION_ID      | NUMBER         |      | ID of the session corresponding to the captured report (currently used only for SQL Monitor reports)                                                                                                                                                                                                                                                                                                                                             |
| SESSION_SERIAL# | NUMBER         |      | Session serial number corresponding to the captured report (currently used only for SQL Monitor reports)                                                                                                                                                                                                                                                                                                                                         |
| CON_ID          | NUMBER         |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.38 DBA\_HIST\_RESOURCE\_LIMIT

DBA\_HIST\_RESOURCE\_LIMIT displays historical information about global resource use for some of the system resource.

This view contains snapshots of V\$RESOURCE\_LIMIT.

If time is of interest, join this view with DBA\_HIST\_SNAPSHOT.END\_INTERVAL\_TIME.

| Column              | Datatype      | NULL     | Description                                                                                                                                              |
|---------------------|---------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID             | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                       |
| DBID                | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                             |
| INSTANCE_NUMBER     | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                         |
| RESOURCE_NAME       | VARCHAR2 (30) | NOT NULL | Name of the resource                                                                                                                                     |
| CURRENT_UTILIZATION | NUMBER        |          | Number of (resources, locks, or processes) currently being used                                                                                          |
| MAX_UTILIZATION     | NUMBER        |          | Maximum consumption of the resource since the last instance start up                                                                                     |
| INITIAL_ALLOCATION  | VARCHAR2 (10) |          | Initial allocation. This will be equal to the value specified for the resource in the initialization parameter file (UNLIMITED for infinite allocation). |
| LIMIT_VALUE         | VARCHAR2 (10) |          | Unlimited for resources and locks. This can be greater than the initial allocation value (UNLIMITED for infinite limit).                                 |
| CON_DBID            | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                       |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.39 DBA\_HIST\_ROWCACHE\_SUMMARY

DBA\_HIST\_ROWCACHE\_SUMMARY displays historical summary statistics for data dictionary activity.

This view contains snapshots of V\$ROWCACHE.

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------|---------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| DBID            | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                         |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PARAMETER       | VARCHAR2 (32) | NOT NULL | Name of the initialization parameter that determines the number of entries in the data dictionary cache                                                                                                                                                                                                                                                                                                                                              |
| TOTAL_USAGE     | NUMBER        |          | Sum of the total number of entries in the cache                                                                                                                                                                                                                                                                                                                                                                                                      |
| USAGE           | NUMBER        |          | Number of cache entries that contain valid data                                                                                                                                                                                                                                                                                                                                                                                                      |
| GETS            | NUMBER        |          | Total number of requests for information on the data object                                                                                                                                                                                                                                                                                                                                                                                          |
| GETMISSES       | NUMBER        |          | Number of data requests resulting in cache misses                                                                                                                                                                                                                                                                                                                                                                                                    |
| SCANS           | NUMBER        |          | Number of scan requests                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SCANMISSES      | NUMBER        |          | Number of times a scan failed to find the data in the cache                                                                                                                                                                                                                                                                                                                                                                                          |
| SCANCOMPLETES   | NUMBER        |          | For a list of subordinate entries, the number of times the list was scanned completely                                                                                                                                                                                                                                                                                                                                                               |
| MODIFICATIONS   | NUMBER        |          | Number of inserts, updates, and deletions                                                                                                                                                                                                                                                                                                                                                                                                            |
| FLUSHES         | NUMBER        |          | Number of times flushed to disk                                                                                                                                                                                                                                                                                                                                                                                                                      |
| DLM_REQUESTS    | NUMBER        |          | Number of DLM requests                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DLM_CONFLICTS   | NUMBER        |          | Number of DLM conflicts                                                                                                                                                                                                                                                                                                                                                                                                                              |
| DLM_RELEASES    | NUMBER        |          | Number of DLM releases                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_DBID        | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID          | NUMBER        |          | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:****"V\$ROWCACHE"**

## 6.40 DBA\_HIST\_RSRC\_CONSUMER\_GROUP

DBA\_HIST\_RSRC\_CONSUMER\_GROUP displays historical information about Resource Manager consumer groups.

This view contains snapshots of V\$RSRC\_CONS\_GROUP\_HISTORY.

| Column                | Datatype       | NULL     | Description                                                                                                                                                                                             |
|-----------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID               | NUMBER         | NOT NULL | Unique snapshot ID                                                                                                                                                                                      |
| DBID                  | NUMBER         | NOT NULL | Database ID for the snapshot                                                                                                                                                                            |
| INSTANCE_NUMBER       | NUMBER         | NOT NULL | Instance number for the snapshot                                                                                                                                                                        |
| SEQUENCE#             | NUMBER         | NOT NULL | A sequential counter that uniquely describes the DBA_HIST_RSRC_PLAN entry to which these consumer group statistics apply. When the instance is restarted, this value is reset to zero.                  |
| CONSUMER_GROUP_ID     | NUMBER         | NOT NULL | Consumer group object ID (a unique number, consistent across database shutdowns and startups)                                                                                                           |
| CONSUMER_GROUP_NAME   | VARCHAR2 (128) | NOT NULL | Name of the consumer group                                                                                                                                                                              |
| REQUESTS              | NUMBER         | NOT NULL | Cumulative number of requests that were executed in the consumer group                                                                                                                                  |
| CPU_WAIT_TIME         | NUMBER         | NOT NULL | Cumulative amount of time that sessions waited for CPU because of resource management. This does not include waits due to latch or enqueue contention, I/O waits, and so on.                            |
| CPU_WAITS             | NUMBER         | NOT NULL | Cumulative number of times all sessions in the consumer group had to wait for CPU because of resource management. This does not include waits due to latch or enqueue contention, I/O waits, and so on. |
| CONSUMED_CPU_TIME     | NUMBER         | NOT NULL | Cumulative amount of CPU time consumed by all sessions in the consumer group (in milliseconds)                                                                                                          |
| YIELDS                | NUMBER         | NOT NULL | Cumulative number of times that sessions in the consumer group had to yield CPU to other sessions because of quantum expiration                                                                         |
| ACTIVE_SESS_LIMIT_HIT | NUMBER         | NOT NULL | Number of times that sessions in the consumer group were queued because the consumer group reached its active session limit                                                                             |
| UNDO_LIMIT_HIT        | NUMBER         | NOT NULL | Number of times that queries in the consumer group were cancelled because the consumer group reached its UNDO_POOL limit                                                                                |
| SWITCHES_IN_CPU_TIME  | NUMBER         | NOT NULL | Number of switches into the consumer group because of the Resource Manager plan's SWITCH_TIME limit                                                                                                     |
| SWITCHES_OUT_CPU_TIME | NUMBER         | NOT NULL | Number of switches out of the consumer group because of the Resource Manager plan's SWITCH_TIME limit                                                                                                   |

| Column                    | Datatype | NULL     | Description                                                                                                                                                                                                                 |
|---------------------------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SWITCHES_IN_IO_MEGABYTES  | NUMBER   | NOT NULL | Number of switches into the consumer group because of the Resource Manager plan's SWITCH_IO_MEGABYTES limit                                                                                                                 |
| SWITCHES_OUT_IO_MEGABYTES | NUMBER   | NOT NULL | Number of switches out of the consumer group because of the Resource Manager plan's SWITCH_IO_MEGABYTES limit                                                                                                               |
| SWITCHES_IN_IO_REQUESTS   | NUMBER   | NOT NULL | Number of switches into the consumer group because of the Resource Manager plan's SWITCH_IO_REQS limit                                                                                                                      |
| SWITCHES_OUT_IO_REQUESTS  | NUMBER   | NOT NULL | Number of switches out of the consumer group because of the Resource Manager plan's SWITCH_IO_REQS limit                                                                                                                    |
| SWITCHES_IN_IO_LOGICAL    | NUMBER   |          | Number of switches into the consumer group because of the Resource Manager plan's SWITCH_IO_LOGICAL limit                                                                                                                   |
| SWITCHES_OUT_IO_LOGICAL   | NUMBER   |          | Number of switches out of the consumer group because of the Resource Manager plan's SWITCH_IO_LOGICAL limit                                                                                                                 |
| SWITCHES_IN_ELAPSED_TIME  | NUMBER   |          | Number of switches into the consumer group because of the Resource Manager plan's SWITCH_ELAPSED_TIME limit                                                                                                                 |
| SWITCHES_OUT_ELAPSED_TIME | NUMBER   |          | Number of switches out of the consumer group because of the Resource Manager plan's SWITCH_ELAPSED_TIME limit                                                                                                               |
| PGA_LIMIT_SESSIONS_KILLED | NUMBER   |          | The number of sessions that were terminated because their PGA allocation exceeded the PGA limit specified in the Resource Plan's SESSION_PGA_LIMIT directive                                                                |
| SQL_CANCELED              | NUMBER   | NOT NULL | Number of times that SQL queries running in the consumer group were terminated because they exceeded the Resource Manager plan's SWITCH_TIME limit and CANCEL_SQL was specified as the Resource Manager plan's SWITCH_GROUP |
| ACTIVE_SESS_KILLED        | NUMBER   | NOT NULL | Number of times that sessions running in the consumer group were terminated because they exceeded the Resource Manager plan's SWITCH_TIME limit and KILL_SESSION was specified as the Resource Manager plan's SWITCH_GROUP  |
| IDLE_SESS_KILLED          | NUMBER   | NOT NULL | Number of times that sessions in the consumer group were terminated because they were idle for too long (reached MAX_IDLE_TIME)                                                                                             |
| IDLE_BLKR_SESS_KILLED     | NUMBER   | NOT NULL | Number of times that sessions in the consumer group were terminated because they were idle too long (reached MAX_IDLE_BLOCKER_TIME) and were blocking other sessions                                                        |
| QUEUED_TIME               | NUMBER   | NOT NULL | Total amount of time that sessions in the consumer group have spent in the QUEUED state because of the active session limit (in milliseconds)                                                                               |
| QUEUE_TIME_OUTS           | NUMBER   | NOT NULL | Number of times that requests from sessions in the consumer group timed out because they were queued for too long (reached QUEUEING_P1)                                                                                     |
| IO_SERVICE_TIME           | NUMBER   | NOT NULL | Cumulative I/O wait time (in milliseconds)                                                                                                                                                                                  |

| Column                | Datatype | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------|----------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IO_SERVICE_WAITS      | NUMBER   | NOT NULL | Total number of wait requests                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SMALL_READ_MEGABYTES  | NUMBER   | NOT NULL | Number of single block megabytes read                                                                                                                                                                                                                                                                                                                                                                                                            |
| SMALL_WRITE_MEGABYTES | NUMBER   | NOT NULL | Number of single block megabytes written                                                                                                                                                                                                                                                                                                                                                                                                         |
| LARGE_READ_MEGABYTES  | NUMBER   | NOT NULL | Number of multiblock megabytes read                                                                                                                                                                                                                                                                                                                                                                                                              |
| LARGE_WRITE_MEGABYTES | NUMBER   | NOT NULL | Number of multiblock megabytes written                                                                                                                                                                                                                                                                                                                                                                                                           |
| SMALL_READ_REQUESTS   | NUMBER   | NOT NULL | Number of single block read requests                                                                                                                                                                                                                                                                                                                                                                                                             |
| SMALL_WRITE_REQUESTS  | NUMBER   | NOT NULL | Number of single block write requests                                                                                                                                                                                                                                                                                                                                                                                                            |
| LARGE_READ_REQUESTS   | NUMBER   | NOT NULL | Number of multiblock read requests                                                                                                                                                                                                                                                                                                                                                                                                               |
| LARGE_WRITE_REQUESTS  | NUMBER   | NOT NULL | Number of multiblock write requests                                                                                                                                                                                                                                                                                                                                                                                                              |
| PQS_QUEUED            | NUMBER   |          | Number of times that sessions in the consumer group were queued when trying to run parallel statements                                                                                                                                                                                                                                                                                                                                           |
| PQ_QUEUED_TIME        | NUMBER   |          | Total amount of time that sessions in the consumer group were queued when trying to run parallel statements (in milliseconds)                                                                                                                                                                                                                                                                                                                    |
| PQ_QUEUE_TIME_OUTS    | NUMBER   |          | Number of times that parallel statements from sessions in the consumer group timed out because their queue time exceeded the Resource Manager plan's PARALLEL_QUEUE_TIMEOUT limit                                                                                                                                                                                                                                                                |
| PQS_COMPLETED         | NUMBER   |          | Total number of completed parallel statements in the consumer group                                                                                                                                                                                                                                                                                                                                                                              |
| PQ_SERVERS_USED       | NUMBER   |          | Total number of parallel servers used by completed parallel statements in the consumer group                                                                                                                                                                                                                                                                                                                                                     |
| PQ_ACTIVE_TIME        | NUMBER   |          | Cumulative sum of the parallel active times for all completed parallel statements in the consumer group (in milliseconds)                                                                                                                                                                                                                                                                                                                        |
| CON_DBID              | NUMBER   |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID                | NUMBER   |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$RSRC\_CONS\_GROUP\_HISTORY"

## 6.41 DBA\_HIST\_RSRC\_METRIC

DBA\_HIST\_RSRC\_METRIC displays information about historical Resource Manager metrics for the past hour.



| Column                      | Datatype     | NULL     | Description                                                                                                                                                                                                                                                                 |
|-----------------------------|--------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID                     | NUMBER       | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                          |
| DBID                        | NUMBER       | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                |
| INSTANCE_NUMBER             | NUMBER       | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                            |
| BEGIN_TIME                  | TIMESTAMP(3) | NOT NULL | Begin time of the interval                                                                                                                                                                                                                                                  |
| END_TIME                    | TIMESTAMP(3) | NOT NULL | End time of the interval                                                                                                                                                                                                                                                    |
| INTSIZE_CSEC                | NUMBER       | NOT NULL | Interval size (in hundredths of a second)                                                                                                                                                                                                                                   |
| SEQUENCE#                   | NUMBER       | NOT NULL | A sequential counter that uniquely describes the V\$RSRC_PLAN_HISTORY entry to which these consumer group statistics apply. When the instance is restarted, this value is reset to zero.                                                                                    |
| CONSUMER_GROUP_ID           | NUMBER       | NOT NULL | Consumer group object ID (a unique number, consistent across database shutdowns and startups)                                                                                                                                                                               |
| CPU_CONSUMED_TIME           | NUMBER       | NOT NULL | Cumulative amount of CPU time consumed by all sessions in the consumer group, in milliseconds                                                                                                                                                                               |
| CPU_WAIT_TIME               | NUMBER       | NOT NULL | Cumulative amount of time that sessions waited for CPU because of resource management, in milliseconds. This does not include waits due to latch or enqueue contention, I/O waits, and so on. When CPU resources are not being actively managed, this value is set to zero. |
| AVG_RUNNING_SESSIONS        | NUMBER       |          | Average number of sessions in the consumer group that are currently running                                                                                                                                                                                                 |
| AVG_WAITING_SESSIONS        | NUMBER       |          | Average number of sessions in the consumer group that are waiting for CPU due to resource management. When CPU resources are not being actively managed, this value is set to zero.                                                                                         |
| RUNNING_SESSION_LIMIT       | NUMBER       |          | Maximum number of sessions in the consumer group that can run simultaneously. The value of this column is NUM_CPUS multiplied by the consumer group's MAX_UTILIZATION_LIMIT directive in the current Resource Manager plan.                                                 |
| AVG_CPU_UTILIZATION         | NUMBER       |          | Average percentage of CPU consumed by the consumer group, with respect to the total number of CPUs in the system                                                                                                                                                            |
| IO_REQUESTS                 | NUMBER       | NOT NULL | I/O requests                                                                                                                                                                                                                                                                |
| IO_MEGABYTES                | NUMBER       | NOT NULL | I/O megabytes                                                                                                                                                                                                                                                               |
| IOPS                        | NUMBER       |          | I/O operations per second during the previous minute for this PDB                                                                                                                                                                                                           |
| IOMBPS                      | NUMBER       |          | I/O megabytes per second during the previous minute for this PDB                                                                                                                                                                                                            |
| AVG_ACTIVE_PARALLEL_STMTS   | NUMBER       |          | The average number of parallel statements that were running during the 1-minute metric window                                                                                                                                                                               |
| AVG_QUEUED_PARALLEL_STMTS   | NUMBER       |          | The average number of parallel statements that were queued during the 1-minute metric window                                                                                                                                                                                |
| AVG_ACTIVE_PARALLEL_SERVERS | NUMBER       |          | The average number of parallel servers that were actively running as part of a parallel statement during the 1-minute metric window                                                                                                                                         |

| Column                      | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AVG_QUEUED_PARALLEL_SERVERS | NUMBER   |      | The average number of parallel servers that were requested by queued parallel statements during the 1-minute metric window                                                                                                                                                                                                                                                                                                                       |
| CON_DBID                    | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID                      | NUMBER   |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.42 DBA\_HIST\_RSRC\_PDB\_METRIC

DBA\_HIST\_RSRC\_PDB\_METRIC displays information about historical Resource Manager metrics for the past hour by PDB.

| Column               | Datatype     | NULL     | Description                                                                                                                                                                                                                                                                 |
|----------------------|--------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID              | NUMBER       | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                          |
| DBID                 | NUMBER       | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                |
| INSTANCE_NUMBER      | NUMBER       | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                            |
| BEGIN_TIME           | TIMESTAMP(3) | NOT NULL | Begin time of the interval                                                                                                                                                                                                                                                  |
| END_TIME             | TIMESTAMP(3) | NOT NULL | End time of the interval                                                                                                                                                                                                                                                    |
| INTSIZE_CSEC         | NUMBER       | NOT NULL | Interval size (in hundredths of a second)                                                                                                                                                                                                                                   |
| SEQUENCE#            | NUMBER       | NOT NULL | A sequential counter that uniquely describes the V\$RSRC_PLAN_HISTORY entry to which these PDB statistics apply. When the instance is restarted, this value is reset to zero.                                                                                               |
| CPU_CONSUMED_TIME    | NUMBER       | NOT NULL | Cumulative amount of CPU time consumed by all sessions in the PDB, in milliseconds                                                                                                                                                                                          |
| CPU_WAIT_TIME        | NUMBER       | NOT NULL | Cumulative amount of time that sessions waited for CPU because of resource management, in milliseconds. This does not include waits due to latch or enqueue contention, I/O waits, and so on. When CPU resources are not being actively managed, this value is set to zero. |
| AVG_RUNNING_SESSIONS | NUMBER       |          | Average number of sessions in the PDB that are currently running                                                                                                                                                                                                            |
| AVG_WAITING_SESSIONS | NUMBER       |          | Average number of sessions in the PDB that are waiting for CPU due to resource management. When CPU resources are not being actively managed, this value is set to zero.                                                                                                    |
| AVG_CPU_UTILIZATION  | NUMBER       |          | Average percentage of CPU consumed by the PDB, with respect to the total number of CPUs in the system                                                                                                                                                                       |
| IOPS                 | NUMBER       |          | I/O operations per second during the previous minute for this PDB                                                                                                                                                                                                           |

| Column                      | Datatype | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------|----------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IOMBPS                      | NUMBER   |          | I/O megabytes per second during the previous minute for this PDB                                                                                                                                                                                                                                                                                                                                                                         |
| IOPS_THROTTLE_EXEMPT        | NUMBER   |          | <p>Indicates how much of the I/O per second in the current PDB was exempted from throttling.</p> <p>For example, if the value in the IOPS column is 20 I/Os and the value in the IOPS_THROTTLE_EXEMPT column is 5 I/Os, then 5 I/Os of the 20 I/Os in that second were exempted from throttling.</p> <p>I/O throttling is defined by the MAX_IOPS database initialization parameter.</p>                                                 |
| IOMBPS_THROTTLE_EXEMPT      | NUMBER   |          | <p>Indicates how many megabytes of I/O executed per second in the current PDB were exempted from throttling.</p> <p>For example, if the value in the IOMBPS column is 200 megabytes and the value in the IOMBPS_THROTTLE_EXEMPT column is 50 megabytes, then 50 megabytes of the 200 megabytes were exempt from throttling.</p> <p>I/O megabytes per second throttling is defined by the MAX_MBPS database initialization parameter.</p> |
| AVG_IO_THROTTLE             | NUMBER   |          | Average throttle time per I/O operation in milliseconds during the previous minute for this PDB                                                                                                                                                                                                                                                                                                                                          |
| AVG_ACTIVE_PARALLEL_STMTS   | NUMBER   |          | The average number of parallel statements that were running during the 1-minute metric window                                                                                                                                                                                                                                                                                                                                            |
| AVG_QUEUED_PARALLEL_STMTS   | NUMBER   |          | The average number of parallel statements that were queued during the 1-minute metric window                                                                                                                                                                                                                                                                                                                                             |
| AVG_ACTIVE_PARALLEL_SERVERS | NUMBER   |          | The average number of parallel servers that were actively running as part of a parallel statement during the 1-minute metric window                                                                                                                                                                                                                                                                                                      |
| AVG_QUEUED_PARALLEL_SERVERS | NUMBER   |          | The average number of parallel servers that were requested by queued parallel statements during the 1-minute metric window                                                                                                                                                                                                                                                                                                               |
| SGA_BYTES                   | NUMBER   | NOT NULL | The current SGA usage for this PDB in bytes                                                                                                                                                                                                                                                                                                                                                                                              |
| BUFFER_CACHE_BYTES          | NUMBER   | NOT NULL | The current usage of the buffer cache by this PDB in bytes                                                                                                                                                                                                                                                                                                                                                                               |
| SHARED_POOL_BYTES           | NUMBER   | NOT NULL | The current usage of the shared pool by this PDB in bytes                                                                                                                                                                                                                                                                                                                                                                                |
| PGA_BYTES                   | NUMBER   | NOT NULL | The current PGA usage for this PDB in bytes                                                                                                                                                                                                                                                                                                                                                                                              |
| PLAN_ID                     | NUMBER   | NOT NULL | Resource Manager plan identifier                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_DBID                    | NUMBER   |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID                      | NUMBER   |          | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul>   |

| Column                   | Datatype | NULL     | Description                                                |
|--------------------------|----------|----------|------------------------------------------------------------|
| MAX_AVG_RUNNING_SESSIONS | NUMBER   | NOT NULL | Maximum value of AVG_RUNNING_SESSIONS during the last hour |

**Note:**

- "MAX\_IOPS"
- "MAX\_MBPS"

## 6.43 DBA\_HIST\_RSRC\_PLAN

DBA\_HIST\_RSRC\_PLAN displays historical information about resource plans.

This view contains snapshots of V\$RSRC\_PLAN\_HISTORY.

| Column          | Datatype       | NULL     | Description                                                                                                                                                                                                         |
|-----------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER         | NOT NULL | Unique snapshot ID                                                                                                                                                                                                  |
| DBID            | NUMBER         | NOT NULL | Database ID for the snapshot                                                                                                                                                                                        |
| INSTANCE_NUMBER | NUMBER         | NOT NULL | Instance number for the snapshot                                                                                                                                                                                    |
| SEQUENCE#       | NUMBER         | NOT NULL | A sequential counter that uniquely describes a row. When the instance is restarted, this value is reset to zero.                                                                                                    |
| START_TIME      | DATE           | NOT NULL | Time that the resource plan was enabled                                                                                                                                                                             |
| END_TIME        | DATE           |          | Time that the resource plan was disabled; NULL if the row contains the current resource plan information                                                                                                            |
| PLAN_ID         | NUMBER         | NOT NULL | Resource plan ID; NULL if the Resource Manager was disabled                                                                                                                                                         |
| PLAN_NAME       | VARCHAR2 (128) | NOT NULL | Resource plan name; NULL if the Resource Manager was disabled                                                                                                                                                       |
| CPU_MANAGED     | VARCHAR2 (4)   | NOT NULL | Indicates whether the resource plan has parameters that specify a policy for how the Resource Manager should schedule sessions to manage CPU usage (ON) or whether Resource Manager is not managing CPU usage (OFF) |

| Column                     | Datatype     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------|--------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PARALLEL_EXECUTION_MANAGED | VARCHAR2 (4) |      | State of parallel statement queuing: <ul style="list-style-type: none"> <li>• OFF - Parallel statement queuing is disabled</li> <li>• STARTUP - Parallel statement queuing is enabled. This is a temporary state that can occur when an Oracle RAC database is undergoing configuration changes</li> <li>• FIFO - Parallel statement queuing is enabled. All parallel statements are managed in a single Oracle RAC FIFO queue</li> <li>• FULL - Parallel statement queuing is enabled. All parallel statements are managed in per-consumer group queues according to the current resource plan. This state is used when a resource plan that contains resource allocation directives (MGMT_P*) is enabled.</li> </ul> |
| INSTANCE_CAGING            | VARCHAR2 (4) |      | Indicates whether instance caging is enabled (ON) or disabled (OFF). Instance caging is enabled if the CPU_COUNT initialization parameter is explicitly modified to a value other than 0 and Resource Manager is enabled.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_DBID                   | NUMBER       |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID                     | NUMBER       |      | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• n: Where n is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                  |



See Also:

"V\$RSRC\_PLAN\_HISTORY"

## 6.44 DBA\_HIST\_RULE\_SET

DBA\_HIST\_RULE\_SET displays historical information about rule set statistics.

| Column          | Datatype       | NULL     | Description                      |
|-----------------|----------------|----------|----------------------------------|
| SNAP_ID         | NUMBER         | NOT NULL | Unique snapshot ID               |
| DBID            | NUMBER         | NOT NULL | Database ID for the snapshot     |
| INSTANCE_NUMBER | NUMBER         | NOT NULL | Instance number for the snapshot |
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the rule set            |
| NAME            | VARCHAR2 (128) | NOT NULL | Name of the rule set             |
| STARTUP_TIME    | DATE           | NOT NULL | Startup time of the instance     |

| Column               | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------|----------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU_TIME             | NUMBER   |      | Total CPU time (in hundredths of a second) spent in evaluation of the rule set                                                                                                                                                                                                                                                                                                                                                                |
| ELAPSED_TIME         | NUMBER   |      | Total elapsed time (in hundredths of a second) spent in evaluation of the rule set                                                                                                                                                                                                                                                                                                                                                            |
| EVALUATIONS          | NUMBER   |      | Number of evaluations on the rule set                                                                                                                                                                                                                                                                                                                                                                                                         |
| SQL_FREE_EVALUATIONS | NUMBER   |      | Number of evaluations on the rule set which did not internally issue SQL to evaluate rules                                                                                                                                                                                                                                                                                                                                                    |
| SQL_EXECUTIONS       | NUMBER   |      | Total number of SQL statements executed during evaluation of the rule set                                                                                                                                                                                                                                                                                                                                                                     |
| RELOADS              | NUMBER   |      | Number of times the rule set object was reloaded in shared memory                                                                                                                                                                                                                                                                                                                                                                             |
| CON_DBID             | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID               | NUMBER   |      | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.45 DBA\_HIST\_SAGAS

DBA\_HIST\_SAGAS provides a history of all completed sagas in the database. Its columns are the same as those in ALL\_HIST\_SAGAS.

This view displays sagas that were either initiated in the current PDB or joined by participants in the current PDB.

Completed sagas are retained in this view for the length of time specified by the SAGA\_HIST\_RETENTION initialization parameter. The default is 30 days.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

- ["ALL\\_HIST\\_SAGAS"](#)
- ["SAGA\\_HIST\\_RETENTION"](#)

## 6.46 DBA\_HIST\_SEG\_STAT

DBA\_HIST\_SEG\_STAT displays historical information about segment-level statistics.

This view captures the top segments based on a set of criteria and captures information from V\$SEGSTAT. The total value is the value of the statistics since instance startup. The delta value is the value of the statistics from the BEGIN\_INTERVAL\_TIME to the END\_INTERVAL\_TIME in the DBA\_HIST\_SNAPSHOT view.

| Column                       | Datatype | NULL     | Description                                             |
|------------------------------|----------|----------|---------------------------------------------------------|
| SNAP_ID                      | NUMBER   | NOT NULL | Unique snapshot ID                                      |
| DBID                         | NUMBER   | NOT NULL | Database ID for the snapshot                            |
| INSTANCE_NUMBER              | NUMBER   | NOT NULL | Instance number for the snapshot                        |
| TS#                          | NUMBER   | NOT NULL | Tablespace number                                       |
| OBJ#                         | NUMBER   | NOT NULL | Dictionary object number                                |
| DATAOBJ#                     | NUMBER   | NOT NULL | Data object number                                      |
| LOGICAL_READS_TOTAL          | NUMBER   |          | Cumulative value for logical reads                      |
| LOGICAL_READS_DELTA          | NUMBER   |          | Delta value for logical reads                           |
| BUFFER_BUSY_WAITS_TOTAL      | NUMBER   |          | Cumulative value for buffer busy waits                  |
| BUFFER_BUSY_WAITS_DELTA      | NUMBER   |          | Delta value for buffer busy waits                       |
| DB_BLOCK_CHANGES_TOTAL       | NUMBER   |          | Cumulative value for db block changes (in blocks)       |
| DB_BLOCK_CHANGES_DELTA       | NUMBER   |          | Delta value for db block changes (in blocks)            |
| PHYSICAL_READS_TOTAL         | NUMBER   |          | Cumulative value for physical reads (in blocks)         |
| PHYSICAL_READS_DELTA         | NUMBER   |          | Delta value for physical reads (in blocks)              |
| PHYSICAL_WRITES_TOTAL        | NUMBER   |          | Cumulative value for physical writes (in blocks)        |
| PHYSICAL_WRITES_DELTA        | NUMBER   |          | Delta value for physical writes (in blocks)             |
| PHYSICAL_READS_DIRECT_TOTAL  | NUMBER   |          | Cumulative value for physical reads direct (in blocks)  |
| PHYSICAL_READS_DIRECT_DELTA  | NUMBER   |          | Delta value for physical reads direct (in blocks)       |
| PHYSICAL_WRITES_DIRECT_TOTAL | NUMBER   |          | Cumulative value for physical writes direct (in blocks) |
| PHYSICAL_WRITES_DIRECT_DELTA | NUMBER   |          | Delta value for physical writes direct (in blocks)      |
| ITL_WAITS_TOTAL              | NUMBER   |          | Cumulative value for ITL waits                          |
| ITL_WAITS_DELTA              | NUMBER   |          | Delta value for ITL waits                               |
| ROW_LOCK_WAITS_TOTAL         | NUMBER   |          | Cumulative value for row lock waits                     |
| ROW_LOCK_WAITS_DELTA         | NUMBER   |          | Delta value for row lock waits                          |
| GC_CR_BLOCKS_SERVED_TOTAL    | NUMBER   |          | Cumulative value for global cache CR blocks served      |
| GC_CR_BLOCKS_SERVED_DELTA    | NUMBER   |          | Delta value for global cache CR blocks served           |
| GC_CU_BLOCKS_SERVED_TOTAL    | NUMBER   |          | Cumulative value for global cache current blocks served |
| GC_CU_BLOCKS_SERVED_DELTA    | NUMBER   |          | Delta value for global cache current blocks served      |

| Column                         | Datatype | NULL | Description                                                                                                                   |
|--------------------------------|----------|------|-------------------------------------------------------------------------------------------------------------------------------|
| GC_BUFFER_BUSY_TOTAL           | NUMBER   |      | Cumulative value for global cache buffer busy                                                                                 |
| GC_BUFFER_BUSY_DELTA           | NUMBER   |      | Delta value for global cache buffer busy                                                                                      |
| GC_CR_BLOCKS_RECEIVED_TOTAL    | NUMBER   |      | Cumulative value for global cache CR blocks received                                                                          |
| GC_CR_BLOCKS_RECEIVED_DELTA    | NUMBER   |      | Delta value for global cache CR blocks received                                                                               |
| GC_CU_BLOCKS_RECEIVED_TOTAL    | NUMBER   |      | Cumulative value for global cache current blocks received                                                                     |
| GC_CU_BLOCKS_RECEIVED_DELTA    | NUMBER   |      | Delta value for global cache current blocks received                                                                          |
| SPACE_USED_TOTAL               | NUMBER   |      | Number of bytes used by user data                                                                                             |
| SPACE_USED_DELTA               | NUMBER   |      | Delta value for space used by user data (in bytes). A negative value indicates the number of bytes deleted in the segment.    |
| SPACE_ALLOCATED_TOTAL          | NUMBER   |      | The number of bytes that are allocated                                                                                        |
| SPACE_ALLOCATED_DELTA          | NUMBER   |      | Delta value for the space allocated (in bytes). A negative value indicates the number of bytes deallocated to the tablespace. |
| TABLE_SCANS_TOTAL              | NUMBER   |      | Cumulative value for table scans                                                                                              |
| TABLE_SCANS_DELTA              | NUMBER   |      | Delta value for table scans                                                                                                   |
| CHAIN_ROW_EXCESS_TOTAL         | NUMBER   |      | Cumulative value of number of chained row pieces that can be eliminated by table reorganization                               |
| CHAIN_ROW_EXCESS_DELTA         | NUMBER   |      | Delta value of number of chained row pieces that can be eliminated by table reorganization                                    |
| PHYSICAL_READ_REQUESTS_TOTAL   | NUMBER   |      | Cumulative value of number of physical read I/O requests issued for the monitored segment                                     |
| PHYSICAL_READ_REQUESTS_DELTA   | NUMBER   |      | Delta value of number of physical read I/O requests issued for the monitored segment                                          |
| PHYSICAL_WRITE_REQUESTS_TOTAL  | NUMBER   |      | Cumulative value of number of physical write I/O requests issued for the monitored segment                                    |
| PHYSICAL_WRITE_REQUESTS_DELTA  | NUMBER   |      | Delta value of number of physical write I/O requests issued for the monitored segment                                         |
| OPTIMIZED_PHYSICAL_READS_TOTAL | NUMBER   |      | Cumulative value of number of physical reads from Database Smart Flash Cache for the monitored segment                        |
| OPTIMIZED_PHYSICAL_READS_DELTA | NUMBER   |      | Delta value of number of physical reads from Database Smart Flash Cache for the monitored segment                             |
| IM_SCANS_TOTAL                 | NUMBER   |      | Count of segment statistics                                                                                                   |
| IM_SCANS_DELTA                 | NUMBER   |      | Delta values for in-memory scans                                                                                              |
| POPULATE_CUS_TOTAL             | NUMBER   |      | Count of compression units (CUs) populated per segment                                                                        |
| POPULATE_CUS_DELTA             | NUMBER   |      | Delta value for compression unit (CU) populate operations                                                                     |
| REPOPULATE_CUS_TOTAL           | NUMBER   |      | Count of CUs repopulated per segment                                                                                          |
| REPOPULATE_CUS_DELTA           | NUMBER   |      | Delta value for compression unit (CU) repopulate operations                                                                   |



| Column                    | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------|----------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IM_DB_BLOCK_CHANGES_TOTAL | NUMBER   |      | The total number of changes that were part of an update or delete operation that were made to segment blocks                                                                                                                                                                                                                                                                                                                                  |
| IM_DB_BLOCK_CHANGES_DELTA | NUMBER   |      | Delta value for database block changes                                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_DBID                  | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID                    | NUMBER   |      | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

- "V\$SEGSTAT"
- "DBA\_HIST\_SNAPSHOT"

## 6.47 DBA\_HIST\_SEG\_STAT\_OBJ

DBA\_HIST\_SEG\_STAT\_OBJ displays all the names of the segments captured in the workload repository.

This view is used with the DBA\_HIST\_SEG\_STAT view.

| Column          | Datatype       | NULL     | Description                                        |
|-----------------|----------------|----------|----------------------------------------------------|
| DBID            | NUMBER         | NOT NULL | Database ID                                        |
| TS#             | NUMBER         | NOT NULL | Tablespace number                                  |
| OBJ#            | NUMBER         | NOT NULL | Dictionary object number                           |
| DATAOBJ#        | NUMBER         | NOT NULL | Data object number                                 |
| OWNER           | VARCHAR2 (128) | NOT NULL | Owner of the object                                |
| OBJECT_NAME     | VARCHAR2 (128) | NOT NULL | Name of the object                                 |
| SUBOBJECT_NAME  | VARCHAR2 (128) |          | Name of the subobject (for example: partition)     |
| OBJECT_TYPE     | VARCHAR2 (18)  |          | Type of the object for example: table, tablespace) |
| TABLESPACE_NAME | VARCHAR2 (30)  |          | Tablespace Name for the object                     |
| PARTITION_TYPE  | VARCHAR2 (8)   |          | Partition Type, if relevant                        |
| CON_DBID        | NUMBER         |          | The database ID of the PDB for the sampled session |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------|----------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**["DBA\\_HIST\\_SEG\\_STAT"](#)

## 6.48 DBA\_HIST\_SERVICE\_NAME

DBA\_HIST\_SERVICE\_NAME displays the names of the Services tracked by the Workload Repository.

This view contains information for V\$SERVICES.

| Column            | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------|---------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID              | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SERVICE_NAME_HASH | NUMBER        | NOT NULL | Hash of the service name                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SERVICE_NAME      | VARCHAR2 (64) | NOT NULL | Name of the service                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_DBID          | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID            | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**["V\\$SERVICES"](#)

## 6.49 DBA\_HIST\_SERVICE\_STAT

DBA\_HIST\_SERVICE\_STAT displays the history of important service statistics tracked by the Workload Repository.

The call rate statistics in this view can be used for making run-time routing decisions, for tracking service levels, and for per-instance diagnostics per call rate.

The elapsed timing for each call provides a relative value across instances for how well a node is processing SQL calls issued under a service name. When aggregation is enabled for the service name, this view provides historical data on the timing and work done for calls issued for the whole service. This view contains information from V\$SERVICE\_STATS.

| Column            | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID           | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DBID              | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                     |
| INSTANCE_NUMBER   | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SERVICE_NAME_HASH | NUMBER        | NOT NULL | Hash of the service name                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SERVICE_NAME      | VARCHAR2 (64) | NOT NULL | Name of the service                                                                                                                                                                                                                                                                                                                                                                                                                              |
| STAT_ID           | NUMBER        | NOT NULL | Statistic identifier                                                                                                                                                                                                                                                                                                                                                                                                                             |
| STAT_NAME         | VARCHAR2 (64) | NOT NULL | Statistic name                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| VALUE             | NUMBER        |          | Value of the statistic                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_DBID          | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID            | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$SERVICE\_STATS"

## 6.50 DBA\_HIST\_SERVICE\_WAIT\_CLASS

DBA\_HIST\_SERVICE\_WAIT\_CLASS displays the history of wait class information for services as tracked by the Workload Repository.

This view contains information from V\$SERVICE\_WAIT\_CLASS.

| Column  | Datatype | NULL     | Description        |
|---------|----------|----------|--------------------|
| SNAP_ID | NUMBER   | NOT NULL | Unique snapshot ID |

| Column            | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID              | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                     |
| INSTANCE_NUMBER   | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SERVICE_NAME_HASH | NUMBER        | NOT NULL | Hash of the service name                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SERVICE_NAME      | VARCHAR2 (64) | NOT NULL | Name of the service                                                                                                                                                                                                                                                                                                                                                                                                                              |
| WAIT_CLASS_ID     | NUMBER        | NOT NULL | Identifier for the class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                       |
| WAIT_CLASS        | VARCHAR2 (64) |          | Name for the class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                             |
| TOTAL_WAITS       | NUMBER        |          | Total number of waits for this event                                                                                                                                                                                                                                                                                                                                                                                                             |
| TIME_WAITED       | NUMBER        |          | Total amount of time waited for this event (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                           |
| CON_DBID          | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID            | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$SERVICE\_WAIT\_CLASS"

## 6.51 DBA\_HIST\_SESS\_SGA\_STATS

DBA\_HIST\_SESS\_SGA\_STATS shows usage statistics for high utilization Oracle GoldenGate and XStream sessions.

| Column          | Datatype       | NULL     | Description                                                                                                            |
|-----------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER         | NOT NULL | Unique snapshot ID                                                                                                     |
| DBID            | NUMBER         | NOT NULL | Database ID for the snapshot                                                                                           |
| INSTANCE_NUMBER | NUMBER         | NOT NULL | Instance number for the snapshot                                                                                       |
| OBJECT_NAME     | VARCHAR2 (128) | NOT NULL | Object name                                                                                                            |
| SESSION_TYPE    | VARCHAR2 (64)  | NOT NULL | Type of session                                                                                                        |
| SESSION_MODULE  | VARCHAR2 (64)  | NOT NULL | Session module. Valid values: <ul style="list-style-type: none"> <li>XStream</li> <li>GoldenGate</li> </ul>            |
| SGA_USED        | NUMBER         |          | The total amount of shared memory (in bytes) currently used by the session out of the amount allocated (SGA_ALLOCATED) |
| SGA_ALLOCATED   | NUMBER         |          | The total amount of shared memory (in bytes) allocated from the pool for the session                                   |

| Column   | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_DBID | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID   | NUMBER   |      | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.52 DBA\_HIST\_SESS\_TIME\_STATS

DBA\_HIST\_SESS\_TIME\_STATS displays information about CPU and I/O time for interesting Oracle GoldenGate and XStream sessions.

| Column           | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------|---------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID          | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| DBID             | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                         |
| INSTANCE_NUMBER  | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SESSION_TYPE     | VARCHAR2 (64) | NOT NULL | Type of session                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| MIN_LOGON_TIME   | DATE          |          | Minimum logon time                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SUM_CPU_TIME     | NUMBER        |          | Total CPU time                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SUM_SYS_IO_WAIT  | NUMBER        |          | Total system I/O wait time                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SUM_USER_IO_WAIT | NUMBER        |          | Total user I/O wait time                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_DBID         | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                   |
| SESSION_MODULE   | VARCHAR2 (64) | NOT NULL | <p>Session module. Valid values:</p> <ul style="list-style-type: none"> <li>XStream</li> <li>GoldenGate</li> </ul>                                                                                                                                                                                                                                                                                                                                   |
| CON_ID           | NUMBER        |          | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.53 DBA\_HIST\_SESSMETRIC\_HISTORY

DBA\_HIST\_SESSMETRIC\_HISTORY displays the history of several important session metrics.



### Note:

This view is populated only if a session metric exceeds a server metric threshold that was configured using the DBMS\_SERVER\_ALERT package.

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------|---------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DBID            | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                       |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                   |
| BEGIN_TIME      | DATE          | NOT NULL | Begin time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                         |
| END_TIME        | DATE          | NOT NULL | End time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SESSID          | NUMBER        | NOT NULL | Session ID                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SERIAL#         | NUMBER        | NOT NULL | Session serial number                                                                                                                                                                                                                                                                                                                                                                                                                              |
| INTSIZE         | NUMBER        | NOT NULL | Interval size (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                          |
| GROUP_ID        | NUMBER        | NOT NULL | Group ID                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| METRIC_ID       | NUMBER        | NOT NULL | Metric ID                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| METRIC_NAME     | VARCHAR2 (64) | NOT NULL | Metric name                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| VALUE           | NUMBER        | NOT NULL | Metric Value                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| METRIC_UNIT     | VARCHAR2 (64) | NOT NULL | Unit of measurement                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_DBID        | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID          | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



### See Also:

The DBMS\_SERVER\_ALERT package in *Oracle Database PL/SQL Packages and Types Reference*

## 6.54 DBA\_HIST\_SGA

DBA\_HIST\_SGA displays historical summary information about the system global area (SGA).

This view contains snapshots of V\$SGA.

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DBID            | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                     |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                 |
| NAME            | VARCHAR2 (64) | NOT NULL | SGA component group                                                                                                                                                                                                                                                                                                                                                                                                                              |
| VALUE           | NUMBER        | NOT NULL | Memory size (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_DBID        | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID          | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$SGA"

## 6.55 DBA\_HIST\_SGA\_TARGET\_ADVICE

DBA\_HIST\_SGA\_TARGET\_ADVICE provides historical information about the SGA\_TARGET initialization parameter.

| Column              | Datatype | NULL     | Description                                                |
|---------------------|----------|----------|------------------------------------------------------------|
| SNAP_ID             | NUMBER   | NOT NULL | Unique snapshot ID                                         |
| DBID                | NUMBER   | NOT NULL | Database ID for the snapshot                               |
| INSTANCE_NUMBER     | NUMBER   | NOT NULL | Instance number for the snapshot                           |
| SGA_SIZE            | NUMBER   | NOT NULL | Size of the SGA                                            |
| SGA_SIZE_FACTOR     | NUMBER   | NOT NULL | Ratio between the SGA_SIZE and the current size of the SGA |
| ESTD_DB_TIME        | NUMBER   | NOT NULL | Estimated DB_TIME for this SGA_SIZE                        |
| ESTD_PHYSICAL_READS | NUMBER   |          | Estimated number of physical reads                         |
| CON_DBID            | NUMBER   |          | The database ID of the PDB for the sampled session         |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"SGA\_TARGET"

## 6.56 DBA\_HIST\_SGASTAT

DBA\_HIST\_SGASTAT displays detailed historical information on the system global area (SGA).

This view contains snapshots of V\$SGASTAT.

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DBID            | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| NAME            | VARCHAR2 (64) |          | SGA component group                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| POOL            | VARCHAR2 (30) |          | <p>Designates the pool in which the memory in NAME resides:</p> <ul style="list-style-type: none"> <li>in-memory pool - Memory is allocated from the In-Memory pool</li> <li>java pool - Memory is allocated from the Java pool</li> <li>large pool - Memory is allocated from the large pool</li> <li>numa pool - Memory is allocated from the NUMA pool</li> <li>shared pool - Memory is allocated from the shared pool</li> <li>streams pool - Memory is allocated from the Streams pool</li> </ul> |
| BYTES           | NUMBER        |          | Memory size (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_DBID        | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                                                                     |



| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$SGASTAT"

## 6.57 DBA\_HIST\_SHARED\_POOL\_ADVICE

DBA\_HIST\_SHARED\_POOL\_ADVICE displays historical information about estimated parse time in the shared pool for different pool sizes.

This view contains snapshots of V\$SHARED\_POOL\_ADVICE.

| Column                        | Datatype | NULL     | Description                                                                                                                                                                                                                                                                                                             |
|-------------------------------|----------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID                       | NUMBER   | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                      |
| DBID                          | NUMBER   | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                            |
| INSTANCE_NUMBER               | NUMBER   | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                        |
| SHARED_POOL_SIZE_FOR_ESTIMATE | NUMBER   | NOT NULL | Shared pool size for the estimate (in megabytes)                                                                                                                                                                                                                                                                        |
| SHARED_POOL_SIZE_FACTOR       | NUMBER   |          | Size factor with respect to the current shared pool size                                                                                                                                                                                                                                                                |
| ESTD_LC_SIZE                  | NUMBER   |          | Estimated memory in use by the library cache (in megabytes)                                                                                                                                                                                                                                                             |
| ESTD_LC_MEMORY_OBJECTS        | NUMBER   |          | Estimated number of library cache memory objects in the shared pool of the specified size                                                                                                                                                                                                                               |
| ESTD_LC_TIME_SAVED            | NUMBER   |          | Estimated elapsed parse time saved (in seconds), owing to library cache memory objects being found in a shared pool of the specified size. This is the time that would have been spent in reloading the required objects in the shared pool had they been aged out due to insufficient amount of available free memory. |
| ESTD_LC_TIME_SAVED_FACTOR     | NUMBER   |          | Estimated parse time saved factor with respect to the current shared pool size                                                                                                                                                                                                                                          |
| ESTD_LC_LOAD_TIME             | NUMBER   |          | Estimated elapsed time (in seconds) for parsing in a shared pool of the specified size.                                                                                                                                                                                                                                 |
| ESTD_LC_LOAD_TIME_FACTOR      | NUMBER   |          | Estimated load time factor with respect to the current shared pool size                                                                                                                                                                                                                                                 |
| ESTD_LC_MEMORY_OBJECT_HITS    | NUMBER   |          | Estimated number of times a library cache memory object was found in a shared pool of the specified size                                                                                                                                                                                                                |

| Column   | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_DBID | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID   | NUMBER   |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$SHARED\_POOL\_ADVICE"

## 6.58 DBA\_HIST\_SHARED\_SERVER\_SUMMARY

DBA\_HIST\_SHARED\_SERVER\_SUMMARY displays historical information for shared servers.

This includes information about shared server activity, the servers, common queues, and dispatcher queues. This view obtains information from V\$SHARED\_SERVER, V\$DISPATCHER, V\$CIRCUIT, and V\$QUEUE, and is aggregated over all servers, dispatchers, queues, and circuits.

| Column              | Datatype | NULL     | Description                                                                                                                                                                                                                  |
|---------------------|----------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID             | NUMBER   | NOT NULL | Unique snapshot ID                                                                                                                                                                                                           |
| DBID                | NUMBER   | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                 |
| INSTANCE_NUMBER     | NUMBER   | NOT NULL | Instance number for the snapshot                                                                                                                                                                                             |
| NUM_SAMPLES         | NUMBER   |          | Total number of samples                                                                                                                                                                                                      |
| SAMPLE_TIME         | NUMBER   |          | Last sample timestamp                                                                                                                                                                                                        |
| SAMPLED_TOTAL_CONN  | NUMBER   |          | Cumulative sum of total number of connections over all samples. To determine the average number of connections between two snapshots, divide the difference in SAMPLED_TOTAL_CONN by the difference in NUM_SAMPLES.          |
| SAMPLED_ACTIVE_CONN | NUMBER   |          | Cumulative sum of active number of connections over all samples. To determine the average number of active connections between two snapshots, divide the difference in SAMPLED_ACTIVE_CONN by the difference in NUM_SAMPLES. |
| SAMPLED_TOTAL_SRV   | NUMBER   |          | Cumulative sum of total number of servers over all samples. To determine the average number of servers between two snapshots, divide the difference in SAMPLED_TOTAL_SRV by the difference in NUM_SAMPLES.                   |

| Column              | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------|----------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SAMPLED_ACTIVE_SRV  | NUMBER   |      | Cumulative sum of active number of servers over all samples. To determine the average number of active servers between two snapshots, divide the difference in SAMPLED_ACTIVE_SRV by the difference in NUM_SAMPLES.                                                                                                                                                                                                                                |
| SAMPLED_TOTAL_DISP  | NUMBER   |      | Cumulative sum of total number of dispatchers over all samples. To determine the average number of dispatchers between two snapshots, divide the difference in SAMPLED_TOTAL_DISP by the difference in NUM_SAMPLES.                                                                                                                                                                                                                                |
| SAMPLED_ACTIVE_DISP | NUMBER   |      | Cumulative sum of active number of dispatchers over all samples. To determine the average number of active dispatchers between two snapshots, divide the difference in SAMPLED_ACTIVE_DISP by the difference in NUM_SAMPLES.                                                                                                                                                                                                                       |
| SRV_BUSY            | NUMBER   |      | Total shared server busy time (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                          |
| SRV_IDLE            | NUMBER   |      | Total shared server idle time (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                          |
| SRV_IN_NET          | NUMBER   |      | Total shared server incoming network wait time (in hundredths of a second). This includes waits for receives and resets. This time is also included in SRV_BUSY.                                                                                                                                                                                                                                                                                   |
| SRV_OUT_NET         | NUMBER   |      | Total shared server outgoing network wait time (in hundredths of a second). This includes waits for sends and outbound connection requests. This time is also included in SRV_BUSY.                                                                                                                                                                                                                                                                |
| SRV_MESSAGES        | NUMBER   |      | Number of messages processed                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SRV_BYTES           | NUMBER   |      | Total number of bytes in all messages                                                                                                                                                                                                                                                                                                                                                                                                              |
| CQ_WAIT             | NUMBER   |      | Total time that all items in the common queue have waited (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                              |
| CQ_TOTALQ           | NUMBER   |      | Total number of items that have ever been in the common queue                                                                                                                                                                                                                                                                                                                                                                                      |
| DQ_TOTALQ           | NUMBER   |      | Total number of items that have ever been in a dispatcher queue                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_DBID            | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID              | NUMBER   |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

- "V\$SHARED\_SERVER"
- "V\$DISPATCHER"
- "V\$CIRCUIT"
- "V\$QUEUE"

## 6.59 DBA\_HIST\_SNAP\_ERROR

DBA\_HIST\_SNAP\_ERROR displays information about the snapshot error information in the Workload Repository.

| Column          | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER         | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| DBID            | NUMBER         | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                             |
| INSTANCE_NUMBER | NUMBER         | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TABLE_NAME      | VARCHAR2 (128) | NOT NULL | Name of the table in which the error occurred                                                                                                                                                                                                                                                                                                                                                                                                            |
| ERROR_NUMBER    | NUMBER         | NOT NULL | Error number for the error encountered                                                                                                                                                                                                                                                                                                                                                                                                                   |
| STEP_ID         | NUMBER         |          | For internal use only                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID          | NUMBER         |          | The ID of the container to which the data pertains.<br>Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.60 DBA\_HIST\_SNAPSHOT

DBA\_HIST\_SNAPSHOT displays information about the snapshots in the Workload Repository.

| Column              | Datatype                          | NULL     | Description                                                                      |
|---------------------|-----------------------------------|----------|----------------------------------------------------------------------------------|
| SNAP_ID             | NUMBER                            | NOT NULL | Unique snapshot ID                                                               |
| DBID                | NUMBER                            | NOT NULL | Database ID for the snapshot                                                     |
| INSTANCE_NUMBER     | NUMBER                            | NOT NULL | Instance number for the snapshot                                                 |
| STARTUP_TIME        | TIMESTAMP (3)                     | NOT NULL | Startup time of the instance                                                     |
| BEGIN_INTERVAL_TIME | TIMESTAMP (3)                     | NOT NULL | Time at the beginning of the snapshot interval                                   |
| END_INTERVAL_TIME   | TIMESTAMP (3)                     | NOT NULL | Time at the end of the snapshot interval; the actual time the snapshot was taken |
| FLUSH_ELAPSED       | INTERVAL DAY (5)<br>TO SECOND (1) |          | Amount of time to perform the snapshot                                           |

| Column                 | Datatype                     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_LEVEL             | NUMBER                       |      | Snapshot level                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ERROR_COUNT            | NUMBER                       |      | Number of errors occurring in the tables for the particular snapshot                                                                                                                                                                                                                                                                                                                                                                               |
| SNAP_FLAG              | NUMBER                       |      | Condition under which the snapshot was inserted.<br>Possible values are:<br>0 - Snapshot was taken automatically by the Manageability Monitor Process (MMON process)<br>1 - Manual snapshot created using a PL/SQL package<br>2 - Imported snapshot<br>4 - Snapshot taken while Diagnostic Pack or Tuning Pack was not enabled                                                                                                                     |
| SNAP_TIMEZONE          | INTERVAL DAY(0) TO SECOND(0) |      | Snapshot time zone expressed as offset from UTC (Coordinated Universal Time) time zone                                                                                                                                                                                                                                                                                                                                                             |
| BEGIN_INTERVAL_TIME_TZ | TIMESTAMP(3) WITH TIME ZONE  |      | Time at the beginning of the snapshot interval, with timezone                                                                                                                                                                                                                                                                                                                                                                                      |
| END_INTERVAL_TIME_TZ   | TIMESTAMP(3) WITH TIME ZONE  |      | Time at the end of the snapshot interval; the actual time the snapshot was taken, with timezone                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID                 | NUMBER                       |      | The ID of the container to which the data pertains.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

[Table F-1](#) for more information about the MMON process

## 6.61 DBA\_HIST\_SQL\_BIND\_METADATA

DBA\_HIST\_SQL\_BIND\_METADATA displays historical information on metadata for bind variables used by SQL cursors.

| Column       | Datatype      | NULL     | Description                                                                                                                               |
|--------------|---------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------|
| DBID         | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                              |
| SQL_ID       | VARCHAR2(13)  | NOT NULL | SQL identifier of the parent cursor in the library cache                                                                                  |
| NAME         | VARCHAR2(128) |          | Name of the bind variable                                                                                                                 |
| POSITION     | NUMBER        | NOT NULL | Position of the bind variable in the SQL statement                                                                                        |
| DUP_POSITION | NUMBER        |          | If the binding is performed by name and the bind variable is duplicated, then this column gives the position of the primary bind variable |

| Column          | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------|---------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DATATYPE        | NUMBER        |      | Internal identifier for the bind data type. Beginning in Oracle Database 12c, a number representing a PL/SQL data type can appear in this column.                                                                                                                                                                                                                                                                                             |
| DATATYPE_STRING | VARCHAR2 (15) |      | Textual representation of the bind data type. Beginning in Oracle Database 12c, a text representation of a PL/SQL-only data type can appear in this column. If the actual data type is a PL/SQL sub type, the name of the data type, not the sub type will be displayed.                                                                                                                                                                      |
| CHARACTER_SID   | NUMBER        |      | National character set identifier                                                                                                                                                                                                                                                                                                                                                                                                             |
| PRECISION       | NUMBER        |      | Precision (for numeric binds)                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SCALE           | NUMBER        |      | Scale (for numeric binds)                                                                                                                                                                                                                                                                                                                                                                                                                     |
| MAX_LENGTH      | NUMBER        |      | Maximum bind length                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_DBID        | NUMBER        |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID          | NUMBER        |      | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.62 DBA\_HIST\_SQL\_PLAN

DBA\_HIST\_SQL\_PLAN displays the execution plan information for each child cursor in the workload repository.

This view captures information from V\$SQL\_PLAN and is used with the DBA\_HIST\_SQLSTAT view.

| Column          | Datatype       | NULL     | Description                                                                                                                                                                                                     |
|-----------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID            | NUMBER         | NOT NULL | Database ID                                                                                                                                                                                                     |
| SQL_ID          | VARCHAR2 (13)  | NOT NULL | SQL identifier of the parent cursor in the library cache                                                                                                                                                        |
| PLAN_HASH_VALUE | NUMBER         | NOT NULL | Numerical representation of the SQL plan for the cursor. Comparing one PLAN_HASH_VALUE to another easily identifies whether or not two plans are the same (rather than comparing the two plans line by line).   |
| ID              | NUMBER         | NOT NULL | A number assigned to each step in the execution plan                                                                                                                                                            |
| OPERATION       | VARCHAR2 (30)  |          | Name of the internal operation performed in this step (for example, TABLE ACCESS)                                                                                                                               |
| OPTIONS         | VARCHAR2 (30)  |          | A variation on the operation described in the OPERATION column (for example, FULL)                                                                                                                              |
| OBJECT_NODE     | VARCHAR2 (128) |          | Name of the database link used to reference the object (a table name or view name). For local queries that use parallel execution, this column describes the order in which output from operations is consumed. |
| OBJECT#         | NUMBER         |          | Object number of the table or the index                                                                                                                                                                         |

| Column          | Datatype        | NULL | Description                                                                                                                                                                                                                                                                 |
|-----------------|-----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_OWNER    | VARCHAR2 (128)  |      | Name of the user who owns the schema containing the table or index                                                                                                                                                                                                          |
| OBJECT_NAME     | VARCHAR2 (128)  |      | Name of the table or index                                                                                                                                                                                                                                                  |
| OBJECT_ALIAS    | VARCHAR2 (261)  |      | Alias for the object                                                                                                                                                                                                                                                        |
| OBJECT_TYPE     | VARCHAR2 (20)   |      | Type of the object                                                                                                                                                                                                                                                          |
| OPTIMIZER       | VARCHAR2 (20)   |      | Current mode of the optimizer for the first row in the plan (statement line), for example, <code>ALL_ROWS</code> . When the operation is a database access (for example, <code>TABLE ACCESS</code> ), this column indicates whether or not the object is analyzed.          |
| PARENT_ID       | NUMBER          |      | ID of the next execution step that operates on the output of the current step                                                                                                                                                                                               |
| DEPTH           | NUMBER          |      | Depth (or level) of the operation in the tree. It is not necessary to issue a <code>CONNECT BY</code> statement to get the level information, which is generally used to indent the rows from the <code>PLAN_TABLE</code> table. The root operation (statement) is level 0. |
| POSITION        | NUMBER          |      | Order of processing for all operations that have the same <code>PARENT_ID</code>                                                                                                                                                                                            |
| SEARCH_COLUMNS  | NUMBER          |      | Number of index columns with start and stop keys (that is, the number of columns with matching predicates)                                                                                                                                                                  |
| COST            | NUMBER          |      | Cost of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is null.                                                                                                                            |
| CARDINALITY     | NUMBER          |      | Estimate, by the cost-based optimizer, of the number of rows produced by the operation                                                                                                                                                                                      |
| BYTES           | NUMBER          |      | Estimate, by the cost-based optimizer, of the number of bytes produced by the operation                                                                                                                                                                                     |
| OTHER_TAG       | VARCHAR2 (35)   |      | Describes the contents of the <code>OTHER</code> column. See <code>EXPLAIN PLAN</code> for values.                                                                                                                                                                          |
| PARTITION_START | VARCHAR2 (64)   |      | Start partition of a range of accessed partitions                                                                                                                                                                                                                           |
| PARTITION_STOP  | VARCHAR2 (64)   |      | Stop partition of a range of accessed partitions                                                                                                                                                                                                                            |
| PARTITION_ID    | NUMBER          |      | Step that computes the pair of values of the <code>PARTITION_START</code> and <code>PARTITION_STOP</code> columns                                                                                                                                                           |
| OTHER           | VARCHAR2 (4000) |      | Other information specific to the execution step that users may find useful. See <code>EXPLAIN PLAN</code> for values.                                                                                                                                                      |
| DISTRIBUTION    | VARCHAR2 (20)   |      | Stores the method used to distribute rows from producer query servers to consumer query servers                                                                                                                                                                             |
| CPU_COST        | NUMBER          |      | CPU cost of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is null.                                                                                                                        |
| IO_COST         | NUMBER          |      | I/O cost of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is null.                                                                                                                        |
| TEMP_SPACE      | NUMBER          |      | Temporary space usage of the operation (sort or hash-join) as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is null.                                                                                       |

| Column            | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------|-----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACCESS_PREDICATES | VARCHAR2 (4000) |      | Predicates used to locate rows in an access structure. For example, start or stop predicates for an index range scan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| FILTER_PREDICATES | VARCHAR2 (4000) |      | Predicates used to filter rows before producing them                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| PROJECTION        | VARCHAR2 (4000) |      | Expressions produced by the operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TIME              | NUMBER          |      | Elapsed time (in seconds) of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is null.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| QBLOCK_NAME       | VARCHAR2 (128)  |      | Name of the query block                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| REMARKS           | VARCHAR2 (4000) |      | Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TIMESTAMP         | DATE            |      | Timestamp for when the plan was produced                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| OTHER_XML         | CLOB            |      | Provides extra information specific to an execution step of the execution plan. The content of this column is structured using XML, which allows multiple pieces of information to be stored, including the following: <ul style="list-style-type: none"> <li>• Name of the schema against which the query was parsed</li> <li>• Release number of the Oracle Database that produced the explain plan</li> <li>• Hash value associated with the execution plan</li> <li>• Name (if any) of the outline or the SQL profile used to build the execution plan</li> <li>• Indication of whether or not dynamic statistics were used to produce the plan</li> <li>• The outline data, a set of optimizer hints that can be used to regenerate the same plan</li> <li>• Additional data that describes the relationship between rows in the plan table and subplans of adaptive plans</li> </ul> |
| CON_DBID          | NUMBER          |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID            | NUMBER          |      | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                        |



#### See Also:

- ["V\\$SQL\\_PLAN"](#)
- ["DBA\\_HIST\\_SQLSTAT"](#)



## 6.63 DBA\_HIST\_SQL\_SUMMARY

DBA\_HIST\_SQL\_SUMMARY displays historical SQL summary information.

| Column             | Datatype | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------|----------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID            | NUMBER   | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DBID               | NUMBER   | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                     |
| INSTANCE_NUMBER    | NUMBER   | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TOTAL_SQL          | NUMBER   | NOT NULL | Total number of SQLs                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TOTAL_SQL_MEM      | NUMBER   | NOT NULL | Total sharable memory in bytes for SQLs                                                                                                                                                                                                                                                                                                                                                                                                          |
| SINGLE_USE_SQL     | NUMBER   | NOT NULL | Total number of single execution SQLs                                                                                                                                                                                                                                                                                                                                                                                                            |
| SINGLE_USE_SQL_MEM | NUMBER   | NOT NULL | Total sharable memory in bytes for single execution SQLs                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_DBID           | NUMBER   |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID             | NUMBER   |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.64 DBA\_HIST\_SQL\_WORKAREA\_HSTGRM

DBA\_HIST\_SQL\_WORKAREA\_HSTGRM displays the historical cumulative work area execution statistics (cumulated since instance startup) for different work area groups.

This view contains snapshots of V\$SQL\_WORKAREA\_HISTOGRAM.

| Column             | Datatype | NULL     | Description                                                                                                                                                                       |
|--------------------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID            | NUMBER   | NOT NULL | Unique snapshot ID                                                                                                                                                                |
| DBID               | NUMBER   | NOT NULL | Database ID for the snapshot                                                                                                                                                      |
| INSTANCE_NUMBER    | NUMBER   | NOT NULL | Instance number for the snapshot                                                                                                                                                  |
| LOW_OPTIMAL_SIZE   | NUMBER   | NOT NULL | Lower bound for the optimal memory requirement of work areas included in the row (in bytes)                                                                                       |
| HIGH_OPTIMAL_SIZE  | NUMBER   | NOT NULL | Upper bound for the optimal memory requirement of work areas included in the row (in bytes)                                                                                       |
| OPTIMAL_EXECUTIONS | NUMBER   |          | Number of work areas with an optimal memory requirement comprised between LOW_OPTIMAL_SIZE and HIGH_OPTIMAL_SIZE which have been executed in optimal mode since instance startup  |
| ONEPASS_EXECUTIONS | NUMBER   |          | Number of work areas with an optimal memory requirement comprised between LOW_OPTIMAL_SIZE and HIGH_OPTIMAL_SIZE which have been executed in one-pass mode since instance startup |

| Column                 | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MULTIPASSES_EXECUTIONS | NUMBER   |      | Number of work areas with an optimal memory requirement comprised between <code>LOW_OPTIMAL_SIZE</code> and <code>HIGH_OPTIMAL_SIZE</code> which have been executed in multi-pass mode since instance startup                                                                                                                                                                                                                                              |
| TOTAL_EXECUTIONS       | NUMBER   |      | Sum of <code>OPTIMAL_EXECUTIONS</code> , <code>ONEPASS_EXECUTIONS</code> , and <code>MULTIPASSES_EXECUTIONS</code>                                                                                                                                                                                                                                                                                                                                         |
| CON_DBID               | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID                 | NUMBER   |      | The ID of the container that <code>CON_DBID</code> identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$SQL\_WORKAREA\_HISTOGRAM"

## 6.65 DBA\_HIST\_SQLBIND

DBA\_HIST\_SQLBIND displays historical information on bind variables used by SQL cursors.

This view contains snapshots of V\$SQL\_BIND\_CAPTURE.

| Column          | Datatype       | NULL     | Description                                                                                                                                                                                                                                                              |
|-----------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER         | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                       |
| DBID            | NUMBER         | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                             |
| INSTANCE_NUMBER | NUMBER         | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                         |
| SQL_ID          | VARCHAR2 (13)  | NOT NULL | SQL identifier of the parent cursor in the library cache                                                                                                                                                                                                                 |
| NAME            | VARCHAR2 (128) |          | Name of the bind variable                                                                                                                                                                                                                                                |
| POSITION        | NUMBER         | NOT NULL | Position of the bind variable in the SQL statement                                                                                                                                                                                                                       |
| DUP_POSITION    | NUMBER         |          | If the binding is performed by name and the bind variable is duplicated, then this column gives the position of the primary bind variable.                                                                                                                               |
| DATATYPE        | NUMBER         |          | Internal identifier for the bind data type. Beginning in Oracle Database 12c, a number representing a PL/SQL data type can appear in this column.                                                                                                                        |
| DATATYPE_STRING | VARCHAR2 (15)  |          | Textual representation of the bind data type. Beginning in Oracle Database 12c, a text representation of a PL/SQL-only data type can appear in this column. If the actual data type is a PL/SQL sub type, the name of the data type, not the sub type will be displayed. |
| CHARACTER_SID   | NUMBER         |          | National character set identifier                                                                                                                                                                                                                                        |

| Column        | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------|-----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRECISION     | NUMBER          |      | Precision (for numeric binds)                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SCALE         | NUMBER          |      | Scale (for numeric binds)                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| MAX_LENGTH    | NUMBER          |      | Maximum bind length                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| WAS_CAPTURED  | VARCHAR2 (3)    |      | Indicates whether the bind value was captured (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                  |
| LAST_CAPTURED | DATE            |      | Date when the bind value was captured. Bind values are captured when SQL statements are executed. To limit the overhead, binds are captured at most every 15 minutes for a given cursor.                                                                                                                                                                                                                                                                         |
| VALUE_STRING  | VARCHAR2 (4000) |      | Value of the bind represented as a string                                                                                                                                                                                                                                                                                                                                                                                                                        |
| VALUE_ANYDATA | ANYDATA         |      | Value of the bind represented using the self-descriptive <code>Sys.AnyData</code> data type. This representation is useful to programmatically decode the value of the bind variable. This column is NULL if a PL/SQL-only data type appears in the <code>DATATYPE</code> column.                                                                                                                                                                                |
| CON_DBID      | NUMBER          |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID        | NUMBER          |      | The ID of the container that <code>CON_DBID</code> identifies. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

"V\$SQL\_BIND\_CAPTURE"

## 6.66 DBA\_HIST\_SQLCOMMAND\_NAME

DBA\_HIST\_SQLCOMMAND\_NAME displays the mapping between SQL opcodes and names.

| Column       | Datatype      | NULL     | Description                                        |
|--------------|---------------|----------|----------------------------------------------------|
| DBID         | NUMBER        | NOT NULL | Database ID                                        |
| COMMAND_TYPE | NUMBER        | NOT NULL | SQL command number                                 |
| COMMAND_NAME | VARCHAR2 (64) |          | SQL command name                                   |
| CON_DBID     | NUMBER        |          | The database ID of the PDB for the sampled session |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------|----------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.67 DBA\_HIST\_SQLSTAT

DBA\_HIST\_SQLSTAT displays historical information about SQL statistics.

This view captures the top SQL statements based on a set of criteria and captures the statistics information from V\$SQL. The total value is the value of the statistics since instance startup. The delta value is the value of the statistics from the BEGIN\_INTERVAL\_TIME to the END\_INTERVAL\_TIME in the DBA\_HIST\_SNAPSHOT view.

This view is used with the DBA\_HIST\_OPTIMIZER\_ENV, DBA\_HIST\_SQLTEXT, and DBA\_HIST\_SQL\_PLAN views to provide a complete picture of historical SQL statistics.

| Column                   | Datatype      | NULL     | Description                                                                                                                                                                                                   |
|--------------------------|---------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID                  | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                            |
| DBID                     | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                  |
| INSTANCE_NUMBER          | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                              |
| SQL_ID                   | VARCHAR2 (13) | NOT NULL | SQL identifier of the parent cursor in the library cache                                                                                                                                                      |
| PLAN_HASH_VALUE          | NUMBER        | NOT NULL | Numerical representation of the SQL plan for the cursor. Comparing one PLAN_HASH_VALUE to another easily identifies whether or not two plans are the same (rather than comparing the two plans line by line). |
| OPTIMIZER_COST           | NUMBER        |          | Cost of the query given by the optimizer                                                                                                                                                                      |
| OPTIMIZER_MODE           | VARCHAR2 (10) |          | Mode under which the SQL statement is executed                                                                                                                                                                |
| OPTIMIZER_ENV_HASH_VALUE | NUMBER        |          | Hash Value for the optimizer environment                                                                                                                                                                      |
| SHARABLE_MEM             | NUMBER        |          | Amount of shared memory used by the child cursor (in bytes)                                                                                                                                                   |
| LOADED_VERSIONS          | NUMBER        |          | Indicates whether the context heap is loaded (1) or not (0)                                                                                                                                                   |
| VERSION_COUNT            | NUMBER        |          | Number of children associated with the cursor                                                                                                                                                                 |
| MODULE                   | VARCHAR2 (64) |          | Contains the name of the module that was executing at the time that the SQL statement was first parsed, which is set by calling DBMS_APPLICATION_INFO.SET_MODULE                                              |
| ACTION                   | VARCHAR2 (64) |          | Contains the name of the action that was executing at the time that the SQL statement was first parsed, which is set by calling DBMS_APPLICATION_INFO.SET_ACTION                                              |
| SQL_PROFILE              | VARCHAR2 (64) |          | Name of the applied SQL Profile                                                                                                                                                                               |

| Column                   | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------|---------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FORCE_MATCHING_SIGNATURE | NUMBER        |      | The signature used when the <code>CURSOR_SHARING</code> parameter is set to <code>FORCE</code>                                                                                                                                                                                                                                                                                                                                                                                                                           |
| PARSING_SCHEMA_ID        | NUMBER        |      | Schema ID that was used to originally build the child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| PARSING_SCHEMA_NAME      | VARCHAR2(128) |      | Schema name that was used to originally build the child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| PARSING_USER_ID          | NUMBER        |      | User ID that was used to originally build the child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| FETCHES_TOTAL            | NUMBER        |      | Cumulative number of fetches associated with the SQL statement                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| FETCHES_DELTA            | NUMBER        |      | Delta number of fetches associated with the SQL statement                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| END_OF_FETCH_COUNT_TOTAL | NUMBER        |      | Cumulative number of times this cursor was fully executed since the cursor was brought into the library cache. The value of this statistic is not incremented when the cursor is partially executed, either because it failed during the execution or because only the first few rows produced by this cursor are fetched before the cursor is closed or re-executed. By definition, the value of the <code>END_OF_FETCH_COUNT</code> column should be less or equal to the value of the <code>EXECUTIONS</code> column. |
| END_OF_FETCH_COUNT_DELTA | NUMBER        |      | Delta number of times this cursor was fully executed since the cursor was brought into the library cache. The value of this statistic is not incremented when the cursor is partially executed, either because it failed during the execution or because only the first few rows produced by this cursor are fetched before the cursor is closed or re-executed.                                                                                                                                                         |
| SORTS_TOTAL              | NUMBER        |      | Cumulative number of sorts that were done for this child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SORTS_DELTA              | NUMBER        |      | Delta number of sorts that were done for this child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| EXECUTIONS_TOTAL         | NUMBER        |      | Cumulative number of executions that took place on this object since it was brought into the library cache                                                                                                                                                                                                                                                                                                                                                                                                               |
| EXECUTIONS_DELTA         | NUMBER        |      | Delta number of executions that took place on this object since it was brought into the library cache                                                                                                                                                                                                                                                                                                                                                                                                                    |
| PX_SERVERS_EXECS_TOTAL   | NUMBER        |      | Cumulative number of PX server executions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| PX_SERVERS_EXECS_DELTA   | NUMBER        |      | Delta number of PX server executions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| LOADS_TOTAL              | NUMBER        |      | Cumulative number of times the object was either loaded or reloaded                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| LOADS_DELTA              | NUMBER        |      | Delta number of times the object was either loaded or reloaded                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| INVALIDATIONS_TOTAL      | NUMBER        |      | Cumulative number of times this child cursor has been invalidated                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| INVALIDATIONS_DELTA      | NUMBER        |      | Delta number of times this child cursor has been invalidated                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| PARSE_CALLS_TOTAL        | NUMBER        |      | Cumulative number of parse calls for this child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PARSE_CALLS_DELTA        | NUMBER        |      | Delta number of parse calls for this child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| DISK_READS_TOTAL         | NUMBER        |      | Cumulative number of disk reads for this child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Column                      | Datatype | NULL | Description                                                                                                                                                                                                                                                                    |
|-----------------------------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DISK_READS_DELTA            | NUMBER   |      | Delta number of disk reads for this child cursor                                                                                                                                                                                                                               |
| BUFFER_GETS_TOTAL           | NUMBER   |      | Cumulative number of buffer gets for this child cursor                                                                                                                                                                                                                         |
| BUFFER_GETS_DELTA           | NUMBER   |      | Delta number of buffer gets for this child cursor                                                                                                                                                                                                                              |
| ROWS_PROCESSED_TOTAL        | NUMBER   |      | Cumulative number of rows the parsed SQL statement returns                                                                                                                                                                                                                     |
| ROWS_PROCESSED_DELTA        | NUMBER   |      | Delta number of rows the parsed SQL statement returns                                                                                                                                                                                                                          |
| CPU_TIME_TOTAL              | NUMBER   |      | Cumulative value of CPU time (in microseconds) used by this cursor for parsing/executing/fetching                                                                                                                                                                              |
| CPU_TIME_DELTA              | NUMBER   |      | Delta value of CPU time (in microseconds) used by this cursor for parsing/executing/fetching                                                                                                                                                                                   |
| ELAPSED_TIME_TOTAL          | NUMBER   |      | Cumulative value of elapsed time (in microseconds) used by this cursor for parsing/executing/fetching. If the cursor uses parallel execution, then <code>ELAPSED_TIME_TOTAL</code> is the cumulative time for the query coordinator, plus all parallel query worker processes. |
| ELAPSED_TIME_DELTA          | NUMBER   |      | Delta value of elapsed time (in microseconds) used by this cursor for parsing/executing/fetching                                                                                                                                                                               |
| IOWAIT_TOTAL                | NUMBER   |      | Cumulative value of user I/O wait time (in microseconds)                                                                                                                                                                                                                       |
| IOWAIT_DELTA                | NUMBER   |      | Delta value of user I/O wait time (in microseconds)                                                                                                                                                                                                                            |
| CLWAIT_TOTAL                | NUMBER   |      | Cumulative value of cluster wait time (in microseconds)                                                                                                                                                                                                                        |
| CLWAIT_DELTA                | NUMBER   |      | Delta value of cluster wait time (in microseconds)                                                                                                                                                                                                                             |
| APWAIT_TOTAL                | NUMBER   |      | Cumulative value of application wait time (in microseconds)                                                                                                                                                                                                                    |
| APWAIT_DELTA                | NUMBER   |      | Delta value of application wait time (in microseconds)                                                                                                                                                                                                                         |
| CCWAIT_TOTAL                | NUMBER   |      | Cumulative value of concurrency wait time (in microseconds)                                                                                                                                                                                                                    |
| CCWAIT_DELTA                | NUMBER   |      | Delta value of concurrency wait time (in microseconds)                                                                                                                                                                                                                         |
| DIRECT_WRITES_TOTAL         | NUMBER   |      | Cumulative value of direct writes                                                                                                                                                                                                                                              |
| DIRECT_WRITES_DELTA         | NUMBER   |      | Delta value of direct writes                                                                                                                                                                                                                                                   |
| PLSEEXEC_TIME_TOTAL         | NUMBER   |      | Cumulative value of PL/SQL Execution Time (in microseconds)                                                                                                                                                                                                                    |
| PLSEEXEC_TIME_DELTA         | NUMBER   |      | Delta value of PL/SQL Execution Time (in microseconds)                                                                                                                                                                                                                         |
| JAVEEXEC_TIME_TOTAL         | NUMBER   |      | Cumulative value of Java Execution Time (in microseconds)                                                                                                                                                                                                                      |
| JAVEEXEC_TIME_DELTA         | NUMBER   |      | Delta value of Java Execution Time (in microseconds)                                                                                                                                                                                                                           |
| IO_OFFLOAD_ELIG_BYTES_TOTAL | NUMBER   |      | Cumulative value of number of I/O bytes which can be filtered by the Exadata storage system<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                                      |

| Column                         | Datatype | NULL | Description                                                                                                                                                                                                                                       |
|--------------------------------|----------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IO_OFFLOAD_ELIG_BYTES_DELTA    | NUMBER   |      | Delta value of number of I/O bytes which can be filtered by the Exadata storage system<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                              |
| IO_INTERCONNECT_BYTES_TOTAL    | NUMBER   |      | Cumulative value of number of I/O bytes exchanged between Oracle Database and the storage system                                                                                                                                                  |
| IO_INTERCONNECT_BYTES_DELTA    | NUMBER   |      | Delta value of number of I/O bytes exchanged between Oracle Database and the storage system                                                                                                                                                       |
| PHYSICAL_READ_REQUESTS_TOTAL   | NUMBER   |      | Cumulative value of number of physical read I/O requests issued by the monitored SQL                                                                                                                                                              |
| PHYSICAL_READ_REQUESTS_DELTA   | NUMBER   |      | Delta value of number of physical read I/O requests issued by the monitored SQL                                                                                                                                                                   |
| PHYSICAL_READ_BYTES_TOTAL      | NUMBER   |      | Cumulative value of number of bytes read from disks by the monitored SQL                                                                                                                                                                          |
| PHYSICAL_READ_BYTES_DELTA      | NUMBER   |      | Delta value of number of bytes read from disks by the monitored SQL                                                                                                                                                                               |
| PHYSICAL_WRITE_REQUESTS_TOTAL  | NUMBER   |      | Cumulative value of number of physical write I/O requests issued by the monitored SQL                                                                                                                                                             |
| PHYSICAL_WRITE_REQUESTS_DELTA  | NUMBER   |      | Delta value of number of physical write I/O requests issued by the monitored SQL                                                                                                                                                                  |
| PHYSICAL_WRITE_BYTES_TOTAL     | NUMBER   |      | Cumulative value of number of bytes written to disks by the monitored SQL                                                                                                                                                                         |
| PHYSICAL_WRITE_BYTES_DELTA     | NUMBER   |      | Delta value of number of bytes written to disks by the monitored SQL                                                                                                                                                                              |
| OPTIMIZED_PHYSICAL_READS_TOTAL | NUMBER   |      | Cumulative value of number of physical reads from the Database Smart Flash Cache or the Exadata Smart Flash Cache by the monitored SQL                                                                                                            |
| OPTIMIZED_PHYSICAL_READS_DELTA | NUMBER   |      | Delta value of number of physical reads from the Database Smart Flash Cache or the Exadata Smart Flash Cache by the monitored SQL                                                                                                                 |
| CELL_UNCOMPRESSED_BYTES_TOTAL  | NUMBER   |      | Cumulative value of number of uncompressed bytes (that is, size after decompression) that are offloaded to the Exadata cells<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                        |
| CELL_UNCOMPRESSED_BYTES_DELTA  | NUMBER   |      | Delta value of number of uncompressed bytes (that is, size after decompression) that are offloaded to the Exadata cells<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                             |
| IO_OFFLOAD_RETURN_BYTES_TOTAL  | NUMBER   |      | Cumulative value of number of bytes that are returned by the Exadata cell for smart scan only (that is, not including bytes for other database I/O)<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information |
| IO_OFFLOAD_RETURN_BYTES_DELTA  | NUMBER   |      | Delta value of number of bytes that are returned by the Exadata cell for smart scan only (that is, not including bytes for other database I/O)<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information      |

| Column         | Datatype   | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------|------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BIND_DATA      | RAW (2000) |      | Bind data                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| FLAG           | NUMBER     |      | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                        |
| OBSOLETE_COUNT | NUMBER     |      | Number of times that a parent cursor became obsolete                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_DBID       | NUMBER     |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID         | NUMBER     |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

#### See Also:

- ["DBA\\_HIST\\_SNAPSHOT"](#)
- ["DBA\\_HIST\\_OPTIMIZER\\_ENV"](#)
- ["DBA\\_HIST\\_SQLTEXT"](#)
- ["DBA\\_HIST\\_SQL\\_PLAN"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_APPLICATION\_INFO package

## 6.68 DBA\_HIST\_SQLTEXT

DBA\_HIST\_SQLTEXT displays the text of SQL statements belonging to shared SQL cursors captured in the Workload Repository.

This view captures information from V\$SQL and is used with the DBA\_HIST\_SQLSTAT view.

| Column       | Datatype      | NULL     | Description                                              |
|--------------|---------------|----------|----------------------------------------------------------|
| DBID         | NUMBER        | NOT NULL | Database ID                                              |
| SQL_ID       | VARCHAR2 (13) | NOT NULL | SQL identifier of the parent cursor in the library cache |
| SQL_TEXT     | CLOB          |          | Full text for the SQL statement exposed as a CLOB column |
| COMMAND_TYPE | NUMBER        |          | Oracle command type definition                           |
| CON_DBID     | NUMBER        |          | The database ID of the PDB for the sampled session       |



| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------|----------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

- "V\$SQL"
- "DBA\_HIST\_SQLSTAT"

## 6.69 DBA\_HIST\_STAT\_NAME

DBA\_HIST\_STAT\_NAME displays decoded statistic names for the statistics captured in the Workload Repository.

This includes OLAP statistics and OLAP timed events. This view captures information from V\$STATNAME and is used with DBA\_HIST\_SYSSTAT and DBA\_HIST\_SYS\_TIME\_MODEL.

| Column    | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------|---------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID      | NUMBER        | NOT NULL | Database ID                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| STAT_ID   | NUMBER        | NOT NULL | Statistic identifier                                                                                                                                                                                                                                                                                                                                                                                                                         |
| STAT_NAME | VARCHAR2 (64) | NOT NULL | Statistic name                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_DBID  | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID    | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

- "V\$STATNAME"
- "DBA\_HIST\_SYSSTAT"
- "DBA\_HIST\_SYS\_TIME\_MODEL"

## 6.70 DBA\_HIST\_STREAMS\_APPLY\_SUM

DBA\_HIST\_STREAMS\_APPLY\_SUM displays information about each apply process and its activities.

This view contains a snapshot of V\$STREAMS\_APPLY\_COORDINATOR, V\$STREAMS\_APPLY\_READER, and V\$STREAMS\_APPLY\_SERVER. This view is intended for use with Automatic Workload Repository (AWR).

| Column                         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                            |
|--------------------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID                        | NUMBER         | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                     |
| DBID                           | NUMBER         | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                           |
| INSTANCE_NUMBER                | NUMBER         | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                       |
| APPLY_NAME                     | VARCHAR2 (128) | NOT NULL | Name of the apply process                                                                                                                                                                                                                                                                              |
| STARTUP_TIME                   | DATE           | NOT NULL | Time that the apply process was last started                                                                                                                                                                                                                                                           |
| READER_TOTAL_MESSAGES_DEQUEUED | NUMBER         |          | Total number of messages dequeued since the apply process was last started                                                                                                                                                                                                                             |
| READER_LAG                     | NUMBER         |          | For captured messages, the delay (in seconds) between the creation of the last message and it being received by the apply process. For user enqueued messages, the delay between the message being enqueued in the local database and being received by the apply process.                             |
| COORD_TOTAL_RECEIVED           | NUMBER         |          | Total number of transactions received by the coordinator process since the apply process was last started                                                                                                                                                                                              |
| COORD_TOTAL_APPLIED            | NUMBER         |          | Total number of transactions applied by the apply process since the apply process was last started                                                                                                                                                                                                     |
| COORD_TOTAL_ROLLBACKS          | NUMBER         |          | Number of transactions which were rolled back due to unexpected contention                                                                                                                                                                                                                             |
| COORD_TOTAL_WAIT_DEPS          | NUMBER         |          | Number of times since the apply process was last started that an apply server waited to apply a logical change record (LCR) in a transaction until another apply server applied a transaction because of a dependency between the transactions                                                         |
| COORD_TOTAL_WAIT_CMTS          | NUMBER         |          | Number of times since the apply process was last started that an apply server waited to commit a transaction until another apply server committed a transaction to serialize commits                                                                                                                   |
| COORD_LWM_LAG                  | NUMBER         |          | For captured messages, the delay (in seconds) between the creation of the message corresponding to the low watermark and it being applied by the apply process. For user enqueued messages, the delay between the message being enqueued in the local database and being applied by the apply process. |
| SERVER_TOTAL_MESSAGES_APPLIED  | NUMBER         |          | Total number of messages applied by all the apply servers since the apply process was last started                                                                                                                                                                                                     |
| SERVER_ELAPSED_DEQUEUE_TIME    | NUMBER         |          | Time elapsed (in hundredths of a second) dequeuing messages by all the apply servers since the apply process was last started                                                                                                                                                                          |

| Column                    | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SERVER_ELAPSED_APPLY_TIME | NUMBER   |      | Time elapsed (in hundredths of a second) applying messages by all the apply servers since the apply process was last started                                                                                                                                                                                                                                                                                                                     |
| CON_DBID                  | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID                    | NUMBER   |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

- "V\$STREAMS\_APPLY\_COORDINATOR"
- "V\$STREAMS\_APPLY\_READER"
- "V\$STREAMS\_APPLY\_SERVER"

## 6.71 DBA\_HIST\_STREAMS\_CAPTURE

DBA\_HIST\_STREAMS\_CAPTURE displays information about each capture process.

This view is intended for use with Automatic Workload Repository (AWR).

| Column                  | Datatype      | NULL     | Description                                                                                             |
|-------------------------|---------------|----------|---------------------------------------------------------------------------------------------------------|
| SNAP_ID                 | NUMBER        | NOT NULL | Unique snapshot ID                                                                                      |
| DBID                    | NUMBER        | NOT NULL | Database ID for the snapshot                                                                            |
| INSTANCE_NUMBER         | NUMBER        | NOT NULL | Instance number for the snapshot                                                                        |
| CAPTURE_NAME            | VARCHAR2(128) | NOT NULL | Name of the capture process                                                                             |
| STARTUP_TIME            | DATE          | NOT NULL | Time that the capture process was last started                                                          |
| LAG                     | NUMBER        |          | Delay (in seconds) between the creation and capture of the most recently captured message               |
| TOTAL_MESSAGES_CAPTURED | NUMBER        |          | Total changes captured since the capture process was last started                                       |
| TOTAL_MESSAGES_ENQUEUED | NUMBER        |          | Total number of messages enqueued since the capture process was last started                            |
| ELAPSED_RULE_TIME       | NUMBER        |          | Elapsed time (in hundredths of a second) evaluating rules since the capture process was last started    |
| ELAPSED_ENQUEUE_TIME    | NUMBER        |          | Elapsed time (in hundredths of a second) enqueueing messages since the capture process was last started |
| ELAPSED_REDO_WAIT_TIME  | NUMBER        |          | Elapsed time (in hundredths of a second) spent by the capture process in the WAITING FOR REDO state     |

| Column             | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ELAPSED_PAUSE_TIME | NUMBER   |      | Elapsed pause time                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_DBID           | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID             | NUMBER   |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.72 DBA\_HIST\_STREAMS\_POOL\_ADVICE

DBA\_HIST\_STREAMS\_POOL\_ADVICE displays historical information about the estimated count of spilled or unspilled messages and the associated time spent in the spill or unspill activity for different Streams pool sizes.

This view is intended for use with Automatic Workload Repository (AWR).

| Column             | Datatype | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------|----------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID            | NUMBER   | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DBID               | NUMBER   | NOT NULL | Database ID of the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                      |
| INSTANCE_NUMBER    | NUMBER   | NOT NULL | Instance number of the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SIZE_FOR_ESTIMATE  | NUMBER   | NOT NULL | Pool size for the estimate (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                                        |
| SIZE_FACTOR        | NUMBER   |          | Size factor with respect to the current pool size                                                                                                                                                                                                                                                                                                                                                                                                |
| ESTD_SPILL_COUNT   | NUMBER   |          | Estimated count of messages spilled from the Streams pool                                                                                                                                                                                                                                                                                                                                                                                        |
| ESTD_SPILL_TIME    | NUMBER   |          | Estimated elapsed time (in seconds) to spill                                                                                                                                                                                                                                                                                                                                                                                                     |
| ESTD_UNSPILL_COUNT | NUMBER   |          | Estimated count of unspills (read back from disk)                                                                                                                                                                                                                                                                                                                                                                                                |
| ESTD_UNSPILL_TIME  | NUMBER   |          | Estimated elapsed time (in seconds) to unspill                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_DBID           | NUMBER   |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID             | NUMBER   |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.73 DBA\_HIST\_SYS\_TIME\_MODEL

DBA\_HIST\_SYS\_TIME\_MODEL displays historical system time model statistics, including OLAP timed stastistics.

This view contains snapshots of V\$SYS\_TIME\_MODEL.

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DBID            | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                     |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                 |
| STAT_ID         | NUMBER        | NOT NULL | Statistic ID                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| STAT_NAME       | VARCHAR2 (64) | NOT NULL | Statistic name                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| VALUE           | NUMBER        |          | Statistic value                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_DBID        | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID          | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

- "V\$SYS\_TIME\_MODEL"
- "DBA\_HIST\_CON\_SYS\_TIME\_MODEL"
- "V\$CON\_SYSMETRIC"

## 6.74 DBA\_HIST\_SYSMETRIC\_HISTORY

DBA\_HIST\_SYSMETRIC\_HISTORY externalizes all available history of the system metric values for the entire set of data kept in the database.

This view contains snapshots of V\$SYSMETRIC\_HISTORY.

| Column          | Datatype      | NULL     | Description                               |
|-----------------|---------------|----------|-------------------------------------------|
| SNAP_ID         | NUMBER        | NOT NULL | Unique snapshot ID                        |
| DBID            | NUMBER        | NOT NULL | Database ID for the snapshot              |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number for the snapshot          |
| BEGIN_TIME      | DATE          | NOT NULL | Begin time of the interval                |
| END_TIME        | DATE          | NOT NULL | End time of the interval                  |
| INTSIZE         | NUMBER        | NOT NULL | Interval size (in hundredths of a second) |
| GROUP_ID        | NUMBER        | NOT NULL | Group ID                                  |
| METRIC_ID       | NUMBER        | NOT NULL | Metric ID                                 |
| METRIC_NAME     | VARCHAR2 (64) | NOT NULL | Metric name                               |
| VALUE           | NUMBER        | NOT NULL | Metric Value                              |
| METRIC_UNIT     | VARCHAR2 (64) | NOT NULL | Unit of measurement                       |

| Column   | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_DBID | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID   | NUMBER   |      | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

 **See Also:**

- "V\$SYSMETRIC\_HISTORY"
- "DBA\_HIST\_CON\_SYSMETRIC\_HIST"
- "V\$CON\_SYSMETRIC\_HISTORY"

## 6.75 DBA\_HIST\_SYSMETRIC\_SUMMARY

DBA\_HIST\_SYSMETRIC\_SUMMARY displays a history of statistical summary of all metric values in the System Metrics Long Duration group.

This view contains snapshots of V\$SYSMETRIC\_SUMMARY.

| Column             | Datatype      | NULL     | Description                                        |
|--------------------|---------------|----------|----------------------------------------------------|
| SNAP_ID            | NUMBER        | NOT NULL | Unique snapshot ID                                 |
| DBID               | NUMBER        | NOT NULL | Database ID for the snapshot                       |
| INSTANCE_NUMBER    | NUMBER        | NOT NULL | Instance number for the snapshot                   |
| BEGIN_TIME         | DATE          | NOT NULL | Begin time of the interval                         |
| END_TIME           | DATE          | NOT NULL | End time of the interval                           |
| INTSIZE            | NUMBER        | NOT NULL | Interval size (in hundredths of a second)          |
| GROUP_ID           | NUMBER        | NOT NULL | Group ID                                           |
| METRIC_ID          | NUMBER        | NOT NULL | Metric ID                                          |
| METRIC_NAME        | VARCHAR2 (64) | NOT NULL | Metric name                                        |
| METRIC_UNIT        | VARCHAR2 (64) | NOT NULL | Unit of measurement                                |
| NUM_INTERVAL       | NUMBER        | NOT NULL | Number of intervals observed                       |
| MINVAL             | NUMBER        | NOT NULL | Minimum value observed                             |
| MAXVAL             | NUMBER        | NOT NULL | Maximum value observed                             |
| AVERAGE            | NUMBER        | NOT NULL | Average over the period                            |
| STANDARD_DEVIATION | NUMBER        | NOT NULL | One standard deviation                             |
| SUM_SQUARES        | NUMBER        |          | Sum of the squared deviations from the mean        |
| CON_DBID           | NUMBER        |          | The database ID of the PDB for the sampled session |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

- "V\$SYSMETRIC\_SUMMARY"
- "DBA\_HIST\_CON\_SYSMETRIC\_SUMM"
- "V\$CON\_SYSMETRIC\_SUMMARY"

## 6.76 DBA\_HIST\_SYSSTAT

DBA\_HIST\_SYSSTAT displays historical system statistics information, including OLAP kernel statistics.

This view contains snapshots of V\$SYSSTAT.

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------|---------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| DBID            | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                         |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                     |
| STAT_ID         | NUMBER        | NOT NULL | Statistic identifier                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| STAT_NAME       | VARCHAR2 (64) | NOT NULL | Statistic name                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| VALUE           | NUMBER        |          | Statistic value                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CON_DBID        | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID          | NUMBER        |          | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**`"V$SYSSTAT"`

## 6.77 DBA\_HIST\_SYSTEM\_EVENT

DBA\_HIST\_SYSTEM\_EVENT displays historical information on total waits for an event.

This view contains snapshots of V\$SYSTEM\_EVENT.

| Column               | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID              | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DBID                 | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                     |
| INSTANCE_NUMBER      | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EVENT_ID             | NUMBER        | NOT NULL | Identifier of the wait event                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EVENT_NAME           | VARCHAR2 (64) | NOT NULL | Name of the wait event                                                                                                                                                                                                                                                                                                                                                                                                                           |
| WAIT_CLASS_ID        | NUMBER        |          | Identifier of the Class of the Wait Event                                                                                                                                                                                                                                                                                                                                                                                                        |
| WAIT_CLASS           | VARCHAR2 (64) |          | Name of the Class of the Wait Event                                                                                                                                                                                                                                                                                                                                                                                                              |
| TOTAL_WAITS          | NUMBER        |          | Total number of waits for the event                                                                                                                                                                                                                                                                                                                                                                                                              |
| TOTAL_TIMEOUTS       | NUMBER        |          | Total number of timeouts for the event                                                                                                                                                                                                                                                                                                                                                                                                           |
| TIME_WAITED_MICRO    | NUMBER        |          | Total amount of time waited for the event (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                      |
| TOTAL_WAITS_FG       | NUMBER        |          | Total number of waits for the event, from foreground sessions                                                                                                                                                                                                                                                                                                                                                                                    |
| TOTAL_TIMEOUTS_FG    | NUMBER        |          | Total number of timeouts for the event, from foreground sessions                                                                                                                                                                                                                                                                                                                                                                                 |
| TIME_WAITED_MICRO_FG | NUMBER        |          | Amount of time waited for the event (in microseconds), from foreground sessions                                                                                                                                                                                                                                                                                                                                                                  |
| CON_DBID             | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID               | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**`"V$SYSTEM_EVENT"`



## 6.78 DBA\_HIST\_TABLESPACE

DBA\_HIST\_TABLESPACE displays tablespace information contained in the Workload Repository.

| Column                   | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID                     | NUMBER        | NOT NULL | Database ID                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TS#                      | NUMBER        | NOT NULL | Tablespace number                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TSNAME                   | VARCHAR2 (30) | NOT NULL | Tablespace name                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CONTENTS                 | VARCHAR2 (30) |          | Tablespace contents: <ul style="list-style-type: none"> <li>• UNDO</li> <li>• PERMANENT</li> <li>• TEMPORARY</li> </ul>                                                                                                                                                                                                                                                                                                                                |
| SEGMENT_SPACE_MANAGEMENT | VARCHAR2 (30) |          | Indicates whether the free and used space in the tablespace is managed using free lists (MANUAL) or bitmaps (AUTO)                                                                                                                                                                                                                                                                                                                                     |
| EXTENT_MANAGEMENT        | VARCHAR2 (30) |          | Indicates whether the extents in the tablespace are dictionary managed (DICTIONARY) or locally managed (LOCAL)                                                                                                                                                                                                                                                                                                                                         |
| BLOCK_SIZE               | NUMBER        |          | Block size of the tablespace                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_DBID                 | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID                   | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.79 DBA\_HIST\_TABLESPACE\_STAT

DBA\_HIST\_TABLESPACE\_STAT displays tablespace information from the control file.

This view contains snapshots of V\$TABLESPACE and DBA\_TABLESPACES.

| Column          | Datatype      | NULL     | Description                                                                                             |
|-----------------|---------------|----------|---------------------------------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER        | NOT NULL | Unique snapshot ID                                                                                      |
| DBID            | NUMBER        | NOT NULL | Database ID for the snapshot                                                                            |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number for the snapshot                                                                        |
| TS#             | NUMBER        | NOT NULL | Tablespace number                                                                                       |
| TSNAME          | VARCHAR2 (30) |          | Tablespace name                                                                                         |
| CONTENTS        | VARCHAR2 (9)  |          | Tablespace contents: <ul style="list-style-type: none"> <li>• PERMANENT</li> <li>• TEMPORARY</li> </ul> |

| Column                   | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------|---------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS                   | VARCHAR2 (9)  |      | Tablespace status: <ul style="list-style-type: none"> <li>• ONLINE</li> <li>• OFFLINE</li> <li>• READ ONLY</li> </ul>                                                                                                                                                                                                                                                                                                                                  |
| SEGMENT_SPACE_MANAGEMENT | VARCHAR2 (6)  |      | Indicates whether the free and used segment space in the tablespace is managed using free lists (MANUAL) or bitmaps (AUTO)                                                                                                                                                                                                                                                                                                                             |
| EXTENT_MANAGEMENT        | VARCHAR2 (10) |      | Indicates whether the extents in the tablespace are dictionary managed (DICTIONARY) or locally managed (LOCAL)                                                                                                                                                                                                                                                                                                                                         |
| IS_BACKUP                | VARCHAR2 (5)  |      | Indicates whether the tablespace is part of a backup                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_DBID                 | NUMBER        |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID                   | NUMBER        |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

- "V\$TABLESPACE"
- "DBA\_TABLESPACES"

## 6.80 DBA\_HIST\_TBSPC\_SPACE\_USAGE

DBA\_HIST\_TBSPC\_SPACE\_USAGE displays historical tablespace usage statistics.

| Column               | Datatype      | NULL     | Description                                         |
|----------------------|---------------|----------|-----------------------------------------------------|
| SNAP_ID              | NUMBER        |          | Unique snapshot ID                                  |
| DBID                 | NUMBER        | NOT NULL | Database ID for the snapshot                        |
| TABLESPACE_ID        | NUMBER        |          | Tablespace ID                                       |
| TABLESPACE_SIZE      | NUMBER        |          | Tablespace size (in database blocks)                |
| TABLESPACE_MAXSIZE   | NUMBER        |          | Maximum size of the tablespace (in database blocks) |
| TABLESPACE_USEDSPACE | NUMBER        |          | Used size of the tablespace (in database blocks)    |
| RTIME                | VARCHAR2 (25) |          | Runtime                                             |
| CON_DBID             | NUMBER        |          | The database ID of the PDB for the sampled session  |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.81 DBA\_HIST\_TEMPFILE

DBA\_HIST\_TEMPFILE displays a history of the temp file information from the control file. This view contains snapshots of V\$TEMPFILE.

| Column           | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID             | NUMBER         | NOT NULL | Database ID                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| FILE#            | NUMBER         | NOT NULL | File identification number                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CREATION_CHANGE# | NUMBER         | NOT NULL | Change number at which the temp file was created                                                                                                                                                                                                                                                                                                                                                                                                 |
| FILENAME         | VARCHAR2 (513) | NOT NULL | Name of the temp file                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TS#              | NUMBER         | NOT NULL | Tablespace number                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TSNAME           | VARCHAR2 (30)  |          | Name of the tablespace                                                                                                                                                                                                                                                                                                                                                                                                                           |
| BLOCK_SIZE       | NUMBER         |          | Block size of the temp file                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CON_DBID         | NUMBER         |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID           | NUMBER         |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$TEMPFILE"

## 6.82 DBA\_HIST\_TEMPSTATXS

DBA\_HIST\_TEMPSTATXS displays information about temporary file read/write statistics.

This view contains snapshots of V\$TEMPSTAT.

| Column           | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID          | NUMBER         | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| DBID             | NUMBER         | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                               |
| INSTANCE_NUMBER  | NUMBER         | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                           |
| FILE#            | NUMBER         | NOT NULL | File identification number                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CREATION_CHANGE# | NUMBER         | NOT NULL | Change number at which the temp file was created                                                                                                                                                                                                                                                                                                                                                                                                           |
| FILENAME         | VARCHAR2 (513) | NOT NULL | Name of the temp file                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TS#              | NUMBER         | NOT NULL | Tablespace number                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TSNAME           | VARCHAR2 (30)  |          | Name of the tablespace                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| BLOCK_SIZE       | NUMBER         |          | Block size of the temp file                                                                                                                                                                                                                                                                                                                                                                                                                                |
| PHYRDS           | NUMBER         |          | Number of physical reads done                                                                                                                                                                                                                                                                                                                                                                                                                              |
| PHYWRTS          | NUMBER         |          | Number of times DBWR is required to write                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SINGLEBLKRDS     | NUMBER         |          | Number of single block reads                                                                                                                                                                                                                                                                                                                                                                                                                               |
| READTIM          | NUMBER         |          | Time (in hundredths of a second) spent doing reads if the <code>TIMED_STATISTICS</code> parameter is <code>true</code> ; 0 if <code>false</code>                                                                                                                                                                                                                                                                                                           |
| WRITETIM         | NUMBER         |          | Time (in hundredths of a second) spent doing writes if the <code>TIMED_STATISTICS</code> parameter is <code>true</code> ; 0 if <code>false</code>                                                                                                                                                                                                                                                                                                          |
| SINGLEBLKRDTIM   | NUMBER         |          | Cumulative single block read time (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                              |
| PHYBLKRD         | NUMBER         |          | Number of physical blocks read                                                                                                                                                                                                                                                                                                                                                                                                                             |
| PHYBLKWRT        | NUMBER         |          | Number of blocks written to disk, which may be the same as <code>PHYWRTS</code> if all writes are single blocks                                                                                                                                                                                                                                                                                                                                            |
| WAIT_COUNT       | NUMBER         |          | Shows the number of waits at the file level for contended buffers. This value includes the individual wait events that are included in the buffer busy waits wait event.<br><b>See Also:</b> <a href="#">"buffer busy waits"</a>                                                                                                                                                                                                                           |
| TIME             | NUMBER         |          | Time spent waiting for the wait events in the <code>WAIT_COUNT</code> column                                                                                                                                                                                                                                                                                                                                                                               |
| CON_DBID         | NUMBER         |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID           | NUMBER         |          | The ID of the container that <code>CON_DBID</code> identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

["V\\$TEMPSTAT"](#)

## 6.83 DBA\_HIST\_THREAD

DBA\_HIST\_THREAD displays historical thread information from the control file.

| Column                 | Datatype     | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|--------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID                | NUMBER       | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DBID                   | NUMBER       | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                       |
| INSTANCE_NUMBER        | NUMBER       | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                   |
| THREAD#                | NUMBER       | NOT NULL | Thread number                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| THREAD_INSTANCE_NUMBER | NUMBER       |          | Instance number of the thread                                                                                                                                                                                                                                                                                                                                                                                                                      |
| STATUS                 | VARCHAR2 (6) |          | Thread status (OPEN) or (CLOSED)                                                                                                                                                                                                                                                                                                                                                                                                                   |
| OPEN_TIME              | DATE         |          | Last time the thread was opened                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CURRENT_GROUP#         | NUMBER       |          | Current log group                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SEQUENCE#              | NUMBER       |          | Sequence number of the current log                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_DBID               | NUMBER       |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID                 | NUMBER       |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 6.84 DBA\_HIST\_TOPLEVELCALL\_NAME

DBA\_HIST\_TOPLEVELCALL\_NAME displays the mapping between Oracle top level calls and names.

| Column              | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------|---------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID                | NUMBER        | NOT NULL | Database ID                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TOP_LEVEL_CALL#     | NUMBER        | NOT NULL | Oracle top level call number                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TOP_LEVEL_CALL_NAME | VARCHAR2 (64) |          | Oracle top level call name                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_DBID            | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID              | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 6.85 DBA\_HIST\_UNDOSTAT

DBA\_HIST\_UNDOSTAT displays the history of histograms of statistical data to show how well the system is working.

The available statistics include undo space consumption, transaction concurrency, and length of queries executed in the instance. This view contains snapshots of V\$UNDOSTAT.

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BEGIN_TIME      | DATE          | NOT NULL | Identifies the beginning of the time interval                                                                                                                                                                                                                                                                                                                                                                                                    |
| END_TIME        | DATE          | NOT NULL | Identifies the end of the time interval                                                                                                                                                                                                                                                                                                                                                                                                          |
| DBID            | NUMBER        | NOT NULL | Database ID for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                     |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number for the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SNAP_ID         | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                               |
| UNDOTSN         | NUMBER        | NOT NULL | Represents the last active undo tablespace in the duration of time. The tablespace ID of the active undo tablespace is returned in this column. If more than one undo tablespace was active in that period, the active undo tablespace that was active at the end of the period is reported.                                                                                                                                                     |
| UNDOBLKS        | NUMBER        |          | Represents the total number of undo blocks consumed. You can use this column to obtain the consumption rate of undo blocks, and thereby estimate the size of the undo tablespace needed to handle the workload on your system.                                                                                                                                                                                                                   |
| TXNCOUNT        | NUMBER        |          | Identifies the total number of transactions executed within the period                                                                                                                                                                                                                                                                                                                                                                           |
| MAXQUERYLEN     | NUMBER        |          | Identifies the length of the longest query (in number of seconds) executed in the instance during the period. You can use this statistic to estimate the proper setting of the UNDO_RETENTION initialization parameter. The length of a query is measured from the cursor open time to the last fetch/execute time of the cursor. Only the length of those cursors that have been fetched/ executed during the period are reflected in the view. |
| MAXQUERYSQLID   | VARCHAR2 (13) |          | SQL identifier of the longest running SQL statement in the period                                                                                                                                                                                                                                                                                                                                                                                |
| MAXCONCURRENCY  | NUMBER        |          | Identifies the highest number of transactions executed concurrently within the period                                                                                                                                                                                                                                                                                                                                                            |
| UNXPSTEALCNT    | NUMBER        |          | Number of attempts to obtain undo space by stealing unexpired extents from other transactions                                                                                                                                                                                                                                                                                                                                                    |
| UNXPBLKRELCNT   | NUMBER        |          | Number of unexpired blocks removed from certain undo segments so they can be used by other transactions                                                                                                                                                                                                                                                                                                                                          |
| UNXPBLKREUCNT   | NUMBER        |          | Number of unexpired undo blocks reused by transactions                                                                                                                                                                                                                                                                                                                                                                                           |
| EXPSTEALCNT     | NUMBER        |          | Number of attempts to steal expired undo blocks from other undo segments                                                                                                                                                                                                                                                                                                                                                                         |
| EXPBLKRELCNT    | NUMBER        |          | Number of expired undo blocks stolen from other undo segments                                                                                                                                                                                                                                                                                                                                                                                    |

| Column              | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------|----------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EXPBLKREUCNT        | NUMBER   |      | Number of expired undo blocks reused within the same undo segments                                                                                                                                                                                                                                                                                                                                                                                            |
| SSOLDERRCNT         | NUMBER   |      | Identifies the number of times the error <code>ORA-01555</code> occurred. You can use this statistic to decide whether the <code>UNDO_RETENTION</code> initialization parameter is set properly given the size of the undo tablespace. Increasing the value of <code>UNDO_RETENTION</code> can reduce the occurrence of this error.                                                                                                                           |
| NOSPACEERRCNT       | NUMBER   |      | Identifies the number of times space was requested in the undo tablespace and there was no free space available. That is, all of the space in the undo tablespace was in use by active transactions. The corrective action is to add more space to the undo tablespace.                                                                                                                                                                                       |
| ACTIVEBLKS          | NUMBER   |      | Total number of blocks in the active extents of the undo tablespace for the instance at the sampled time in the period                                                                                                                                                                                                                                                                                                                                        |
| UNEXPIREDBLKS       | NUMBER   |      | Total number of blocks in the unexpired extents of the undo tablespace for the instance at the sampled time in the period                                                                                                                                                                                                                                                                                                                                     |
| EXPIREDBLKS         | NUMBER   |      | Total number of blocks in the expired extents of the undo tablespace for the instance at the sampled time in the period                                                                                                                                                                                                                                                                                                                                       |
| TUNED_UNDORETENTION | NUMBER   |      | System tuned value indicating the period for which undo is being retained<br><br>The value of this column is not meaningful on an Oracle Active Data Guard standby database instance, because the system does not tune this value on such instances.                                                                                                                                                                                                          |
| CON_DBID            | NUMBER   |      | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID              | NUMBER   |      | The ID of the container that <code>CON_DBID</code> identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

`"V$UNDOSTAT"`

## 6.86 DBA\_HIST\_WAITCLASSMET\_HISTORY

`DBA_HIST_WAITCLASSMET_HISTORY` displays the history of the wait event class metric data kept by the Workload Repository.

| Column               | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAP_ID              | NUMBER        | NOT NULL | Unique snapshot ID                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DBID                 | NUMBER        | NOT NULL | Database ID of the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                      |
| INSTANCE_NUMBER      | NUMBER        | NOT NULL | Instance number of the snapshot                                                                                                                                                                                                                                                                                                                                                                                                                  |
| WAIT_CLASS_ID        | NUMBER        | NOT NULL | Identifier of the class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                        |
| WAIT_CLASS           | VARCHAR2 (64) |          | Name of the class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                              |
| BEGIN_TIME           | DATE          | NOT NULL | Begin time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                       |
| END_TIME             | DATE          | NOT NULL | End time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                         |
| INTSIZE              | NUMBER        | NOT NULL | Interval size (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                        |
| GROUP_ID             | NUMBER        | NOT NULL | Metric group ID                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| AVERAGE_WAITER_COUNT | NUMBER        | NOT NULL | Average waiter count                                                                                                                                                                                                                                                                                                                                                                                                                             |
| DBTIME_IN_WAIT       | NUMBER        | NOT NULL | Percent of database time spent in the wait                                                                                                                                                                                                                                                                                                                                                                                                       |
| TIME_WAITED          | NUMBER        | NOT NULL | Time waited during the interval (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                |
| WAIT_COUNT           | NUMBER        | NOT NULL | Number of times waited                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TIME_WAITED_FG       | NUMBER        |          | Time waited (in hundredths of a second), from foreground sessions                                                                                                                                                                                                                                                                                                                                                                                |
| WAIT_COUNT_FG        | NUMBER        |          | Number of times waited, from foreground sessions                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_DBID             | NUMBER        |          | The database ID of the PDB for the sampled session                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID               | NUMBER        |          | The ID of the container that CON_DBID identifies.<br>Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.87 DBA\_HIST\_WAITSTAT

DBA\_HIST\_WAITSTAT displays historical block contention statistics. This view contains snapshots of V\$WAITSTAT.

| Column          | Datatype      | NULL     | Description                                                                      |
|-----------------|---------------|----------|----------------------------------------------------------------------------------|
| SNAP_ID         | NUMBER        | NOT NULL | Unique snapshot ID                                                               |
| DBID            | NUMBER        | NOT NULL | Database ID for the snapshot                                                     |
| INSTANCE_NUMBER | NUMBER        | NOT NULL | Instance number for the snapshot                                                 |
| CLASS           | VARCHAR2 (18) | NOT NULL | Class of the block                                                               |
| WAIT_COUNT      | NUMBER        |          | Number of waits by the OPERATION for this CLASS of block                         |
| TIME            | NUMBER        |          | Sum of all wait times for all the waits by the OPERATION for this CLASS of block |
| CON_DBID        | NUMBER        |          | The database ID of the PDB for the sampled session                               |



| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | <p>The ID of the container that CON_DBID identifies. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$WAITSTAT"

## 6.88 DBA\_HIST\_WR\_CONTROL

DBA\_HIST\_WR\_CONTROL displays the control information for the Workload Repository.

| Column          | Datatype                        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------|---------------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID            | NUMBER                          | NOT NULL | Database ID                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| SNAP_INTERVAL   | INTERVAL DAY(5)<br>TO SECOND(1) | NOT NULL | Snapshot interval; how often to automatically take snapshots                                                                                                                                                                                                                                                                                                                                                                                           |
| RETENTION       | INTERVAL DAY(5)<br>TO SECOND(1) | NOT NULL | Retention setting for the snapshots; amount of time to keep the snapshots                                                                                                                                                                                                                                                                                                                                                                              |
| TOPNSQL         | VARCHAR2(10)                    |          | The number of Top SQL flushed for each SQL criteria (elapsed time, CPU time, parse calls, sharable memory, version count)                                                                                                                                                                                                                                                                                                                              |
| CON_ID          | NUMBER                          |          | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| SRC_DBID        | NUMBER                          |          | Database ID of the non-CDB, CDB, or PDB where the AWR snapshot data was collected                                                                                                                                                                                                                                                                                                                                                                      |
| SRC_DBNAME      | VARCHAR2(128)                   |          | Database name of the non-CDB, CDB, or PDB where the AWR snapshot data was collected                                                                                                                                                                                                                                                                                                                                                                    |
| TABLESPACE_NAME | VARCHAR2(128)                   |          | Name of the tablespace in which AWR snapshot data resides                                                                                                                                                                                                                                                                                                                                                                                              |

## 6.89 DBA\_HIST\_WR\_SETTINGS

DBA\_HIST\_WR\_SETTINGS displays the settings and metadata for the Workload Repository.

| Column        | Datatype     | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------|--------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LOCAL_AWRDBID | NUMBER       | NOT NULL | Database ID of the local database                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| VIEW_LOCATION | VARCHAR2 (8) |          | Data source of the DBA_HIST dictionary views.<br>Possible values include: <ul style="list-style-type: none"><li>• AWR_PDB: Views display AWR data stored in the PDB.</li><li>• AWR_ROOT: Views display AWR data stored in the root.</li></ul>                                                                                                                                                                                                                                         |
| CON_ID        | NUMBER       |          | The ID of the container to which the data pertains.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire multitenant container database (CDB). This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 6.90 DBA\_HISTOGRAMS

DBA\_HISTOGRAMS is a synonym for DBA\_TAB\_HISTOGRAMS.



**See Also:**

"DBA\_TAB\_HISTOGRAMS"

## 6.91 DBA\_HIVE\_COLUMNS

DBA\_HIVE\_COLUMNS describes all Hive columns in a Hive metastore. Its columns are the same as those in ALL\_HIVE\_COLUMNS.



**See Also:**

"ALL\_HIVE\_COLUMNS"

## 6.92 DBA\_HIVE\_DATABASES

DBA\_HIVE\_DATABASES describes all the Hive schemas in a Hadoop cluster. Its columns are the same as those in ALL\_HIVE\_DATABASES.



**See Also:**

["ALL\\_HIVE\\_DATABASES"](#)

## 6.93 DBA\_HIVE\_PART\_KEY\_COLUMNS

DBA\_HIVE\_PART\_KEY\_COLUMNS provides information about all Hive table partition columns in the database. Its columns are the same as those in ALL\_HIVE\_PART\_KEY\_COLUMNS.



**See Also:**

["ALL\\_HIVE\\_PART\\_KEY\\_COLUMNS"](#)

## 6.94 DBA\_HIVE\_TAB\_PARTITIONS

DBA\_HIVE\_TAB\_PARTITIONS provides information about all Hive table partitions in the database. Its columns are the same as those in ALL\_HIVE\_TAB\_PARTITIONS.



**See Also:**

["ALL\\_HIVE\\_TAB\\_PARTITIONS"](#)

## 6.95 DBA\_HIVE\_TABLES

DBA\_HIVE\_TABLES provides information about all the Hive tables in the Hive metastore. Its columns are the same as those in ALL\_HIVE\_TABLES.



**See Also:**

["ALL\\_HIVE\\_TABLES"](#)

## 6.96 DBA\_HOST\_ACES

DBA\_HOST\_ACES describes access control entries defined in host access control lists.

### Related View

USER\_HOST\_ACES describes the status of access control entries for the current user to access network hosts through PL/SQL network utility packages. This view does not display the ACE\_ORDER, START\_DATE, END\_DATE, GRANT\_TYPE, INVERTED\_PRINCIPAL, PRINCIPAL, or PRINCIPAL\_TYPE columns.

| Column             | Datatype        | NULL     | Description                                                               |
|--------------------|-----------------|----------|---------------------------------------------------------------------------|
| HOST               | VARCHAR2 (1000) | NOT NULL | Network host                                                              |
| LOWER_PORT         | NUMBER (5)      |          | Lower bound of the port range                                             |
| UPPER_PORT         | NUMBER (5)      |          | Upper bound of the port range                                             |
| ACE_ORDER          | NUMBER          | NOT NULL | Order number of the access control entry                                  |
| START_DATE         | TIMESTAMP (6)   |          | Start date of the access control entry                                    |
| END_DATE           | TIMESTAMP (6)   |          | End date of the access control entry                                      |
| GRANT_TYPE         | VARCHAR2 (5)    |          | Indicates whether the access control entry grants or denies the privilege |
| INVERTED_PRINCIPAL | VARCHAR2 (3)    |          | Indicates whether the principal is inverted or not                        |
| PRINCIPAL          | VARCHAR2 (128)  |          | Principal the privilege is applied to                                     |
| PRINCIPAL_TYPE     | VARCHAR2 (16)   |          | Type of the principal                                                     |
| PRIVILEGE          | VARCHAR2 (128)  |          | Privilege                                                                 |



**See Also:**

["USER\\_HOST\\_ACES"](#)

## 6.97 DBA\_HOST\_ACLS

DBA\_HOST\_ACLS describes access control lists assigned to restrict access to network hosts through PL/SQL network utility packages.

| Column     | Datatype        | NULL     | Description                              |
|------------|-----------------|----------|------------------------------------------|
| HOST       | VARCHAR2 (1000) | NOT NULL | Network host                             |
| LOWER_PORT | NUMBER (5)      |          | Lower bound of the port range            |
| UPPER_PORT | NUMBER (5)      |          | Upper bound of the port range            |
| ACL        | VARCHAR2 (4000) |          | The name of the access control list      |
| ACLID      | RAW (8)         |          | The object ID of the access control list |
| ACL_OWNER  | VARCHAR2 (128)  |          | The owner of the access control list     |

## 6.98 DBA\_IDENTIFIERS

DBA\_IDENTIFIERS displays information about the identifiers in all stored objects in the database. Its columns are the same as those in ALL\_IDENTIFIERS.



### See Also:

"ALL\_IDENTIFIERS"

## 6.99 DBA\_ILMDATAMOVEMENTPOLICIES

DBA\_ILMDATAMOVEMENTPOLICIES contains information specific to data movement-related attributes of an Automatic Data Optimization policy in a database.

### Related View

USER\_ILMDATAMOVEMENTPOLICIES contains information specific to data movement-related attributes of an Automatic Data Optimization policy for a user.



### Note:

Automatic Data Optimization is supported in Oracle Database 12c Release 2 multitenant environments.

| Column            | Datatype       | NULL     | Description                                                                                                                                                                                          |
|-------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POLICY_NAME       | VARCHAR2 (128) | NOT NULL | The Automatic Data Optimization policy name is autogenerated                                                                                                                                         |
| ACTION_TYPE       | VARCHAR2 (11)  |          | Type of data movement action performed by the Automatic Data Optimization policy: <ul style="list-style-type: none"><li>• ANNOTATE</li><li>• COMPRESSION</li><li>• EVICT</li><li>• STORAGE</li></ul> |
| SCOPE             | VARCHAR2 (7)   |          | Identifies the scope of the Automatic Data Optimization policy: <ul style="list-style-type: none"><li>• ROW</li><li>• GROUP</li><li>• SEGMENT</li></ul>                                              |
| COMPRESSION_LEVEL | VARCHAR2 (30)  |          | Compression level to move selected rows or the entire segment to, for a compression Automatic Data Optimization policy                                                                               |
| TIER_TABLESPACE   | VARCHAR2 (128) |          | Tablespace to move the object to, for a storage Automatic Data Optimization policy                                                                                                                   |

| Column          | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TIER_STATUS     | VARCHAR2 (9)   |      | This column is only valid for storage tiering policies, and indicates whether the storage tiering policy was specified with a <code>READ ONLY</code> clause. This column takes <code>READ ONLY</code> as a potential value. In all other cases, it is blank.<br><br>In other words, this column indicates whether the tablespace the object is being moved to will be made <code>READ ONLY</code> after the movement. |
| CONDITION_TYPE  | VARCHAR2 (22)  |      | Column on which the condition for the policy is based. Possible values: <ul style="list-style-type: none"> <li>• <code>LAST ACCESS TIME</code></li> <li>• <code>LAST MODIFICATION TIME</code></li> <li>• <code>CREATION TIME</code></li> <li>• <code>USER DEFINED</code></li> <li>• <code>LOW ACCESS</code></li> </ul>                                                                                                |
| CONDITION_DAYS  | NUMBER         |      | Number of days in the condition for the policy                                                                                                                                                                                                                                                                                                                                                                        |
| CUSTOM_FUNCTION | VARCHAR2 (128) |      | Optional function that evaluates the precondition on the policy                                                                                                                                                                                                                                                                                                                                                       |
| POLICY_SUBTYPE  | VARCHAR2 (10)  |      | Storage tier on which the policy is specified                                                                                                                                                                                                                                                                                                                                                                         |
| ACTION_CLAUSE   | CLOB           |      | Text of the action executed by the policy                                                                                                                                                                                                                                                                                                                                                                             |
| TIER_TO         | VARCHAR2 (10)  |      | Storage tier where the data is placed after the policy is executed                                                                                                                                                                                                                                                                                                                                                    |

**See Also:**["USER\\_ILMDATAMOVEMENTPOLICIES"](#)

## 6.100 DBA\_ILMEVALUATIONDETAILS

DBA\_ILMEVALUATIONDETAILS displays details on evaluation of Automatic Data Optimization policies considered for Automatic Data Optimization tasks.

It also shows the job name that executes the policy, in case the policy was selected for execution. If the policy was not selected for execution, this view provides a reason.

### Related View

USER\_ILMEVALUATIONDETAILS displays details on evaluation of Automatic Data Optimization policies considered for Automatic Data Optimization tasks for a user. It also shows the job name that executes the policy, in case the policy was selected for execution. If the policy was not selected for execution, this view provides a reason.

**Note:**

Automatic Data Optimization is supported in Oracle Database 12c Release 2 multitenant environments.

| Column                 | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TASK_ID                | NUMBER          |          | Number that uniquely identifies a specific Automatic Data Optimization task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| POLICY_NAME            | VARCHAR2 (128)  | NOT NULL | Name of the Automatic Data Optimization policy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| OBJECT_OWNER           | VARCHAR2 (128)  | NOT NULL | Owner of the object associated with the Automatic Data Optimization policy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| OBJECT_NAME            | VARCHAR2 (128)  | NOT NULL | Name of the object associated with the Automatic Data Optimization policy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SUBOBJECT_NAME         | VARCHAR2 (128)  |          | Name of the subobject associated with the Automatic Data Optimization policy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| OBJECT_TYPE            | VARCHAR2 (18)   |          | Object type. Valid values include TABLE, TABLE PARTITION, and TABLE SUBPARTITION.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SELECTED_FOR_EXECUTION | VARCHAR2 (42)   |          | Indicates whether the policy has been selected for execution on the object. If not, the reason for not being selected is listed. Possible values: <ul style="list-style-type: none"> <li>POLICY DISABLED</li> <li>SELECTED FOR EXECUTION</li> <li>POLICY OVERRULED</li> <li>INHERITED POLICY OVERRULED</li> <li>PRECONDITION NOT SATISFIED</li> <li>JOB ALREADY EXISTS</li> <li>NO OPERATION SINCE LAST ILM ACTION</li> <li>TABLE HAS MATERIALIZED VIEW</li> <li>TARGET COMPRESSION NOT HIGHER THAN CURRENT</li> <li>STATISTICS NOT AVAILABLE</li> </ul> The value SELECTED FOR EXECUTION means a job was created for this policy on the object. The other values state the reason why the policy on the object was selected for execution. |
| JOB_NAME               | VARCHAR2 (128)  |          | Name of the job in the case where the policy is selected for execution on this object                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| COMMENTS               | VARCHAR2 (4000) |          | Reserved for future use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |



#### See Also:

"USER\_ILMEVALUATIONDETAILS"

## 6.101 DBA\_ILMOBJECTS

DBA\_ILMOBJECTS displays all the Automatic Data Optimization policies and objects in the database.

Many objects inherit policies via their parent objects or because they were created in a particular tablespace. This view provides a mapping between the policies and objects and indicates whether a policy is inherited by an object or is directly specified on it.

#### Related View

USER\_ILMOBJECTS displays all the Automatic Data Optimization policies and objects for a user.

**Note:**

Automatic Data Optimization is supported in Oracle Database 12c Release 2 multitenant environments.

| Column             | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                           |
|--------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POLICY_NAME        | VARCHAR2 (128) | NOT NULL | Policy name is auto-generated                                                                                                                                                                                                                                                                                                                         |
| OBJECT_OWNER       | VARCHAR2 (128) | NOT NULL | Owner of the object associated with the Automatic Data Optimization policy                                                                                                                                                                                                                                                                            |
| OBJECT_NAME        | VARCHAR2 (128) | NOT NULL | Name of the object associated with the Automatic Data Optimization policy                                                                                                                                                                                                                                                                             |
| SUBOBJECT_NAME     | VARCHAR2 (128) |          | Name of the subobject associated with the Automatic Data Optimization policy                                                                                                                                                                                                                                                                          |
| OBJECT_TYPE        | VARCHAR2 (18)  |          | Object type. Valid values include: <ul style="list-style-type: none"> <li>• INDEX</li> <li>• INDEX PARTITION</li> <li>• LOB</li> <li>• LOB PARTITION</li> <li>• TABLE</li> <li>• TABLE PARTITION</li> <li>• TABLE SUBPARTITION</li> </ul> Direct policies on Index, Index Partition, LOB, and LOB Partition are not supported in Oracle Database 12c. |
| INHERITED_FROM     | VARCHAR2 (20)  |          | Indicates if the policy is inherited by the object or subobject, or directly specified on the object or subobject. If the policy is inherited, the level from which the policy is inherited (TABLE, TABLE PARTITION, TABLESPACE) is identified.                                                                                                       |
| TBS_INHERITED_FROM | VARCHAR2 (30)  |          | The tablespace name, if the policy is inherited from a tablespace                                                                                                                                                                                                                                                                                     |
| ENABLED            | VARCHAR2 (7)   |          | Indicates if the Automatic Data Optimization policy is enabled for the object (YES or NO)                                                                                                                                                                                                                                                             |
| DELETED            | VARCHAR2 (7)   |          | Possible values: <ul style="list-style-type: none"> <li>• YES - Indicates that the policy is deleted for any objects that may be added in the future, but is active for those objects that are currently associated with that policy</li> <li>• NO - Indicates that the policy is active</li> </ul>                                                   |

**See Also:**

"USER\_ILMOBJECTS"



## 6.102 DBA\_ILMPARAMETERS

DBA\_ILMPARAMETERS can be queried to provide information on the Automatic Data Optimization parameters in the database and their values.

**Note:**

Automatic Data Optimization is supported in Oracle Database 12c Release 2 multitenant environments.

| Column | Datatype       | NULL | Description                                                                                                                             |
|--------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------|
| NAME   | VARCHAR2 (128) |      | Name of the Automatic Data Optimization environment parameter. The value is one of the constants defined in the DBMS_ILM_ADMIN package. |
| VALUE  | NUMBER         |      | Value of the parameter                                                                                                                  |

**See Also:**

- *Oracle Database PL/SQL Packages and Types Reference* for more information about the API interface for implementing Automatic Data Optimization strategies
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_ILM\_ADMIN package

## 6.103 DBA\_ILMPOLICIES

DBA\_ILMPOLICIES displays details about Automatic Data Optimization policies in the database.

The view contains common details relevant to all types of Automatic Data Optimization policies, not just details relevant to the data movement-related Automatic Data Optimization policies.

**Related View**

USER\_ILMPOLICIES displays details about Automatic Data Optimization policies owned by the user.

**Note:**

Automatic Data Optimization is supported in Oracle Database 12c Release 2 multitenant environments.

| Column      | Datatype       | NULL | Description                                                                                                                                                                                                                                              |
|-------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POLICY_NAME | VARCHAR2 (128) |      | The name of the Automatic Data Optimization policy is auto-generated                                                                                                                                                                                     |
| POLICY_TYPE | VARCHAR2 (13)  |      | Type of the policy. Valid values include <code>DATAMOVEMENT</code> .                                                                                                                                                                                     |
| TABLESPACE  | VARCHAR2 (30)  |      | Tablespace name, in the case of a tablespace-level policy                                                                                                                                                                                                |
| ENABLED     | VARCHAR2 (6)   |      | Indicates whether the policy is enabled or not                                                                                                                                                                                                           |
| DELETED     | VARCHAR2 (7)   |      | Possible values: <ul style="list-style-type: none"> <li>• <code>YES</code> - Indicates that the policy associated has been deleted (but shall remain active for this object)</li> <li>• <code>NO</code> - Indicates that the policy is active</li> </ul> |

**Note:**

Automatic Data Optimization policies cannot be set on tables with object types or materialized views.

**See Also:**

"[USER\\_ILMPOLICIES](#)"

## 6.104 DBA\_ILMRESULTS

`DBA_ILMRESULTS` displays information on data movement-related Automatic Data Optimization jobs in the database.

### Related View

`USER_ILMRESULTS` displays information on data movement-related Automatic Data Optimization jobs for tasks created by the user.

**Note:**

Automatic Data Optimization is supported in Oracle Database 12c Release 2 multitenant environments.

| Column   | Datatype       | NULL | Description                                                                 |
|----------|----------------|------|-----------------------------------------------------------------------------|
| TASK_ID  | NUMBER         |      | Number that uniquely identifies a specific Automatic Data Optimization task |
| JOB_NAME | VARCHAR2 (128) |      | Name of the Automatic Data Optimization job                                 |

| Column          | Datatype        | NULL | Description                                                                                                                                                                                                                                                                          |
|-----------------|-----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JOB_STATE       | VARCHAR2 (35)   |      | State of the job. Possible values: <ul style="list-style-type: none"> <li>JOB CREATED</li> <li>COMPLETED SUCCESSFULLY</li> <li>FAILED</li> <li>STOPPED</li> <li>JOB CREATION FAILED</li> <li>DEPENDENT OBJECTS BEING REBUILT</li> <li>FAILED TO REBUILD DEPENDENT OBJECTS</li> </ul> |
| START_TIME      | TIMESTAMP (6)   |      | Start time of the Automatic Data Optimization job                                                                                                                                                                                                                                    |
| COMPLETION_TIME | TIMESTAMP (6)   |      | Completion time of the Automatic Data Optimization job                                                                                                                                                                                                                               |
| COMMENTS        | VARCHAR2 (4000) |      | Additional information in cases where the Automatic Data Optimization job execution fails                                                                                                                                                                                            |
| STATISTICS      | CLOB            |      | Job specific statistics, such as space saved via compression. This column is in the form of comma separated name / value pairs, with each pair representing a particular statistic name and value.                                                                                   |

**See Also:**["USER\\_ILMRESULTS"](#)

## 6.105 DBA\_ILMTASKS

DBA\_ILMTASKS displays information on Automatic Data Optimization execution.

### Related View

USER\_ILMTASKS displays information on Automatic Data Optimization tasks created by a user.

**Note:**

Automatic Data Optimization is supported in Oracle Database 12c Release 2 multitenant environments.

| Column     | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                             |
|------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TASK_ID    | NUMBER         |          | Number that uniquely identifies a specific Automatic Data Optimization task                                                                                                                                                                                                             |
| TASK_OWNER | VARCHAR2 (128) | NOT NULL | User who initiates the task                                                                                                                                                                                                                                                             |
| STATE      | VARCHAR2 (9)   |          | Possible values: <ul style="list-style-type: none"> <li>INACTIVE: Indicates that the task was created for previewing</li> <li>ACTIVE: Indicates that jobs have been created for the qualifying policies in the task</li> <li>COMPLETE: Indicates that the task has completed</li> </ul> |

| Column          | Datatype      | NULL | Description                        |
|-----------------|---------------|------|------------------------------------|
| CREATION_TIME   | TIMESTAMP (6) |      | The time that the task was created |
| START_TIME      | TIMESTAMP (6) |      | Start time of a specific task      |
| COMPLETION_TIME | TIMESTAMP (6) |      | Completion time of a specific task |

**See Also:**["USER\\_ILMTASKS"](#)

## 6.106 DBA\_IM\_EXPRESSIONS

DBA\_IM\_EXPRESSIONS provides information about the list of expressions (SYS\_IME virtual columns) that are currently enabled for in-memory storage.

Typically, you can query this view after invoking the DBMS\_INMEMORY\_ADMIN.IME\_CAPTURE\_EXPRESSIONS PL/SQL procedure to see the list of hot expressions added to different tables across the database.

Based on this view, you can:

- Populate expressions on a particular table immediately
- Drop certain expressions that are marked for in-memory but not desired by users

### Related View

USER\_IM\_EXPRESSIONS provides information about the list of expressions (SYS\_IME virtual columns) that are currently enabled for in-memory storage in schemas owned by the current user. This view does not display the OWNER column.

| Column         | Datatype       | NULL     | Description                                                            |
|----------------|----------------|----------|------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (129) |          | Table owner                                                            |
| TABLE_NAME     | VARCHAR2 (129) |          | Table name                                                             |
| OBJECT_NUMBER  | NUMBER         |          | Object number of the table                                             |
| COLUMN_NAME    | VARCHAR2 (128) | NOT NULL | Column name of the expression added to the table (with SYS_IME prefix) |
| SQL_EXPRESSION | LONG           |          | SQL representation of the expression                                   |

**See Also:**["USER\\_IM\\_EXPRESSIONS"](#)

## 6.107 DBA\_IMMUTABLE\_ROW\_VERSION\_COLS

DBA\_IMMUTABLE\_ROW\_VERSION\_COLS displays information about row versioned columns in all immutable tables in the database. Its columns are the same as those in ALL\_IMMUTABLE\_ROW\_VERSION\_COLS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_IMMUTABLE\_ROW\_VERSION\_COLS"

## 6.108 DBA\_IMMUTABLE\_ROW\_VERSION\_HISTORY

DBA\_IMMUTABLE\_ROW\_VERSION\_HISTORY provides a history of row versions in all immutable tables in the database. Its columns are the same as those in ALL\_IMMUTABLE\_ROW\_VERSION\_HISTORY.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_IMMUTABLE\_ROW\_VERSION\_HISTORY"

## 6.109 DBA\_IMMUTABLE\_TABLE\_COLUMNS

DBA\_IMMUTABLE\_TABLE\_COLUMNS displays information about columns valid in each epoch in all immutable tables in the database. Its columns are the same as those in ALL\_IMMUTABLE\_TABLE\_COLUMNS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_IMMUTABLE\_TABLE\_COLUMNS"

## 6.110 DBA\_IMMUTABLE\_TABLE\_EPOCHS

DBA\_IMMUTABLE\_TABLE\_EPOCHS displays epoch information for all immutable tables in the database. Its columns are the same as those in ALL\_IMMUTABLE\_TABLE\_EPOCHS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_IMMUTABLE\_TABLE\_EPOCHS"

## 6.111 DBA\_IMMUTABLE\_TABLES

DBA\_IMMUTABLE\_TABLES describes all immutable tables in the database. Its columns are the same as those in ALL\_IMMUTABLE\_TABLES.

**See Also:**

"ALL\_IMMUTABLE\_TABLES"

## 6.112 DBA\_INCOMPLETE\_SAGAS

DBA\_INCOMPLETE\_SAGAS describes all incomplete sagas in the database. Its columns are the same as those in ALL\_INCOMPLETE\_SAGAS.

This view displays sagas that were either initiated in the current PDB or joined by participants in the current PDB.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_INCOMPLETE\\_SAGAS"](#)

## 6.113 DBA\_IND\_COLUMNS

DBA\_IND\_COLUMNS describes the columns of all the indexes on all tables and clusters in the database. Its columns are the same as those in ALL\_IND\_COLUMNS.

**See Also:**

["ALL\\_IND\\_COLUMNS"](#)

## 6.114 DBA\_IND\_EXPRESSIONS

DBA\_IND\_EXPRESSIONS lists expressions of function-based indexes on all tables and clusters in the database. Its columns are the same as those in ALL\_IND\_EXPRESSIONS.

**See Also:**

["ALL\\_IND\\_EXPRESSIONS"](#)

## 6.115 DBA\_IND\_PARTITIONS

DBA\_IND\_PARTITIONS displays, for each index partition in the database, the partition-level partitioning information, the storage parameters for the partition, and various partition statistics generated by the DBMS\_STATS package. Its columns are the same as those in ALL\_IND\_PARTITIONS.

**See Also:**

["ALL\\_IND\\_PARTITIONS"](#)

## 6.116 DBA\_IND\_PENDING\_STATS

DBA\_IND\_PENDING\_STATS describes pending statistics for all tables, partitions, and subpartitions in the database collected using the DBMS\_STATS package. Its columns are the same as those in ALL\_IND\_PENDING\_STATS.



### See Also:

"ALL\_IND\_PENDING\_STATS"

## 6.117 DBA\_IND\_STATISTICS

DBA\_IND\_STATISTICS displays optimizer statistics for all indexes in the database collected using the DBMS\_STATS package. Its columns are the same as those in ALL\_IND\_STATISTICS.



### See Also:

"ALL\_IND\_STATISTICS"

## 6.118 DBA\_IND\_SUBPARTITIONS

DBA\_IND\_SUBPARTITIONS displays, for each index subpartition in the database, the subpartition-level partitioning information, the storage parameters for the subpartition, and various subpartition statistics generated by the DBMS\_STATS package. Its columns are the same as those in ALL\_IND\_SUBPARTITIONS.



### See Also:

"ALL\_IND\_SUBPARTITIONS"

## 6.119 DBA\_INDEX\_USAGE

DBA\_INDEX\_USAGE displays cumulative statistics for each index.

| Column             | Datatype       | NULL     | Description                                       |
|--------------------|----------------|----------|---------------------------------------------------|
| OBJECT_ID          | NUMBER         | NOT NULL | Object ID for the index                           |
| NAME               | VARCHAR2 (128) | NOT NULL | Index name                                        |
| OWNER              | VARCHAR2 (128) | NOT NULL | Index owner                                       |
| TOTAL_ACCESS_COUNT | NUMBER         |          | Total number of times the index has been accessed |
| TOTAL_EXEC_COUNT   | NUMBER         |          | Total executions the index has participated in    |



| Column                         | Datatype | NULL | Description                                                                                                                                                                                                                                                                           |
|--------------------------------|----------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TOTAL_ROWS_RETURNED            | NUMBER   |      | Total rows returned by the index.<br>Index usage is categorized into buckets of different ranges. Each bucket has a range of values for access count and rows returned. An entry is placed into a bucket if the rows returned or access counts falls within the range of that bucket. |
| BUCKET_0_ACCESS_COUNT          | NUMBER   |      | The index has not been accessed                                                                                                                                                                                                                                                       |
| BUCKET_1_ACCESS_COUNT          | NUMBER   |      | The index has been accessed once                                                                                                                                                                                                                                                      |
| BUCKET_2_10_ACCESS_COUNT       | NUMBER   |      | The index has been accessed between 2 and 10 times                                                                                                                                                                                                                                    |
| BUCKET_2_10_ROWS_RETURNED      | NUMBER   |      | The index has returned between 2 and 10 rows                                                                                                                                                                                                                                          |
| BUCKET_11_100_ACCESS_COUNT     | NUMBER   |      | The index has been accessed between 11 and 100 times                                                                                                                                                                                                                                  |
| BUCKET_11_100_ROWS_RETURNED    | NUMBER   |      | The index has returned between 11 and 100 rows                                                                                                                                                                                                                                        |
| BUCKET_101_1000_ACCESS_COUNT   | NUMBER   |      | The index has been accessed between 101 and 1000 times                                                                                                                                                                                                                                |
| BUCKET_101_1000_ROWS_RETURNED  | NUMBER   |      | The index has returned between 101 and 1000 rows                                                                                                                                                                                                                                      |
| BUCKET_1000_PLUS_ACCESS_COUNT  | NUMBER   |      | The index has been accessed more than 1000 times                                                                                                                                                                                                                                      |
| BUCKET_1000_PLUS_ROWS_RETURNED | NUMBER   |      | The index has returned more than 1000 rows                                                                                                                                                                                                                                            |
| LAST_USED                      | DATE     |      | Time that the index was last used                                                                                                                                                                                                                                                     |

**See Also:**["V\\$INDEX\\_USAGE\\_INFO"](#)

## 6.120 DBA\_INDEXES

DBA\_INDEXES describes all indexes in the database. To gather statistics for this view, use the DBMS\_STATS package. This view supports parallel partitioned index scans. Its columns are the same as those in ALL\_INDEXES.

**See Also:**["ALL\\_INDEXES"](#)

## 6.121 DBA\_INDEXTYPE\_ARRAYTYPES

DBA\_INDEXTYPE\_ARRAYTYPES displays information about the array types specified by all indextypes in the database. Its columns are the same as those in ALL\_INDEXTYPE\_ARRAYTYPES.



See Also:

["ALL\\_INDEXTYPE\\_ARRAYTYPES"](#)

## 6.122 DBA\_INDEXTYPE\_COMMENTS

DBA\_INDEXTYPE\_COMMENTS displays comments for all user-defined indextypes in the database. Its columns are the same as those in ALL\_INDEXTYPE\_COMMENTS.



See Also:

["ALL\\_INDEXTYPE\\_COMMENTS"](#)

## 6.123 DBA\_INDEXTYPE\_OPERATORS

DBA\_INDEXTYPE\_OPERATORS lists all the operators supported by indextypes in the database. Its columns are the same as those in ALL\_INDEXTYPE\_OPERATORS.



See Also:

["ALL\\_INDEXTYPE\\_OPERATORS"](#)

## 6.124 DBA\_INDEXTYPES

DBA\_INDEXTYPES describes all indextypes in the database. Its columns are the same as those in ALL\_INDEXTYPES.



See Also:

["ALL\\_INDEXTYPES"](#)

## 6.125 DBA\_INMEMORY\_ADVISOR\_RECOMMENDATION

DBA\_INMEMORY\_ADVISOR\_RECOMMENDATION displays In-Memory Advisor recommendations.

In-Memory Advisor simulates various Oracle Database In-Memory sizes and estimates the database time for a reference workload for each size. The results are displayed in this view.

| Column                           | Datatype | NULL | Description                                                                  |
|----------------------------------|----------|------|------------------------------------------------------------------------------|
| TASK_ID                          | NUMBER   |      | In-Memory Advisor task ID                                                    |
| INMEMORY_SIZE                    | NUMBER   |      | Simulated In-Memory size (in bytes)                                          |
| ESTIMATED_DB_TIME_LOW            | NUMBER   |      | Low end of the predicted database time range (in seconds)                    |
| ESTIMATED_DB_TIME_HIGH           | NUMBER   |      | High end of the predicted database time range (in seconds)                   |
| ESTIMATED_DB_TIME_ANALYTICS_LOW  | NUMBER   |      | Low end of the predicted database analytical time range (in seconds)         |
| ESTIMATED_DB_TIME_ANALYTICS_HIGH | NUMBER   |      | High end of the predicted database analytical time range (in seconds)        |
| RECOMMENDED_OBJ_LIST             | CLOB     |      | List of recommended objects for the simulated In-Memory size (INMEMORY_SIZE) |



### Note:

This view is available starting with Oracle Database 23ai.

## 6.126 DBA\_INMEMORY\_AIMTASKDETAILS

DBA\_INMEMORY\_AIMTASKDETAILS displays details for an Automatic In-Memory management task.

| Column         | Datatype       | NULL | Description                                                                          |
|----------------|----------------|------|--------------------------------------------------------------------------------------|
| TASK_ID        | NUMBER         |      | Number that uniquely identifies a specific automatic IM column store management task |
| OBJECT_OWNER   | VARCHAR2 (128) |      | Owner of the object subject to automatic IM column store management task action      |
| OBJECT_NAME    | VARCHAR2 (128) |      | Name of the object subject to automatic IM column store management task action       |
| SUBOBJECT_NAME | VARCHAR2 (128) |      | Name of the subobject subject to automatic IM column store management task action    |
| ACTION         | VARCHAR2 (16)  |      | Action taken on the object                                                           |
| STATE          | VARCHAR2 (10)  |      | Status of the action on the object                                                   |

**See Also:**

*Oracle Database In-Memory Guide* for more information about configuring the Automatic In-Memory feature

## 6.127 DBA\_INMEMORY\_AIMTASKS

DBA\_INMEMORY\_AIMTASKS displays information about Automatic In-Memory management tasks.

| Column        | Datatype      | NULL | Description                                                                          |
|---------------|---------------|------|--------------------------------------------------------------------------------------|
| TASK_ID       | NUMBER        |      | Number that uniquely identifies a specific automatic IM column store management task |
| CREATION_TIME | TIMESTAMP (6) |      | Creation time of the task                                                            |
| STATE         | VARCHAR2 (7)  |      | State of the task                                                                    |

**See Also:**

*Oracle Database In-Memory Guide* for more information about configuring the Automatic In-Memory feature

## 6.128 DBA\_INTERNAL\_TRIGGERS

DBA\_INTERNAL\_TRIGGERS describes internal triggers on all tables in the database. Its columns are the same as those in ALL\_INTERNAL\_TRIGGERS.

**See Also:**

"ALL\_INTERNAL\_TRIGGERS"

## 6.129 DBA\_INVALID\_OBJECTS

DBA\_INVALID\_OBJECTS describes all invalid objects in the database. You can use this view to identify invalid objects before and after a database upgrade.

This view eliminates old versions of object types. It only includes the object type if it is the latest version.

| Column         | Datatype       | NULL | Description                                    |
|----------------|----------------|------|------------------------------------------------|
| OWNER          | VARCHAR2 (128) |      | Owner of the object                            |
| OBJECT_NAME    | VARCHAR2 (128) |      | Name of the object                             |
| SUBOBJECT_NAME | VARCHAR2 (128) |      | Name of the subobject (for example, partition) |
| OBJECT_ID      | NUMBER         |      | Dictionary object number of the object.        |

| Column         | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DATA_OBJECT_ID | NUMBER         |      | Dictionary object number of the segment that contains the object.<br><b>Note:</b> OBJECT_ID and DATA_OBJECT_ID display data dictionary metadata. Do not confuse these numbers with the unique 16-byte object identifier ( <i>object ID</i> ) that Oracle Database assigns to row objects in object tables in the system.                                                                                            |
| OBJECT_TYPE    | VARCHAR2 (23)  |      | Type of the object (such as TABLE, INDEX).<br>The current version of the type is shown only if it is invalid. In other words, if prior versions of the type are invalid but the most recent version of the type is valid, it will not be in this list.                                                                                                                                                              |
| CREATED        | DATE           |      | Timestamp for the creation of the object                                                                                                                                                                                                                                                                                                                                                                            |
| LAST_DDL_TIME  | DATE           |      | Timestamp for the last modification of the object and dependent objects resulting from a DDL statement (including grants and revokes)                                                                                                                                                                                                                                                                               |
| TIMESTAMP      | VARCHAR2 (19)  |      | Timestamp for the specification of the object (character data)                                                                                                                                                                                                                                                                                                                                                      |
| STATUS         | VARCHAR2 (7)   |      | Status of the object: <ul style="list-style-type: none"> <li>VALID</li> <li>INVALID</li> <li>N/A</li> </ul>                                                                                                                                                                                                                                                                                                         |
| TEMPORARY      | VARCHAR2 (1)   |      | Indicates whether the object is temporary (the current session can see only data that it placed in this object itself) (Y) or not (N)                                                                                                                                                                                                                                                                               |
| GENERATED      | VARCHAR2 (1)   |      | Indicates whether the name of this object was system-generated (Y) or not (N)                                                                                                                                                                                                                                                                                                                                       |
| SECONDARY      | VARCHAR2 (1)   |      | Indicates whether this is a secondary object created by the ODCIIndexCreate method of the Oracle Data Cartridge (Y) or not (N)                                                                                                                                                                                                                                                                                      |
| NAMESPACE      | NUMBER         |      | Namespace for the object                                                                                                                                                                                                                                                                                                                                                                                            |
| EDITION_NAME   | VARCHAR2 (128) |      | Name of the edition in which the object is actual                                                                                                                                                                                                                                                                                                                                                                   |
| SHARING        | VARCHAR2 (18)  |      | Values: <ul style="list-style-type: none"> <li>DATA LINK - If the object is data-linked or a data link to an object in the root</li> <li>METADATA LINK - If the object is metadata-linked or a metadata link to an object in the root</li> <li>EXTENDED DATA LINK - If the object is extended-data-linked or an extended data link to an object in the root</li> <li>NONE - If none of the above applies</li> </ul> |
| EDITIONABLE    | VARCHAR2 (1)   |      | Values: <ul style="list-style-type: none"> <li>Y - For objects marked EDITIONABLE</li> <li>N - For objects marked NONEDITIONABLE</li> <li>NULL - For objects whose type is not editionable in the database</li> </ul>                                                                                                                                                                                               |

| Column                 | Datatype       | NULL | Description                                                                                                                                                                                                                                             |
|------------------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORACLE_MAINTAINED      | VARCHAR2 (1)   |      | Denotes whether the object was created, and is maintained, by Oracle-supplied scripts (such as catalog.sql or catproc.sql). An object for which this column has the value Y must not be changed in any way except by running an Oracle-supplied script. |
| APPLICATION            | VARCHAR2 (1)   |      | Indicates whether the object is an Application common object (Y) or not (N)                                                                                                                                                                             |
| DEFAULT_COLLATION      | VARCHAR2 (100) |      | Default collation for the object                                                                                                                                                                                                                        |
| DUPLICATED             | VARCHAR2 (1)   |      | Indicates whether this object is duplicated on this shard (Y) or not (N)                                                                                                                                                                                |
| SHARDED                | VARCHAR2 (1)   |      | Indicates whether this object is sharded (Y) or not (N)                                                                                                                                                                                                 |
| IMPORTED_OBJECT        | VARCHAR2 (1)   |      | Indicates whether this object is imported (Y) or not (N)                                                                                                                                                                                                |
| SYNCHRONOUS_DUPLICATED | VARCHAR2 (1)   |      | Indicates whether this object is a synchronous duplicated table (Y) or not (N)                                                                                                                                                                          |
| CREATED_APPID          | NUMBER         |      | ID of the Application that created the object                                                                                                                                                                                                           |
| CREATED_VSNID          | NUMBER         |      | ID of the Application Version that created the object                                                                                                                                                                                                   |
| MODIFIED_APPID         | NUMBER         |      | ID of the Application that last modified the object                                                                                                                                                                                                     |
| MODIFIED_VSNID         | NUMBER         |      | ID of the Application Version that last modified the object                                                                                                                                                                                             |

## 6.130 DBA\_JAVA\_ARGUMENTS

DBA\_JAVA\_ARGUMENTS displays argument information about all stored Java classes in the database. Its columns are the same as those in ALL\_JAVA\_ARGUMENTS.



**See Also:**

"ALL\_JAVA\_ARGUMENTS"

## 6.131 DBA\_JAVA\_CLASSES

DBA\_JAVA\_CLASSES displays class level information about all stored Java classes in the database. Its columns are the same as those in ALL\_JAVA\_CLASSES.



**See Also:**

"ALL\_JAVA\_CLASSES"

## 6.132 DBA\_JAVA\_COMPILER\_OPTIONS

DBA\_JAVA\_COMPILER\_OPTIONS displays information about all native compiler options in the database. Its columns are the same as those in ALL\_JAVA\_COMPILER\_OPTIONS.



**See Also:**

["ALL\\_JAVA\\_COMPILER\\_OPTIONS"](#)

## 6.133 DBA\_JAVA\_DERIVATIONS

DBA\_JAVA\_DERIVATIONS displays mapping information about Java source objects and their derived Java class objects and Java resource objects for all Java classes in the database. Its columns are the same as those in ALL\_JAVA\_DERIVATIONS.



**See Also:**

["ALL\\_JAVA\\_DERIVATIONS"](#)

## 6.134 DBA\_JAVA\_FIELDS

DBA\_JAVA\_FIELDS displays field information about all stored Java classes in the database. Its columns are the same as those in ALL\_JAVA\_FIELDS.



**See Also:**

["ALL\\_JAVA\\_FIELDS"](#)

## 6.135 DBA\_JAVA\_IMPLEMENTES

DBA\_JAVA\_IMPLEMENTES describes interfaces implemented by all stored Java classes in the database. Its columns are the same as those in ALL\_JAVA\_IMPLEMENTES.



**See Also:**

["ALL\\_JAVA\\_IMPLEMENTES"](#)

## 6.136 DBA\_JAVA\_INNERS

DBA\_JAVA\_INNERS displays information about inner classes referred to by all stored Java classes in the database. Its columns are the same as those in ALL\_JAVA\_INNERS.



**See Also:**

["ALL\\_JAVA\\_INNERS"](#)

## 6.137 DBA\_JAVA\_LAYOUTS

DBA\_JAVA\_LAYOUTS displays class layout information about all stored Java classes in the database. Its columns are the same as those in ALL\_JAVA\_LAYOUTS.



**See Also:**

["ALL\\_JAVA\\_LAYOUTS"](#)

## 6.138 DBA\_JAVA\_METHODS

DBA\_JAVA\_METHODS displays method information about all stored Java classes in the database. Its columns are the same as those in ALL\_JAVA\_METHODS.



**See Also:**

["ALL\\_JAVA\\_METHODS"](#)

## 6.139 DBA\_JAVA\_NCOMPS

DBA\_JAVA\_NCOMPS displays ncomp-related information about all Java classes in the database. Its columns are the same as those in ALL\_JAVA\_NCOMPS.



**See Also:**

["ALL\\_JAVA\\_NCOMPS"](#)



## 6.140 DBA\_JAVA\_POLICY

DBA\_JAVA\_POLICY describes Java security permissions for all users in the database.

### Related View

USER\_JAVA\_POLICY describes Java security permissions for the current user.

| Column      | Datatype        | NULL     | Description                                                                                                                         |
|-------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------|
| KIND        | VARCHAR2 (8)    |          | Indicates whether the permission is a positive (GRANT) or a limitation (RESTRICT)                                                   |
| GRANTEE     | VARCHAR2 (128)  | NOT NULL | Name of the user, schema, or role to which the permission object is assigned                                                        |
| TYPE_SCHEMA | VARCHAR2 (128)  | NOT NULL | Schema in which the permission object is loaded                                                                                     |
| TYPE_NAME   | VARCHAR2 (4000) |          | Permission class type, which is designated by a string containing the full class name, such as, <code>java.io.FilePermission</code> |
| NAME        | VARCHAR2 (4000) |          | Target attribute (name) of the permission object. This name is used when defining the permission.                                   |
| ACTION      | VARCHAR2 (4000) |          | Action attribute for this permission. Many permissions expect a null value if no action is appropriate for the permission.          |
| ENABLED     | VARCHAR2 (8)    |          | Indicates whether the permission is enabled (ENABLED) or disabled (DISABLED)                                                        |
| SEQ         | NUMBER          |          | Sequence number used to identify this row. This number should be supplied when disabling, enabling, or deleting the permission.     |



**See Also:**

"USER\_JAVA\_POLICY"

## 6.141 DBA\_JAVA\_RESOLVERS

DBA\_JAVA\_RESOLVERS displays information about resolvers of all Java classes in the database. Its columns are the same as those in ALL\_JAVA\_RESOLVERS.



**See Also:**

"ALL\_JAVA\_RESOLVERS"

## 6.142 DBA\_JAVA\_THROWS

DBA\_JAVA\_THROWS displays information about exceptions thrown from methods of all Java classes in the database. Its columns are the same as those in ALL\_JAVA\_THROWSa.



**See Also:**

"ALL\_JAVA\_THROWS"

## 6.143 DBA\_JOBS

DBA\_JOBS describes all jobs in the database.

### Related View

USER\_JOBS describes the jobs owned by the current user.

| Column      | Datatype        | NULL     | Description                                                                                                                                                                   |
|-------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JOB         | NUMBER          | NOT NULL | Identifier of job. Neither import/export nor repeated executions change this value.                                                                                           |
| LOG_USER    | VARCHAR2 (128)  | NOT NULL | Login user when the job was submitted                                                                                                                                         |
| PRIV_USER   | VARCHAR2 (128)  | NOT NULL | User whose default privileges apply to this job                                                                                                                               |
| SCHEMA_USER | VARCHAR2 (128)  | NOT NULL | Default schema used to parse the job<br>For example, if the SCHEMA_USER is SCOTT and you submit the procedure HIRE_EMP as a job, the Oracle Database looks for SCOTT.HIRE_EMP |
| LAST_DATE   | DATE            |          | Date on which this job last successfully executed                                                                                                                             |
| LAST_SEC    | VARCHAR2 (8)    |          | Same as LAST_DATE. This is when the last successful execution started.                                                                                                        |
| THIS_DATE   | DATE            |          | Date that this job started executing (usually null if not executing)                                                                                                          |
| THIS_SEC    | VARCHAR2 (8)    |          | Same as THIS_DATE. This is when the last successful execution started.                                                                                                        |
| NEXT_DATE   | DATE            | NOT NULL | Date that this job will next be executed                                                                                                                                      |
| NEXT_SEC    | VARCHAR2 (8)    |          | Same as NEXT_DATE. The job becomes due for execution at this time.                                                                                                            |
| TOTAL_TIME  | NUMBER          |          | Total wall clock time spent by the system on this job (in seconds) when it last executed                                                                                      |
| BROKEN      | VARCHAR2 (1)    |          | Y: no attempt is made to run this job<br>N: an attempt is made to run this job                                                                                                |
| INTERVAL    | VARCHAR2 (200)  | NOT NULL | A date function, evaluated at the start of execution, becomes next NEXT_DATE                                                                                                  |
| FAILURES    | NUMBER          |          | Number of times the job has started and failed since its last success                                                                                                         |
| WHAT        | VARCHAR2 (4000) |          | Body of the anonymous PL/SQL block that the job executes                                                                                                                      |

| Column   | Datatype        | NULL | Description                                                                                          |
|----------|-----------------|------|------------------------------------------------------------------------------------------------------|
| NLS_ENV  | VARCHAR2 (4000) |      | Session parameters describing the NLS environment of the job                                         |
| MISC_ENV | RAW (32)        |      | Other session parameters of the session that created the job. The job is run using these parameters. |
| INSTANCE | NUMBER          |      | ID of the instance that can execute or is executing the job. The default is 0.                       |

 **See Also:**  
["USER\\_JOBS"](#)

## 6.144 DBA\_JOBS\_RUNNING

DBA\_JOBS\_RUNNING lists all jobs that are currently running in the instance.

| Column    | Datatype     | NULL | Description                                                                      |
|-----------|--------------|------|----------------------------------------------------------------------------------|
| SID       | NUMBER       |      | Identifier of process that is executing the job. See <a href="#">"V\$LOCK"</a> . |
| JOB       | NUMBER       |      | Identifier of job. This job is currently executing.                              |
| FAILURES  | NUMBER       |      | Number of times this job started and failed since its last success.              |
| LAST_DATE | DATE         |      | Date that this job last successfully executed.                                   |
| LAST_SEC  | VARCHAR2 (8) |      | Same as LAST_DATE. This is when the last successful execution started.           |
| THIS_DATE | DATE         |      | Date that this job started executing.                                            |
| THIS_SEC  | VARCHAR2 (8) |      | Same as THIS_DATE. This is when the last successful execution started.           |
| INSTANCE  | NUMBER       |      | Indicates which instance can execute or is executing the job; the default is 0.  |

## 6.145 DBA\_JOIN\_IND\_COLUMNS

DBA\_JOIN\_IND\_COLUMNS describes all join conditions in the database. Its columns are the same as those in ALL\_JOIN\_IND\_COLUMNS.

 **See Also:**  
["ALL\\_JOIN\\_IND\\_COLUMNS"](#)

## 6.146 DBA\_JOINGROUPS

DBA\_JOINGROUPS describes join groups in the database. A join group is a user-created object that consists of two or more columns that can be meaningfully joined. The maximum number of columns that can be included in a join group is 255.

In certain queries, join groups enable the database to eliminate the performance overhead of decompressing and hashing column values. Join groups require an In-Memory column store (IM column store).

### Related View

USER\_JOINGROUPS describes join groups belonging to the user. This view does not display the JOINGROUP\_OWNER column.

| Column          | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JOINGROUP_OWNER | VARCHAR2 (128) | NOT NULL | Join group owner. This is the user that created the join group.                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| JOINGROUP_NAME  | VARCHAR2 (128) | NOT NULL | This is the user specified name of the join group. The join group name is specified when the join group is created as part of the CREATE INMEMORY JOIN GROUP statement.                                                                                                                                                                                                                                                                                                                                           |
| TABLE_OWNER     | VARCHAR2 (128) | NOT NULL | Table owner                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TABLE_NAME      | VARCHAR2 (128) | NOT NULL | Table name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| COLUMN_NAME     | VARCHAR2 (128) | NOT NULL | Column name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| FLAGS           | VARCHAR2 (6)   |          | Possible values: <ul style="list-style-type: none"><li>MASTER: Indicates which column in the join group is mastering the global dictionary. A join group is a group of columns sharing a global dictionary; the global dictionary is associated with one column and the other columns share the same dictionary. The column with which the global dictionary is associated is called the mastering column.</li><li>NULL: Indicates that the column is not mastering the global dictionary.</li></ul>              |
| GD_ADDRESS      | RAW (8)        |          | The memory address of the global dictionary. Ideally, all the columns in one join group should have the same global dictionary address (that is, they share the same global structure). This might not always be the case (for example, a column might be added to a join group after it was populated into memory - in which case its GD_ADDRESS field will be NULL). In such cases, you should force re-populate the tables that are part of the join group and check the views after the repopulates complete. |
| AUTO_CREATED    | VARCHAR2 (3)   |          | Indicates whether the join group was created by Automatic In-Memory (AIM) (YES) or whether the join group was user-created (NO)                                                                                                                                                                                                                                                                                                                                                                                   |
| CREATION_DATE   | DATE           | NOT NULL | Date and time at which the join group was created                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

 **See Also:**

- ["USER\\_JOINGROUPS"](#)
- *Oracle Database In-Memory Guide* for an introduction to join groups
- *Oracle Database SQL Language Reference* for information about creating a join group using the `CREATE INMEMORY JOIN GROUP` statement

## 6.147 DBA\_JSON\_COLLECTION\_TABLES

`DBA_JSON_COLLECTION_TABLES` describes all JSON collection tables in the database. Its columns are the same as those in `ALL_JSON_COLLECTION_TABLES`.

 **Note:**

This view is available starting with Oracle Database 23ai.

 **See Also:**

["ALL\\_JSON\\_COLLECTION\\_TABLES"](#)

## 6.148 DBA\_JSON\_COLLECTION\_VIEWS

`DBA_JSON_COLLECTION_VIEWS` describes all JSON collection views in the database. Its columns are the same as those in `ALL_JSON_COLLECTION_VIEWS`.

 **Note:**

This view is available starting with Oracle Database 23ai, Release Update 23.6.

 **See Also:**

["ALL\\_JSON\\_COLLECTION\\_VIEWS"](#)

## 6.149 DBA\_JSON\_COLLECTIONS

DBA\_JSON\_COLLECTIONS describes all JSON collections in the database. Its columns are the same as those in ALL\_JSON\_COLLECTIONS.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

["ALL\\_JSON\\_COLLECTIONS"](#)

## 6.150 DBA\_JSON\_COLUMNS

DBA\_JSON\_COLUMNS provides information on all JavaScript Object Notation (JSON) columns in the database. Its columns are the same as those in ALL\_JSON\_COLUMNS.



### See Also:

- ["ALL\\_JSON\\_COLUMNS"](#)
- *Oracle Database JSON Developer's Guide* for more information about using JSON with Oracle Database

## 6.151 DBA\_JSON\_DATAGUIDE\_FIELDS

DBA\_JSON\_DATAGUIDE\_FIELDS extracts the path and type information from all the data guides in the database, which are the data guides returned by the DBA\_JSON\_DATAGUIDE view. Its columns are the same as those in ALL\_JSON\_DATAGUIDE\_FIELDS.



### See Also:

["ALL\\_JSON\\_DATAGUIDE\\_FIELDS"](#)

## 6.152 DBA\_JSON\_DATAGUIDES

DBA\_JSON\_DATAGUIDES provides information on all JavaScript Object Notation (JSON) columns in the database that have data guide enabled. Its columns are the same as those in ALL\_JSON\_DATAGUIDES.



### See Also:

"ALL\_JSON\_DATAGUIDES"

## 6.153 DBA\_JSON\_DOMAIN\_SCHEMA\_COLUMNS

DBA\_JSON\_DOMAIN\_SCHEMA\_COLUMNS describes JSON schema constraints on columns of all data use case domains in the database. Its columns are the same as those in ALL\_JSON\_DOMAIN\_SCHEMA\_COLUMNS.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

"ALL\_JSON\_DOMAIN\_SCHEMA\_COLUMNS"

## 6.154 DBA\_JSON\_DUALITY\_VIEW\_LINKS

DBA\_JSON\_DUALITY\_VIEW\_LINKS describes the links associated with all JSON-relational duality views in the database. Its columns are the same as those in ALL\_JSON\_DUALITY\_VIEW\_LINKS.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

"ALL\_JSON\_DUALITY\_VIEW\_LINKS"

## 6.155 DBA\_JSON\_DUALITY\_VIEW\_TAB\_COLS

DBA\_JSON\_DUALITY\_VIEW\_TAB\_COLS describes the table columns associated with all JSON-relational duality views in the database. Its columns are the same as those in ALL\_JSON\_DUALITY\_VIEW\_TAB\_COLS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_JSON\\_DUALITY\\_VIEW\\_TAB\\_COLS"](#)

## 6.156 DBA\_JSON\_DUALITY\_VIEW\_TABS

DBA\_JSON\_DUALITY\_VIEW\_TABS describes the tables associated with all JSON-relational duality views in the database. Its columns are the same as those in ALL\_JSON\_DUALITY\_VIEW\_TABS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_JSON\\_DUALITY\\_VIEW\\_TABS"](#)

## 6.157 DBA\_JSON\_DUALITY\_VIEWS

DBA\_JSON\_DUALITY\_VIEWS describes all JSON-relational duality views in the database. Its columns are the same as those in ALL\_JSON\_DUALITY\_VIEWS.

**Note:**

This view is available starting with Oracle Database 23ai.



**See Also:**

["ALL\\_JSON\\_DUALITY\\_VIEWS"](#)

## 6.158 DBA\_JSON\_INDEXES

DBA\_JSON\_INDEXES describes all indexes on JSON data in the database. Its columns are the same as those in ALL\_JSON\_INDEXES.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_JSON\\_INDEXES"](#)

## 6.159 DBA\_JSON\_SCHEMA\_COLUMNS

DBA\_JSON\_SCHEMA\_COLUMNS describes JSON schema constraints on columns in all tables in the database. Its columns are the same as those in ALL\_JSON\_SCHEMA\_COLUMNS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_JSON\\_SCHEMA\\_COLUMNS"](#)

## 6.160 DBA\_KAFKA\_APPLICATIONS

DBA\_KAFKA\_APPLICATIONS describes all Oracle SQL Access to Kafka (OSAK) applications in the database.

**Related View**

USER\_KAFKA\_APPLICATIONS describes OSAK applications owned by the current user. This view does not display the OWNER or CLUSTER\_ID columns.

| Column              | Datatype        | NULL     | Description                                                                                                                   |
|---------------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128)  | NOT NULL | Owner of the application                                                                                                      |
| CLUSTER_ID          | VARCHAR2 (40)   | NOT NULL | ID of the OSAK cluster associated with the application                                                                        |
| CLUSTER_NAME        | VARCHAR2 (30)   | NOT NULL | Name of the OSAK cluster associated with the application                                                                      |
| APPLICATION_NAME    | VARCHAR2 (30)   | NOT NULL | Application name (also used as the Kafka group name)                                                                          |
| TOPIC_NAME          | VARCHAR2 (249)  | NOT NULL | Name of the Kafka topic associated with the application                                                                       |
| FORMAT              | VARCHAR2 (4000) |          | Format of the Kafka topic value data: <ul style="list-style-type: none"> <li>• AVRO</li> <li>• DSV</li> <li>• JSON</li> </ul> |
| KEY_FORMAT          | VARCHAR2 (4000) |          | Format of the Kafka topic key data: <ul style="list-style-type: none"> <li>• AVRO</li> <li>• DSV</li> <li>• JSON</li> </ul>   |
| NUM_VIEWS           | NUMBER (38)     | NOT NULL | Number of OSAK views for the application                                                                                      |
| NUM_PARTITIONS      | NUMBER (38)     | NOT NULL | Number of Kafka partitions associated with the OSAK views for the application                                                 |
| NUM_VIEWS_REQUESTED | NUMBER (38)     | NOT NULL | Number of OSAK views requested for the application                                                                            |
| APPLICATION_TYPE    | VARCHAR2 (30)   | NOT NULL | Type of application: <ul style="list-style-type: none"> <li>• LOAD</li> <li>• SEEKABLE</li> <li>• STREAMING</li> </ul>        |
| OPTIONS             | BLOB            | NOT NULL | User-supplied options (excluding AVRO-related schemas)                                                                        |
| AVRO_SCHEMA         | BLOB            |          | User-supplied AVRO schema for the Kafka topic value data                                                                      |
| KEY_AVRO_SCHEMA     | BLOB            |          | Reserved for future use                                                                                                       |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["USER\\_KAFKA\\_APPLICATIONS"](#)
- ["DBMS\\_KAFKA\\_APPLICATIONS"](#)

## 6.161 DBA\_KAFKA\_CLUSTERS

DBA\_KAFKA\_CLUSTERS describes the Oracle SQL Access to Kafka (OSAK) clusters for which any database user has READ access.

### Related View

USER\_KAFKA\_CLUSTERS describes the OSAK clusters that are owned by the current user or for which the current user has READ access. This view does not display the OWNER or GRANTEE columns.

| Column              | Datatype        | NULL     | Description                                                                                                                                                               |
|---------------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128)  | NOT NULL | Owner of the cluster<br>The value of this column is always SYS.                                                                                                           |
| CLUSTER_ID          | VARCHAR2 (40)   | NOT NULL | System-generated unique cluster ID                                                                                                                                        |
| STATE               | NUMBER (38)     | NOT NULL | Current state of the cluster: <ul style="list-style-type: none"><li>0 - CONNECTED</li><li>1 - MAINTENANCE</li><li>2 - BROKEN</li><li>3 - DEREGISTERED</li></ul>           |
| CLUSTER_NAME        | VARCHAR2 (30)   | NOT NULL | User-supplied name of the cluster                                                                                                                                         |
| BOOTSTRAP_SERVERS   | VARCHAR2 (4000) | NOT NULL | Comma-separated list of bootstrap servers for the cluster<br>Each bootstrap server is represented in the following form: <i>hostname:port</i>                             |
| KAFKA_PROVIDER      | VARCHAR2 (128)  | NOT NULL | Provider of the Kafka cluster software: <ul style="list-style-type: none"><li>APACHE - Apache Kafka</li><li>OSS - Oracle Cloud Infrastructure Streaming Service</li></ul> |
| CONNECTION_TS       | TIMESTAMP (6)   |          | If GRANTEE is currently connected to the cluster, the date and time at which the connection was started; otherwise NULL                                                   |
| CLUSTER_DESCRIPTION | VARCHAR2 (4000) |          | Optional user-supplied description of the Oracle SQL access to the cluster                                                                                                |
| GRANTEE             | VARCHAR2 (128)  |          | User who is granted access to the cluster                                                                                                                                 |

### Note:

This view is available starting with Oracle Database 23ai.

### See Also:

- "USER\_KAFKA\_CLUSTERS"
- "DBMS\_KAFKA\_CLUSTERS" for information about viewing all registered OSAK clusters in the database

## 6.162 DBA\_KAFKA\_LOAD\_METRICS

DBA\_KAFKA\_LOAD\_METRICS displays metrics for DBMS\_KAFKA.EXECUTE\_LOAD\_APP operations on all tables in the database.

### Related View

USER\_KAFKA\_LOAD\_METRICS displays metrics for DBMS\_KAFKA.EXECUTE\_LOAD\_APP operations on tables owned by the current user. This view does not display the OWNER or CLUSTER\_ID columns.

| Column              | Datatype                     | NULL     | Description                                                                |
|---------------------|------------------------------|----------|----------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128)               | NOT NULL | Owner of the table into which the Kafka data was loaded (TARGET_TABLE)     |
| CLUSTER_ID          | VARCHAR2 (40)                | NOT NULL | ID of the OSAK cluster associated with the EXECUTE_LOAD_APP operation      |
| CLUSTER_NAME        | VARCHAR2 (30)                | NOT NULL | Name of the OSAK cluster associated with the OSAK cluster ID               |
| APPLICATION_NAME    | VARCHAR2 (30)                |          | Application name (also used as the Kafka group name)                       |
| TARGET_TABLE        | VARCHAR2 (128)               | NOT NULL | Name of the table into which the Kafka data was loaded                     |
| TARGET_TABLE_SCHEMA | VARCHAR2 (128)               | NOT NULL | Schema of the table into which the Kafka data was loaded                   |
| INSERTED_ROWS       | NUMBER (38)                  |          | Total number of rows inserted into the table by the load operation         |
| KAFKA_RECORDS       | NUMBER (38)                  |          | Total number of Kafka records fetched for the load operation               |
| STARTED_TIME        | TIMESTAMP (6) WITH TIME ZONE |          | Date and time at which the Kafka data started being loaded into the table  |
| FINISHED_TIME       | TIMESTAMP (6) WITH TIME ZONE |          | Date and time at which the Kafka data finished being loaded into the table |



#### Note:

This view is available starting with Oracle Database 23ai.



#### See Also:

- ["USER\\_KAFKA\\_LOAD\\_METRICS"](#)
- ["DBMS\\_KAFKA\\_LOAD\\_METRICS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_KAFKA.EXECUTE\_LOAD\_APP procedure

## 6.163 DBA\_KAFKA\_OPS

DBA\_KAFKA\_OPS describes operations for all Oracle SQL Access to Kafka (OSAK) views in the database.

### Related View

USER\_KAFKA\_OPS describes operations for OSAK views owned by the current user. This view does not display the OWNER or CLUSTER\_ID columns.

| Column                  | Datatype       | NULL     | Description                                                                                                                                                                                              |
|-------------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                   | VARCHAR2 (128) | NOT NULL | Owner of the OSAK view                                                                                                                                                                                   |
| OP_KEY                  | VARCHAR2 (30)  | NOT NULL | Unique operation key (replacement for the location file)                                                                                                                                                 |
| OP_TYPE                 | VARCHAR2 (30)  | NOT NULL | Generic operation type                                                                                                                                                                                   |
| OP                      | VARCHAR2 (30)  | NOT NULL | Specific type of operation within OP_TYPE                                                                                                                                                                |
| CLUSTER_ID              | VARCHAR2 (40)  | NOT NULL | ID of the OSAK cluster associated with the operation                                                                                                                                                     |
| CLUSTER_NAME            | VARCHAR2 (30)  | NOT NULL | Name of the OSAK cluster associated with the operation                                                                                                                                                   |
| APPLICATION_NAME        | VARCHAR2 (30)  |          | Name of the OSAK application associated with the operation (also used as the Kafka group name)                                                                                                           |
| TOPIC_NAME              | VARCHAR2 (249) |          | Name of the Kafka topic associated with the operation                                                                                                                                                    |
| PARTITION_ID            | NUMBER (38)    |          | Partition ID of the Kafka topic associated with the operation                                                                                                                                            |
| OFFSET                  | NUMBER (38)    |          | Next offset from which an SEQ operation will start reading                                                                                                                                               |
| RELATIVE_OFFSET         | NUMBER (38)    |          | Number of offsets, including the watermark, from which an SEQ operation will start reading                                                                                                               |
| WATERMARK               | VARCHAR2 (5)   |          | Basis for the start read offset for an SEQ operation (WMH or WML)                                                                                                                                        |
| START_OFFSET_EPOCH_TIME | NUMBER (38)    |          | Timestamp (in milliseconds) that determines the next offset from which the operation will start reading<br>This value is used by the DBMS_KAFKA.INIT_OFFSET_TS and DBMS_KAFKA.SEEK_OFFSET_TS procedures. |
| END_OFFSET_EPOCH_TIME   | NUMBER (38)    |          | Timestamp (in milliseconds) that determines the end offset at which the operation will stop reading<br>This value is used by the DBMS_KAFKA.SEEK_OFFSET_TS procedure.                                    |



### Note:

This view is available starting with Oracle Database 23ai.

**See Also:**

- "USER\_KAFKA\_OPS"
- "DBMS\_KAFKA\_OPS"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_KAFKA.INIT_OFFSET_TS` and `DBMS_KAFKA.SEEK_OFFSET_TS` procedures

## 6.164 DBA\_KAFKA\_OPS\_RESULTS

`DBA_KAFKA_OPS_RESULTS` displays the results of operations for all Oracle SQL Access to Kafka (OSAK) views in the database.

### Related View

`USER_KAFKA_OPS_RESULTS` displays the results of operations for Oracle SQL Access to Kafka (OSAK) views owned by the current user. This view does not display the `OWNER` column.

| Column      | Datatype       | NULL     | Description                                                |
|-------------|----------------|----------|------------------------------------------------------------|
| OWNER       | VARCHAR2 (128) | NOT NULL | Owner of OSAK view                                         |
| OP_KEY      | VARCHAR2 (30)  |          | Unique operation key (replacement for the location file)   |
| ROWS_READ   | NUMBER (38)    |          | Number of Kafka records read and returned by the operation |
| LAST_OFFSET | NUMBER (38)    |          | Kafka offset of the last record read by the operation      |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- "USER\_KAFKA\_OPS\_RESULTS"
- "DBMS\_KAFKA\_OPS\_RESULTS"

## 6.165 DBA\_KAFKA\_PARTITIONS

`DBA_KAFKA_PARTITIONS` describes partitions for Kafka topics associated with all Oracle SQL Access to Kafka (OSAK) views in the database.

### Related View

USER\_KAFKA\_PARTITIONS describes partitions for Kafka topics associated with OSAK views owned by the current user. This view does not display the OWNER or CLUSTER\_ID columns.

| Column           | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                   |
|------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128) | NOT NULL | Owner of the OSAK view                                                                                                                                                                                                                                                                                                                        |
| CLUSTER_ID       | VARCHAR2 (40)  | NOT NULL | ID of the OSAK cluster associated with the topic/partition                                                                                                                                                                                                                                                                                    |
| CLUSTER_NAME     | VARCHAR2 (30)  | NOT NULL | User-supplied name of the associated Kafka server/cluster                                                                                                                                                                                                                                                                                     |
| APPLICATION_NAME | VARCHAR2 (30)  | NOT NULL | Application name (also used as the Kafka group name)                                                                                                                                                                                                                                                                                          |
| TOPIC_NAME       | VARCHAR2 (249) | NOT NULL | Kafka topic name associated with the topic/partition                                                                                                                                                                                                                                                                                          |
| PARTITION_ID     | NUMBER (38)    | NOT NULL | Partition ID of the Kafka topic                                                                                                                                                                                                                                                                                                               |
| VIEW_ID          | NUMBER (38)    | NOT NULL | ID of the OSAK view associated with the topic/partition                                                                                                                                                                                                                                                                                       |
| VIEW_NAME        | VARCHAR2 (128) | NOT NULL | Name of the OSAK view associated with the topic/partition                                                                                                                                                                                                                                                                                     |
| TEMP_TABLE_NAME  | VARCHAR2 (128) |          | Name of the OSAK global temporary table associated with the topic/partition<br>The value of this column is null if the application type is LOAD, that is, if the application was created using the DBMS_KAFKA.CREATE_LOAD_APP procedure. The application type is displayed in the APPLICATION_TYPE column of the DBA_KAFKA_APPLICATIONS view. |



#### Note:

This view is available starting with Oracle Database 23ai.



#### See Also:

- "USER\_KAFKA\_PARTITIONS"
- "DBMS\_KAFKA\_PARTITIONS"

## 6.166 DBA\_KGLLOCK

DBA\_KGLLOCK lists all the locks and pins held on KGL objects (objects in the Kernel Generic Library cache).

| Column   | Datatype | NULL | Description                                            |
|----------|----------|------|--------------------------------------------------------|
| kgllkuse | RAW (4)  |      | Address of the user session that holds the lock or pin |
| kgllkhd1 | RAW (4)  |      | Address of the handle for the KGL object               |

| Column    | Datatype     | NULL | Description                                 |
|-----------|--------------|------|---------------------------------------------|
| kgllkmod  | NUMBER       |      | Current mode of the lock or pin             |
| kgllkreq  | NUMBER       |      | Mode in which the lock or pin was requested |
| kgllktype | VARCHAR2 (4) |      | Whether this is a lock or a pin             |

## 6.167 DBA\_LIBRARIES

DBA\_LIBRARIES describes all libraries in the database. Its columns are the same as those in ALL\_LIBRARIES.



**See Also:**

"ALL\_LIBRARIES"

## 6.168 DBA\_LMT\_FREE\_SPACE

DBA\_LMT\_FREE\_SPACE describes the free extents in all locally managed tablespaces in the database.

| Column        | Datatype | NULL | Description                                               |
|---------------|----------|------|-----------------------------------------------------------|
| TABLESPACE_ID | NUMBER   |      | Identifier number of the tablespace containing the extent |
| FILE_ID       | NUMBER   |      | File identifier number of the file containing the extent  |
| BLOCK_ID      | NUMBER   |      | Starting block number of the extent                       |
| BLOCKS        | NUMBER   |      | Size of the extent (in Oracle blocks)                     |

## 6.169 DBA\_LMT\_USED\_EXTENTS

DBA\_LMT\_USED\_EXTENTS describes the extents comprising the segments in all locally managed tablespaces in the database.

| Column         | Datatype | NULL | Description                                               |
|----------------|----------|------|-----------------------------------------------------------|
| SEGMENT_FILEID | NUMBER   |      | File number of the segment header of the extent           |
| SEGMENT_BLOCK  | NUMBER   |      | Block number of the segment header of the extent          |
| TABLESPACE_ID  | NUMBER   |      | Identifier number of the tablespace containing the extent |
| EXTENT_ID      | NUMBER   |      | Extent number in the segment                              |
| FILEID         | NUMBER   |      | File identifier number of the file containing the extent  |
| BLOCK          | NUMBER   |      | Starting block number of the extent                       |
| LENGTH         | NUMBER   |      | Number of blocks in the extent                            |



## 6.170 DBA\_LOB\_PARTITIONS

DBA\_LOB\_PARTITIONS displays all LOB partitions in the database. Its columns are the same as those in ALL\_LOB\_PARTITIONS.



**See Also:**

["ALL\\_LOB\\_PARTITIONS"](#)

## 6.171 DBA\_LOB\_SUBPARTITIONS

DBA\_LOB\_SUBPARTITIONS displays partition-level attributes of all LOB data subpartitions in the database. Its columns are the same as those in ALL\_LOB\_SUBPARTITIONS.



**See Also:**

["ALL\\_LOB\\_SUBPARTITIONS"](#)

## 6.172 DBA\_LOB\_TEMPLATES

DBA\_LOB\_TEMPLATES describes all LOB subpartition templates in the database. Its columns are the same as those in ALL\_LOB\_TEMPLATES.



**See Also:**

["ALL\\_LOB\\_TEMPLATES"](#)

## 6.173 DBA\_LOBS

DBA\_LOBS displays the BLOBs and CLOBs contained in all tables in the database. BFILEs are stored outside the database, so they are not described by this view. This view's columns are the same as those in ALL\_LOBS.



**See Also:**

["ALL\\_LOBS"](#)

## 6.174 DBA\_LOCK

DBA\_LOCK lists all locks or latches held in the database, and all outstanding requests for a lock or latch.

| Column          | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------|---------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SESSION_ID      | NUMBER        |      | Session holding or acquiring the lock                                                                                                                                                                                                                                                                                                                                                                                                                |
| LOCK_TYPE       | VARCHAR2 (26) |      | Lock type<br><b>See Also:</b> For a listing of lock types, see <a href="#">Oracle Enqueue Names</a>                                                                                                                                                                                                                                                                                                                                                  |
| MODE_HELD       | VARCHAR2 (40) |      | Lock mode                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| MODE_REQUESTED  | VARCHAR2 (40) |      | Lock mode requested                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| LOCK_ID1        | VARCHAR2 (40) |      | Type-specific lock identifier, part 1                                                                                                                                                                                                                                                                                                                                                                                                                |
| LOCK_ID2        | VARCHAR2 (40) |      | Type-specific lock identifier, part 2                                                                                                                                                                                                                                                                                                                                                                                                                |
| LAST_CONVERT    | NUMBER        |      | The last convert                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| BLOCKING_OTHERS | VARCHAR2 (40) |      | Whether the lock is currently blocking others                                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID          | NUMBER        |      | The ID of the container to which the data pertains.<br>Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 6.175 DBA\_LOCK\_INTERNAL

DBA\_LOCK\_INTERNAL displays a row for each lock or latch that is being held, and one row for each outstanding request for a lock or latch.

| Column         | Datatype        | NULL | Description                                                                                         |
|----------------|-----------------|------|-----------------------------------------------------------------------------------------------------|
| SESSION_ID     | NUMBER          |      | Session holding or acquiring the lock                                                               |
| LOCK_TYPE      | VARCHAR2 (56)   |      | Lock type<br><b>See Also:</b> For a listing of lock types, see <a href="#">Oracle Enqueue Names</a> |
| MODE_HELD      | VARCHAR2 (40)   |      | Lock mode                                                                                           |
| MODE_REQUESTED | VARCHAR2 (40)   |      | Lock mode requested                                                                                 |
| LOCK_ID1       | VARCHAR2 (1130) |      | Type-specific lock identifier, part 1                                                               |
| LOCK_ID2       | VARCHAR2 (40)   |      | Type-specific lock identifier, part 2                                                               |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   |      | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.176 DBA\_LOCKDOWN\_PROFILES

DBA\_LOCKDOWN\_PROFILES provides information about lockdown profiles.

The PRIVATE\_DBAAS, PUBLIC\_DBAAS, and SAAS lockdown profiles are empty placeholder profiles for the lockdown profiles of their corresponding deployment type. You can modify and add restrictions to these profiles based on their deployment purpose. For example, if you have a Software as a Service (SAAS) application, you can modify the SAAS lockdown profile and use it. You can also delete and re-create these profiles.

| Column        | Datatype        | NULL     | Description                                                                                                                                                                                                                                                      |
|---------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROFILE_NAME  | VARCHAR2 (128)  | NOT NULL | Name of the lockdown profile                                                                                                                                                                                                                                     |
| RULE_TYPE     | VARCHAR2 (128)  |          | Rule type. A lockdown profile is used to restrict operations that can be performed by users connected to a given PDB. It provides the ability to add or remove different types of rules like STATEMENT, FEATURES or OPTIONS which will be restricted in the PDB. |
| RULE          | VARCHAR2 (128)  |          | Rule to be enabled or disabled                                                                                                                                                                                                                                   |
| CLAUSE        | VARCHAR2 (128)  |          | Clause of the statement                                                                                                                                                                                                                                          |
| CLAUSE_OPTION | VARCHAR2 (128)  |          | Option of the clause                                                                                                                                                                                                                                             |
| OPTION_VALUE  | VARCHAR2 (4000) |          | Value of the option                                                                                                                                                                                                                                              |
| MIN_VALUE     | VARCHAR2 (4000) |          | Minimum value allowed for the option                                                                                                                                                                                                                             |
| MAX_VALUE     | VARCHAR2 (4000) |          | Maximum value allowed for the option                                                                                                                                                                                                                             |
| LIST          | VARCHAR2 (4000) |          | List of allowed values for the option                                                                                                                                                                                                                            |
| STATUS        | VARCHAR2 (7)    |          | <p>Status of the lockdown profile:</p> <ul style="list-style-type: none"> <li>ENABLE</li> <li>DISABLE</li> <li>EMPTY</li> </ul>                                                                                                                                  |
| USERS         | VARCHAR2 (6)    |          | <p>User type. Possible values:</p> <ul style="list-style-type: none"> <li>COMMON</li> <li>LOCAL</li> <li>ALL</li> </ul>                                                                                                                                          |
| EXCEPT_USERS  | CLOB            |          | For internal use only                                                                                                                                                                                                                                            |

 **See Also:**

- ["PDB\\_LOCKDOWN"](#)
- *Oracle Multitenant Administrator's Guide* for an introduction to PDB lockdown profiles
- *Oracle Database SQL Language Reference* for more information about creating lockdown profiles
- *Oracle Database SQL Language Reference* for more information about dropping lockdown profiles
- *Oracle Database SQL Language Reference* for more information about altering lockdown profiles

## 6.177 DBA\_LOCKS

DBA\_LOCKS is a synonym for DBA\_LOCK.

 **See Also:**

["DBA\\_LOCK"](#)

## 6.178 DBA\_LOG\_GROUP\_COLUMNS

DBA\_LOG\_GROUP\_COLUMNS describes all columns in the database that are specified in log groups. Its columns are the same as those in ALL\_LOG\_GROUP\_COLUMNS.

 **See Also:**

["ALL\\_LOG\\_GROUP\\_COLUMNS"](#)

## 6.179 DBA\_LOG\_GROUPS

DBA\_LOG\_GROUPS describes log group definitions on all tables in the database. Its columns are the same as those in ALL\_LOG\_GROUPS.

 **See Also:**

["ALL\\_LOG\\_GROUPS"](#)

## 6.180 DBA\_LOGMNR\_DICTIONARY\_BUILDLOG

DBA\_LOGMNR\_DICTIONARY\_BUILDLOG describes all successful LogMiner dictionary builds available for GoldenGate REGISTER EXTRACT.

When this view is queried from a PDB, it returns only LogMiner dictionary builds performed in that PDB.

| Column            | Datatype       | NULL | Description                                                                                                              |
|-------------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------|
| NAME              | VARCHAR2 (384) |      | User-supplied name of the LogMiner dictionary build                                                                      |
| DATE_OF_BUILD     | VARCHAR2 (20)  |      | Date and time at which the LogMiner dictionary build was performed                                                       |
| START_SCN         | NUMBER         |      | Begin SCN of the LogMiner dictionary build operation                                                                     |
| END_SCN           | NUMBER         |      | End SCN of the LogMiner dictionary build operation                                                                       |
| BUILD_TYPE        | VARCHAR2 (20)  |      | Internal string that identifies how the LogMiner dictionary build was initiated                                          |
| BUILD_OP          | NUMBER         |      | Internal number that identifies how the LogMiner dictionary build was initiated                                          |
| CONTAINER_ID      | NUMBER         |      | ID of the container in which the LogMiner dictionary build was performed (the CDB root or a PDB)                         |
| CONTAINER_UID     | NUMBER         |      | Unique number that identifies the container in which the LogMiner dictionary build was performed (the CDB root or a PDB) |
| CONTAINER_NAME    | VARCHAR2 (384) |      | Name of the container in which the LogMiner dictionary build was performed (the CDB root or a PDB)                       |
| RESETLOGS_CHANGE# | NUMBER         |      | SCN that identifies the redo branch of the LogMiner dictionary build                                                     |

## 6.181 DBA\_LOGMNR\_LOG

DBA\_LOGMNR\_LOG displays all archived logs registered with active LogMiner persistent sessions in the database.

A persistent LogMiner session is created either by starting Data Guard SQL Apply on a logical standby database for the first time or by creating Replication capture.

| Column            | Datatype       | NULL     | Description                                                                                             |
|-------------------|----------------|----------|---------------------------------------------------------------------------------------------------------|
| LOGMNR_SESSION_ID | NUMBER         | NOT NULL | Unique identifier of the persistent session                                                             |
| NAME              | VARCHAR2 (513) |          | Name of the archived log                                                                                |
| DBID              | NUMBER         | NOT NULL | Database identifier that produced the archived log                                                      |
| RESETLOGS_SCN     | NUMBER         | NOT NULL | SCN at which resetlogs operation was performed at the source database generating the archived log       |
| RESETLOGS_TIME    | NUMBER         | NOT NULL | Timestamp at which resetlogs operation was performed at the source database generating the archived log |
| MODIFIED_TIME     | DATE           |          | Time at which the archived log was registered with LogMiner                                             |

| Column           | Datatype     | NULL     | Description                                                                                                                   |
|------------------|--------------|----------|-------------------------------------------------------------------------------------------------------------------------------|
| THREAD#          | NUMBER       | NOT NULL | Redo thread at the source database that generated the archived log                                                            |
| SEQUENCE#        | NUMBER       | NOT NULL | Logfile sequence number                                                                                                       |
| FIRST_SCN        | NUMBER       | NOT NULL | Lowest SCN of the redo record contained in the logfile                                                                        |
| NEXT_SCN         | NUMBER       |          | Highest possible SCN of the redo record contained in the logfile                                                              |
| FIRST_TIME       | DATE         |          | Time of the first redo record contained in the logfile                                                                        |
| NEXT_TIME        | DATE         |          | Time of the last redo record contained in the logfile                                                                         |
| DICTIONARY_BEGIN | VARCHAR2 (3) |          | Indicates whether the archived log contains the beginning of a LogMiner dictionary (YES) or not (NO)                          |
| DICTIONARY_END   | VARCHAR2 (3) |          | Indicates whether the archived log contains the end of a LogMiner dictionary (YES) or not (NO)                                |
| KEEP             | VARCHAR2 (3) |          | Indicates whether the logfile is still required for this LogMiner session (YES) or not (NO)                                   |
| SUSPECT          | VARCHAR2 (3) |          | Indicates whether the archived log content was deemed to be corrupt or the archived log is partially filled (YES) or not (NO) |

## 6.182 DBA\_LOGMNR\_PURGED\_LOG

DBA\_LOGMNR\_PURGED\_LOG displays archived redo log files that have been applied to the logical standby database and can be deleted because they are no longer needed.

Files in this view are refreshed as a result of executing the DBMS\_LOGSTDBY.PURGE\_SESSION PL/SQL procedure for Oracle Data Guard SQL Apply:

| Column    | Datatype       | NULL | Description                                                                                                                              |
|-----------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------|
| FILE_NAME | VARCHAR2 (513) |      | Fully qualified names of the archived redo log files that are no longer needed by SQL Apply and can be deleted from the operating system |



### See Also:

*Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_LOGSTDBY.PURGE\_SESSION procedure

## 6.183 DBA\_LOGMNR\_SESSION

DBA\_LOGMNR\_SESSION displays all active LogMiner persistent sessions in the database.

A persistent LogMiner session is created either by starting Data Guard SQL Apply on a logical standby database for the first time or by creating Replication capture.

| Column | Datatype | NULL     | Description               |
|--------|----------|----------|---------------------------|
| ID     | NUMBER   | NOT NULL | Unique session identifier |

| Column                | Datatype       | NULL     | Description                                                                                                                                                                                   |
|-----------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME                  | VARCHAR2 (128) | NOT NULL | Unique session name                                                                                                                                                                           |
| SOURCE_DATABASE       | VARCHAR2 (128) |          | Global name of the source database whose archived logs are to be mined in this persistent LogMiner session                                                                                    |
| SOURCE_DBID           | NUMBER         |          | Database ID of the source database                                                                                                                                                            |
| SOURCE_RESETLOGS_SCN  | NUMBER         |          | Resetlogs SCN associated with the incarnation of the source database whose archived logs are mined                                                                                            |
| SOURCE_RESETLOGS_TIME | NUMBER         |          | Resetlogs time associated with the incarnation of the source database whose archived logs are mined                                                                                           |
| FIRST_SCN             | NUMBER         |          | Only modifications that occurred on or after this SCN can be mined using this persistent session                                                                                              |
| END_SCN               | NUMBER         |          | No modifications that occurred on or after this SCN can be mined using this persistent session                                                                                                |
| BRANCH_SCN            | NUMBER         |          | SCN at which a branch will be taken in terms of the incarnation corresponding to the source database. This implies a point-in-time recovery was performed at the source database at this SCN. |
| WAIT_FOR_LOG          | VARCHAR2 (3)   |          | Indicates whether the persistent session waits for RFS to register new archived logs or to fill gaps (YES) or not (NO)                                                                        |
| HOT_MINE              | VARCHAR2 (3)   |          | Indicates whether real-time mining is on (YES) or not (NO)                                                                                                                                    |
| SAFE_PURGE_SCN        | NUMBER         |          | Persistent session can safely be purged up to this SCN                                                                                                                                        |
| CHECKPOINT_SCN        | NUMBER         |          | SCN at which the latest checkpoint is taken by the persistent LogMiner session                                                                                                                |
| PURGE_SCN             | NUMBER         |          | The session has been purged up to this SCN                                                                                                                                                    |

## 6.184 DBA\_LOGSTDBY\_EVENTS

DBA\_LOGSTDBY\_EVENTS displays information about the activity of the logical standby database system.

It can be used to determine the cause of failures that occur when applying redo data to logical standby databases. This view is for logical standby databases only.

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                           |
|-----------------|---------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EVENT_TIME      | DATE          |          | Time when the event was logged                                                                                                                                                                                        |
| EVENT_TIMESTAMP | TIMESTAMP (6) | NOT NULL | Timestamp when the event was logged                                                                                                                                                                                   |
| START_SCN       | NUMBER        |          | The SCN at which the associated transaction started at the primary database. This SCN refers to the system change number at the primary database.                                                                     |
| CURRENT_SCN     | NUMBER        |          | SCN associated with the change at the primary database. If a failure occurred, then examine this column to determine which archived log file contains the source of the failure (for example, an unsupported record). |

| Column       | Datatype        | NULL | Description                                                                                                                       |
|--------------|-----------------|------|-----------------------------------------------------------------------------------------------------------------------------------|
| COMMIT_SCN   | NUMBER          |      | SCN value on which the change was committed at the primary database                                                               |
| XIDUSN       | NUMBER          |      | Transaction ID undo segment number at the primary database of the associated transaction                                          |
| XIDSLT       | NUMBER          |      | Transaction ID slot number at the primary database of the associated transaction                                                  |
| XIDSQN       | NUMBER          |      | Transaction ID sequence number at the primary database of the associated transaction                                              |
| EVENT        | CLOB            |      | Statement that was being processed when the failure occurred                                                                      |
| STATUS_CODE  | NUMBER          |      | Status (or Oracle error code) belonging to the STATUS message                                                                     |
| STATUS       | VARCHAR2 (2000) |      | Description of the current activity of the process or the reason why the apply operation stopped                                  |
| SRC_CON_NAME | VARCHAR2 (30)   |      | Identifies the PDB name at the primary database where the transaction was executed                                                |
| SRC_CON_ID   | NUMBER          |      | Contains the PDB ID (the PDB_ID column from the DBA_PDBS view) of the primary database where the associated change was generated. |

**Note:**

In a CDB, this view shows data only when queried in the root.

## 6.185 DBA\_LOGSTDBY\_HISTORY

DBA\_LOGSTDBY\_HISTORY displays the history of switchovers and failovers in a Data Guard configuration.

It does this by showing the complete sequence of redo log streams processed or created on the local system, across all role transitions. (After a role transition, a new log stream is started and the log stream sequence number is incremented by the new primary database.). This view is for logical standby databases only.

| Column           | Datatype | NULL | Description                                                                                                                                                                                       |
|------------------|----------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STREAM_SEQUENCE# | NUMBER   |      | Lists the sequence numbers for all log streams created or applied on the local system.<br><b>Note:</b> A value of 0 indicates an unknown sequence order; this is reserved for future log streams. |



| Column        | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS        | VARCHAR2 (16)  |      | <p>Description of the log stream processing:</p> <ul style="list-style-type: none"> <li>Past - The log stream has already been processed</li> <li>Immediate Past - This is the most recently processed log stream; its status is transitioning from Current to Past</li> <li>Current - The log stream is currently being processed</li> <li>Immediate Future - This is the next log stream to be processed; its status is transitioning from Future to Current</li> <li>Future - The log stream will be processed</li> </ul>    |
| SOURCE        | VARCHAR2 (5)   |      | <p>Describes how the log stream was started:</p> <ul style="list-style-type: none"> <li>RFS - The RFS process created the log stream</li> <li>User - A user registered the initial log file for the log stream</li> <li>Synch - A user issued the ALTER DATABASE START LOGICAL STANDBY APPLY NEW PRIMARY DDL statement</li> <li>Redo - The log stream information was recorded in the redo log</li> </ul>                                                                                                                       |
| DBID          | NUMBER         |      | Database identifier of the primary database that created the log stream                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| FIRST_CHANGE# | NUMBER         |      | Lowest system change number (SCN) in the current log file                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LAST_CHANGE#  | NUMBER         |      | Highest system change number (SCN) in the current log file                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| FIRST_TIME    | DATE           |      | Time of the first SCN entry (FIRST_CHANGE#) in the current log file                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| LAST_TIME     | DATE           |      | Time of the last SCN entry (LAST_CHANGE#) in the current log file                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DGNAME        | VARCHAR2 (255) |      | Unique database name (DB_UNIQUE_NAME) of the primary database that produced the log stream. See V\$DATAGUARD_CONFIG to display all database DB_UNIQUE_NAME values defined in the Data Guard configuration.                                                                                                                                                                                                                                                                                                                      |
| MERGE_CHANGE# | NUMBER         |      | SCN that should be used to flashback a failed primary (that created the log stream) or to flashback a bystander logical standby database following a failover, in the context of the associated redo log stream. It is the SCN up to which redo for the associated log stream can be merged safely in all databases using local copies of archived logs received from the primary database. In order to apply changes beyond this following a failover, you will need to fetch and mine the redo logs from the failover target. |

| Column            | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                |
|-------------------|----------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROCESSED_CHANGE# | NUMBER   |      | Strict upper bound on the SCN up to which SQL Apply has applied redo records before it switched to a new log stream (either because it was activated and became the primary database, or in the case of a bystander logical standby database where it switched to a new log stream to accommodate a new primary database). |

**Note:**

In a CDB, this view shows data only when queried in the root.

## 6.186 DBA\_LOGSTDBY\_LOG

DBA\_LOGSTDBY\_LOG displays information about the logs registered for a logical standby database.

This view is for logical standby databases only.

| Column            | Datatype       | NULL     | Description                                                                                                                                            |
|-------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| THREAD#           | NUMBER         | NOT NULL | Thread ID of the archive log. The THREAD number is 1 for a single instance. For Real Application Clusters, this column will contain different numbers. |
| RESETLOGS_CHANGE# | NUMBER         | NOT NULL | Start SCN of the branch                                                                                                                                |
| RESETLOGS_ID      | NUMBER         | NOT NULL | Resetlogs identifier (a numeric form of the timestamp of the branch)                                                                                   |
| SEQUENCE#         | NUMBER         | NOT NULL | Sequence number of the archive log file                                                                                                                |
| FIRST_CHANGE#     | NUMBER         | NOT NULL | System change number (SCN) of the current archive log                                                                                                  |
| NEXT_CHANGE#      | NUMBER         |          | SCN of the next archive log                                                                                                                            |
| FIRST_TIME        | DATE           |          | Date of the current archive log                                                                                                                        |
| NEXT_TIME         | DATE           |          | Date of the next archive log                                                                                                                           |
| FILE_NAME         | VARCHAR2 (513) |          | Name of the archive log                                                                                                                                |
| TIMESTAMP         | DATE           |          | Time when the archive log was registered                                                                                                               |
| DICT_BEGIN        | VARCHAR2 (3)   |          | Indicates whether the beginning of the dictionary build is in this archive log (YES) or not (NO)                                                       |
| DICT_END          | VARCHAR2 (3)   |          | Indicates whether the end of the dictionary build is in this archive log (YES) or not (NO)                                                             |

| Column     | Datatype     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------|--------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| APPLIED    | VARCHAR2 (8) |      | Indicates primarily whether a given foreign archived log has been applied fully by SQL Apply: <ul style="list-style-type: none"> <li>• YES - SQL Apply has fully applied the foreign archived log and no longer needs it</li> <li>• CURRENT - SQL Apply is currently applying changes contained in the foreign archived log</li> <li>• NO - SQL Apply has not started applying any changes contained in the foreign archived log</li> <li>• FETCHING - SQL Apply encountered a corruption while reading redo records from this foreign archived log, and is currently using the automatic gap resolution to refetch a new copy of the log from the primary database</li> <li>• CORRUPT - SQL Apply encountered a corruption while reading redo records from this foreign archived log, and refetching a new copy of the archived log did not resolve the problem. SQL Apply will not refetch a new copy of this archived log automatically, and will require user intervention to manually register a new copy of the foreign archived log.</li> </ul> |
| BLOCKS     | NUMBER       |      | Number of blocks in the log                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| BLOCK_SIZE | NUMBER       |      | Size of each block in the log                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

**Note:**

The SCN values in this view correlate to the SCN values shown in the `DBA_LOGSTDBY_PROGRESS` view.

**Note:**

In a CDB, this view shows data only when queried in the root.

## 6.187 DBA\_LOGSTDBY\_NOT\_UNIQUE

`DBA_LOGSTDBY_NOT_UNIQUE` displays all tables that have no primary and no non-null unique indexes.

Most of the tables displayed by this view are supported because their columns contain enough information to be maintained in a logical standby database. Some tables, however, cannot be supported because their columns do not contain the necessary information. Unsupported tables usually contain a column defined using an unsupported data type.

In a CDB, the data displayed pertains to the container in which the view is queried.

| Column | Datatype       | NULL | Description                         |
|--------|----------------|------|-------------------------------------|
| OWNER  | VARCHAR2 (128) |      | Schema name of the non-unique table |

| Column     | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABLE_NAME | VARCHAR2 (128) |      | Table name of the non-unique table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| BAD_COLUMN | VARCHAR2 (1)   |      | <ul style="list-style-type: none"><li>• <b>Y</b> - Table column is defined using an unbounded data type, such as <code>LONG</code> or <code>BLOB</code>. If two rows in the table match except in their LOB columns, then the table cannot be maintained properly. Log apply services will attempt to maintain these tables, but you must ensure the application does not allow uniqueness only in the unbounded columns.</li><li>• <b>N</b> - Enough column information is present to maintain the table in the logical standby database but the log transport services and log apply services would run more efficiently if you added a primary key. You should consider adding a disabled <code>RELY</code> constraint to these tables.</li></ul> |

## 6.188 DBA\_LOGSTDBY\_PARAMETERS

DBA\_LOGSTDBY\_PARAMETERS displays the list of parameters used by SQL apply for logical standby databases.

This view is for logical standby databases only.

| Column  | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------|-----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME    | VARCHAR2 (64)   |      | <p>Name of the parameter:</p> <ul style="list-style-type: none"> <li>• <code>MAX_SGA</code> - System global area (SGA) allocated for the log apply services cache (in megabytes)</li> <li>• <code>MAX_SERVERS</code> - Number of processes used by SQL Apply services</li> <li>• <code>PREPARE_SERVERS</code> - Controls the number of parallel execution servers used to prepare changes</li> <li>• <code>APPLY_SERVERS</code> - Controls the number of parallel execution servers used to apply changes</li> <li>• <code>MAX_EVENTS_RECORDED</code> - Number of events stored in the <code>DBA_LOGSTDBY_EVENTS</code> view</li> <li>• <code>RECORD_SKIP_ERRORS</code> - Indicates records that are skipped</li> <li>• <code>RECORD_SKIP_DDL</code> - Indicates skipped DDL statements</li> <li>• <code>RECORD_APPLIED_DDL</code> - Indicates applied DDL statements</li> <li>• <code>RECORD_UNSUPPORTED_OPERATIONS</code> - Shows whether SQL Apply will capture information about transactions that did unsupported operations at the primary database in the <code>DBA_LOGSTDBY_EVENTS</code> view</li> <li>• <code>EVENT_LOG_DEST</code> - Indicates where SQL Apply records the occurrence of an interesting event</li> <li>• <code>LOG_AUTO_DELETE</code> - Shows whether SQL Apply will automatically delete remote archived logs received from the primary database, once the contents of the logs are applied at the logical standby database.</li> <li>• <code>LOG_AUTO_DEL_RETENTION_TARGET</code> - How many minutes a remote archived log received from the primary database will be retained at the logical standby database, once the contents of the log are applied by SQL Apply.</li> <li>• <code>PRESERVE_COMMIT_ORDER</code> - Shows whether transactions are committed at the logical standby database in the same order that they were committed at the primary database</li> </ul> |
| VALUE   | VARCHAR2 (2000) |      | Value of the parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| UNIT    | VARCHAR2 (64)   |      | Unit of the value, if applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SETTING | VARCHAR2 (64)   |      | <p>Possible values are as follows:</p> <ul style="list-style-type: none"> <li>• <code>SYSTEM</code> - Parameter value was not explicitly set by the user. However, the user can change it with an appropriate call to the <code>APPLY_SET</code> procedure.</li> <li>• <code>USER</code> - Parameter value was explicitly set by the user</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| DYNAMIC | VARCHAR2 (64)   |      | <p><code>YES</code> if the parameter can be set dynamically (that is, without having to stop SQL Apply)</p> <p><code>NO</code> if setting the parameter requires that SQL Apply be stopped</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

**Note:**

In a CDB, this view shows data when queried in the root.

## 6.189 DBA\_LOGSTDBY\_PLSQL\_MAP

DBA\_LOGSTDBY\_PLSQL\_MAP shows the mapping between a supported user invokable (/external) PL/SQL procedure to the corresponding replicated internal PL/SQL procedure.

| Column             | Datatype       | NULL     | Description                                    |
|--------------------|----------------|----------|------------------------------------------------|
| OWNER              | VARCHAR2 (128) | NOT NULL | Owner name of the procedure                    |
| PKG_NAME           | VARCHAR2 (128) |          | Package name of the user invokable procedure   |
| PROC_NAME          | VARCHAR2 (128) |          | Procedure name of the user invokable procedure |
| INTERNAL_PKG_NAME  | VARCHAR2 (128) |          | Package name of the internal procedure         |
| INTERNAL_PROC_NAME | VARCHAR2 (128) |          | Procedure name of the internal procedure       |

**Note:**

In a CDB, this view shows data when queried in the root or a PDB.

## 6.190 DBA\_LOGSTDBY\_PLSQL\_SUPPORT

DBA\_LOGSTDBY\_PLSQL\_SUPPORT shows the PL/SQL packages that are only supported during rolling operations.

| Column        | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                       |
|---------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER         | VARCHAR2 (128) | NOT NULL | Owner name of the package                                                                                                                                                                                                                                                                                                                         |
| PKG_NAME      | VARCHAR2 (128) |          | Package name of the user invokable procedure                                                                                                                                                                                                                                                                                                      |
| SUPPORT_LEVEL | VARCHAR2 (12)  |          | Logical standby PL/SQL support level for the package: <ul style="list-style-type: none"> <li>• ALWAYS - PL/SQL replication is always supported for this package, whether it is called inside or outside of DBMS_ROLLING</li> <li>• DBMS_ROLLING: PL/SQL replication is supported only when the procedure is called inside DBMS_ROLLING</li> </ul> |

**Note:**

In a CDB, this view shows data when queried in the root or a PDB.

**See Also:**

*Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_ROLLING` package

## 6.191 DBA\_LOGSTDBY\_PROGRESS

`DBA_LOGSTDBY_PROGRESS` is deprecated. The information that was provided in this view is now provided in the `V$LOGSTDBY_PROGRESS` view.

**See Also:**

`"V$LOGSTDBY_PROGRESS"`

## 6.192 DBA\_LOGSTDBY\_SKIP

`DBA_LOGSTDBY_SKIP` displays the skip rules that are used by SQL Apply.

This view is for logical standby databases only.

| Column        | Datatype       | NULL | Description                                                                                                                                                                                                  |
|---------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ERROR         | VARCHAR2 (1)   |      | Indicates how the skip rule was created: <ul style="list-style-type: none"><li>Y - For rules from <code>DBMS_LOGSTDBY.SKIP_ERROR</code></li><li>N - For rules from <code>DBMS_LOGSTDBY.SKIP</code></li></ul> |
| STATEMENT_OPT | VARCHAR2 (128) |      | Specifies the type of statement that should be skipped                                                                                                                                                       |
| OWNER         | VARCHAR2 (128) |      | Name of the schema under which the skip option should be used                                                                                                                                                |
| NAME          | VARCHAR2 (261) |      | Name of the object that is being skipped                                                                                                                                                                     |
| USE_LIKE      | VARCHAR2 (1)   |      | Indicates whether the statement should use a SQL wildcard search when matching names (Y) or not (N)                                                                                                          |
| ESC           | VARCHAR2 (1)   |      | Escape character used when performing wildcard matches                                                                                                                                                       |
| PROC          | VARCHAR2 (392) |      | Name of a stored procedure that will be executed when processing the skip option                                                                                                                             |

**See Also:**

- Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_LOGSTDBY.SKIP_ERROR` procedure
- Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_LOGSTDBY.SKIP` procedure

## 6.193 DBA\_LOGSTDBY\_SKIP\_TRANSACTION

DBA\_LOGSTDBY\_SKIP\_TRANSACTION displays the skip settings chosen. This view is for logical standby databases only.

| Column   | Datatype       | NULL | Description                        |
|----------|----------------|------|------------------------------------|
| XIDUSN   | NUMBER         |      | Transaction ID undo segment number |
| XIDSLT   | NUMBER         |      | Transaction ID slot number         |
| XIDSQN   | NUMBER         |      | Transaction ID sequence number     |
| CON_NAME | VARCHAR2 (384) |      | Container name                     |

## 6.194 DBA\_LOGSTDBY\_SUPPORT\_MODE

DBA\_LOGSTDBY\_SUPPORT\_MODE displays information about whether tables in the database are supported for logical standby.

The query results for this view depend on whether the database is currently undergoing a manual rolling upgrade performed using transient logical standby databases. If the database *is* undergoing such an upgrade, then this view displays information about whether tables in the database are supported for transient logical standby. If the database *is not* undergoing such an upgrade, then this view displays information about whether tables in the database are supported for logical standby.

| Column       | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER        | VARCHAR2 (128) |      | Table owner                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TABLE_NAME   | VARCHAR2 (128) |      | Table name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SUPPORT_MODE | VARCHAR2 (11)  |      | <p>If the database is currently undergoing a manual rolling upgrade performed using transient logical standby databases, then this column indicates whether the table is supported for transient logical standby. Otherwise, this column indicates whether the table is supported for logical standby.</p> <p>Possible values:</p> <ul style="list-style-type: none"><li>• <b>SUPPORTED</b> - The table is fully supported</li><li>• <b>INTERNAL</b> - The table is not supported because it contains data that should not be replicated. Such tables include mapping tables for index-organized tables, storage tables for nested tables, materialized view logs, secondary objects associated with domain indexes, and temporary tables.</li><li>• <b>UNSUPPORTED</b> - The table is not supported because it contains a data type that is not supported or uses a feature that is not supported</li></ul> |



| Column      | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------|-----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EXPLANATION | VARCHAR2 (4000) |      | Reason the table is not fully supported for transient logical standby<br>This column is populated only when all of the following conditions are met: <ul style="list-style-type: none"> <li>The database is currently undergoing a manual rolling upgrade using transient logical standby databases</li> <li>The value of the <code>COMPATIBLE</code> initialization parameter is 20.0 or higher</li> <li>The value of the <code>SUPPORT_MODE</code> column is <code>INTERNAL</code> or <code>UNSUPPORTED</code></li> </ul> |

## 6.195 DBA\_LOGSTDBY\_UNSUPPORTED

DBA\_LOGSTDBY\_UNSUPPORTED displays the schemas, tables, and columns in those tables that contain data types that are unsupported by logical standby.

The query results for this view depend on whether the database is currently undergoing a manual rolling upgrade performed using transient logical standby databases. If the database is undergoing such an upgrade, then this view displays information about tables in the database that are unsupported for transient logical standby. If the database is *not* undergoing such an upgrade, then this view displays information about tables in the database are unsupported for logical standby.

| Column      | Datatype        | NULL | Description                                                                                                                                                                                                                                                                               |
|-------------|-----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER       | VARCHAR2 (128)  |      | Owner of the unsupported table                                                                                                                                                                                                                                                            |
| TABLE_NAME  | VARCHAR2 (128)  |      | Name of the unsupported table                                                                                                                                                                                                                                                             |
| COLUMN_NAME | VARCHAR2 (128)  |      | Name of the unsupported column                                                                                                                                                                                                                                                            |
| ATTRIBUTES  | VARCHAR2 (4000) |      | If the database is currently undergoing a manual rolling upgrade performed using transient logical standby databases and the value of the <code>COMPATIBLE</code> initialization parameter is 20.0 or higher, then this column displays the reason the table is unsupported by SQL Apply. |
| DATA_TYPE   | VARCHAR2 (106)  |      | Data type of the unsupported column                                                                                                                                                                                                                                                       |



### Note:

When the value of the `COMPATIBLE` initialization parameter is 20.0 or higher, this view displays all columns in unsupported tables. Otherwise, this view displays only the unsupported columns in unsupported tables.

**Note:**

A rolling upgrade performed using the `DBMS_ROLLING` PL/SQL package supports more object types than a manual rolling upgrade performed using transient logical standby databases.

**See Also:**

- "[DBA\\_ROLLING\\_UNSUPPORTED](#)" for more information about determining unsupported data types for a rolling upgrade using the `DBMS_ROLLING` package
- *Oracle Data Guard Concepts and Administration* for more information about rolling operations
- *Oracle Data Guard Concepts and Administration* for more information about unsupported tables for rolling upgrade operations
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_ROLLING` package

## 6.196 DBA\_LOGSTDBY\_UNSUPPORTED\_TABLE

`DBA_LOGSTDBY_UNSUPPORTED_TABLE` displays the data tables that are unsupported by logical standby.

The query results for this view depend on whether the database is currently undergoing a manual rolling upgrade performed using transient logical standby databases. If the database *is* undergoing such an upgrade, then this view displays information about tables in the database that are unsupported for transient logical standby. If the database *is not* undergoing such an upgrade, then this view displays information about tables in the database are unsupported for logical standby.

The data displayed pertains to the container in which the view is queried.

| Column      | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------|-----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER       | VARCHAR2 (128)  |      | Owner of the unsupported table                                                                                                                                                                                                                                                                                                                                                                                                             |
| TABLE_NAME  | VARCHAR2 (128)  |      | Name of the unsupported table                                                                                                                                                                                                                                                                                                                                                                                                              |
| EXPLANATION | VARCHAR2 (4000) |      | If the database is currently undergoing a manual rolling upgrade performed using transient logical standby databases, then this column displays the reason the table is unsupported for transient logical standby. Otherwise, this column displays the reason the table is unsupported for logical standby.<br><br>This column is populated only when the value of the <code>COMPATIBLE</code> initialization parameter is 20.0 or higher. |

## 6.197 DBA\_MEASURE\_FOLDER\_CONTENTS

DBA\_MEASURE\_FOLDER\_CONTENTS describes the contents of all OLAP measure folders in the database. Its columns are the same as those in ALL\_MEASURE\_FOLDER\_CONTENTS.



**See Also:**

["ALL\\_MEASURE\\_FOLDER\\_CONTENTS"](#)

## 6.198 DBA\_MEASURE\_FOLDER\_SUBFOLDERS

DBA\_MEASURE\_FOLDER\_SUBFOLDERS describes the OLAP measure folders contained within the database OLAP measure folders. Its columns are the same as those in ALL\_MEASURE\_FOLDER\_SUBFOLDERS.



**See Also:**

["ALL\\_MEASURE\\_FOLDER\\_SUBFOLDERS"](#)

## 6.199 DBA\_MEASURE\_FOLDERS

DBA\_MEASURE\_FOLDERS describes all OLAP measure folders in the database. Its columns are the same as those in ALL\_MEASURE\_FOLDERS.



**See Also:**

["ALL\\_MEASURE\\_FOLDERS"](#)

## 6.200 DBA\_METADATA\_PROPERTIES

DBA\_METADATA\_PROPERTIES describes OLAP metadata properties in the database. Its columns are the same as those in ALL\_METADATA\_PROPERTIES.



**See Also:**

["ALL\\_METADATA\\_PROPERTIES"](#)

## 6.201 DBA\_METHOD\_PARAMS

DBA\_METHOD\_PARAMS describes the method parameters of all object types in the database. Its columns are the same as those in ALL\_METHOD\_PARAMS.



**See Also:**

["ALL\\_METHOD\\_PARAMS"](#)

## 6.202 DBA\_METHOD\_RESULTS

DBA\_METHOD\_RESULTS describes the method results of all object types in the database. Its columns are the same as those in ALL\_METHOD\_RESULTS.



**See Also:**

["ALL\\_METHOD\\_RESULTS"](#)

## 6.203 DBA\_MINING\_MODEL\_ATTRIBUTES

DBA\_MINING\_MODEL\_ATTRIBUTES describes all machine learning model attributes in the database. Its columns are the same as those in ALL\_MINING\_MODEL\_ATTRIBUTES.



**See Also:**

["ALL\\_MINING\\_MODEL\\_ATTRIBUTES"](#)

## 6.204 DBA\_MINING\_MODEL\_PARTITIONS

DBA\_MINING\_MODEL\_PARTITIONS describes all the model partitions accessible to the system. Its columns are the same as those in ALL\_MINING\_MODEL\_PARTITIONS.



**See Also:**

["ALL\\_MINING\\_MODEL\\_PARTITIONS"](#)

## 6.205 DBA\_MINING\_MODEL\_SETTINGS

DBA\_MINING\_MODEL\_SETTINGS describes all machine learning model settings in the database. Its columns are the same as those in ALL\_MINING\_MODEL\_SETTINGS.



**See Also:**

["ALL\\_MINING\\_MODEL\\_SETTINGS"](#)

## 6.206 DBA\_MINING\_MODEL\_TABLES

DBA\_MINING\_MODEL\_TABLES describes the tables that contain metadata about the machine learning models in the database.

Machine learning models are schema objects created by Oracle Machine Learning for SQL (OML4SQL).

Model tables reside in the schema of the machine learning model owner. The metadata stored in the tables is controlled by OML4SQL APIs. The tables are read-only. They should not be modified by users.

| Column     | Datatype       | NULL     | Description                              |
|------------|----------------|----------|------------------------------------------|
| OWNER      | VARCHAR2 (128) | NOT NULL | Owner of the machine learning model      |
| MODEL_NAME | VARCHAR2 (128) | NOT NULL | Name of the machine learning model       |
| TABLE_NAME | VARCHAR2 (128) | NOT NULL | Name of the table                        |
| TABLE_TYPE | VARCHAR2 (21)  |          | The type of metadata stored in the table |

## 6.207 DBA\_MINING\_MODEL\_VIEWS

DBA\_MINING\_MODEL\_VIEWS describes all model views in the database. Its columns are the same as those in ALL\_MINING\_MODEL\_VIEWS.



**See Also:**

["ALL\\_MINING\\_MODEL\\_VIEWS"](#)

## 6.208 DBA\_MINING\_MODEL\_XFORMS

DBA\_MINING\_MODEL\_XFORMS describes the user-specified transformations embedded in all models accessible in the system. Its columns are the same as those in ALL\_MINING\_MODEL\_XFORMS.



### See Also:

"ALL\_MINING\_MODEL\_XFORMS"

## 6.209 DBA\_MINING\_MODELS

DBA\_MINING\_MODELS describes all machine learning models in the database. Its columns are the same as those in ALL\_MINING\_MODELS.



### See Also:

"ALL\_MINING\_MODELS"

## 6.210 DBA\_MLE\_ENV\_IMPORTS

DBA\_MLE\_ENV\_IMPORTS describes import name to module mappings in all Oracle Database Multilingual Engine (MLE) environments in the database. Its columns are the same as those in ALL\_MLE\_ENV\_IMPORTS.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

"ALL\_MLE\_ENV\_IMPORTS"

## 6.211 DBA\_MLE\_ENVS

DBA\_MLE\_ENVS describes all Oracle Database Multilingual Engine (MLE) environments in the database. Its columns are the same as those in ALL\_MLE\_ENVS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_MLE\_ENVS"

## 6.212 DBA\_MLE\_MODULES

DBA\_MLE\_MODULES describes all Oracle Database Multilingual Engine (MLE) modules in the database. Its columns are the same as those in ALL\_MLE\_MODULES.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_MLE\_MODULES"

## 6.213 DBA\_MLE\_PROCEDURES

DBA\_MLE\_PROCEDURES describes all Oracle Database Multilingual Engine (MLE) functions and procedures in the database. Its columns are the same as those in ALL\_MLE\_PROCEDURES.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_MLE\\_PROCEDURES"](#)

## 6.214 DBA\_MVIEW\_AGGREGATES

DBA\_MVIEW\_AGGREGATES describes the grouping functions (aggregated measures) that appear in the SELECT list of all aggregated materialized view in the database. Its columns are the same as those in ALL\_MVIEW\_AGGREGATES.

**See Also:**

["ALL\\_MVIEW\\_AGGREGATES"](#)

## 6.215 DBA\_MVIEW\_ANALYSIS

DBA\_MVIEW\_ANALYSIS describes all materialized views in the database that potentially support query rewrite and that provide additional information for analysis by applications. Its columns are the same as those in ALL\_MVIEW\_ANALYSIS.

**Note:**

This view excludes materialized views that reference remote tables or that include references to non-static values such as SYSDATE or USER. This view also excludes materialized views that were created as snapshots before Oracle8i and that were never altered to enable query rewrite.

**See Also:**

["ALL\\_MVIEW\\_ANALYSIS"](#)

## 6.216 DBA\_MVIEW\_COMMENTS

DBA\_MVIEW\_COMMENTS displays comments on all materialized views in the database. Its columns are the same as those in ALL\_MVIEW\_COMMENTS.

**See Also:**

["ALL\\_MVIEW\\_COMMENTS"](#)



## 6.217 DBA\_MVIEW\_DETAIL\_LOGICAL\_PARTITION

DBA\_MVIEW\_DETAIL\_LOGICAL\_PARTITION displays freshness information, with respect to logical partition change tracking (LPCT) detail partitions, for all materialized views in the database. Its columns are the same as those in ALL\_MVIEW\_DETAIL\_LOGICAL\_PARTITION.



### See Also:

"ALL\_MVIEW\_DETAIL\_LOGICAL\_PARTITION"

## 6.218 DBA\_MVIEW\_DETAIL\_PARTITION

DBA\_MVIEW\_DETAIL\_PARTITION displays freshness information, with respect to partition change tracking (PCT) detail partitions, for all materialized views in the database. Its columns are the same as those in ALL\_MVIEW\_DETAIL\_PARTITION.



### See Also:

"ALL\_MVIEW\_DETAIL\_PARTITION".

## 6.219 DBA\_MVIEW\_DETAIL\_RELATIONS

DBA\_MVIEW\_DETAIL\_RELATIONS represents the named detail relations that are either in the FROM list of a materialized view, or that are indirectly referenced through views in the FROM list. Its columns are the same as those in ALL\_MVIEW\_DETAIL\_RELATIONS.



### See Also:

"ALL\_MVIEW\_DETAIL\_RELATIONS"

## 6.220 DBA\_MVIEW\_DETAIL\_SUBPARTITION

DBA\_MVIEW\_DETAIL\_SUBPARTITION displays freshness information, with respect to partition change tracking (PCT) detail subpartitions, for all materialized views in the database. Its columns are the same as those in ALL\_MVIEW\_DETAIL\_SUBPARTITION.



### See Also:

"ALL\_MVIEW\_DETAIL\_SUBPARTITION"

## 6.221 DBA\_MVIEW\_JOINS

DBA\_MVIEW\_JOINS describes a join between two columns in the WHERE clause of a subquery that defines a materialized view. Its columns are the same as those in ALL\_MVIEW\_JOINS.



**See Also:**

"ALL\_MVIEW\_JOINS"

## 6.222 DBA\_MVIEW\_KEYS

DBA\_MVIEW\_KEYS describes the columns or expressions in the SELECT list upon which materialized views in the database are based. Its columns are the same as those in ALL\_MVIEW\_KEYS.



**See Also:**

"ALL\_MVIEW\_KEYS"

## 6.223 DBA\_MVIEW\_LOG\_FILTER\_COLS

DBA\_MVIEW\_LOG\_FILTER\_COLS displays all columns (excluding primary key columns) being logged in the materialized view logs.

| Column      | Datatype       | NULL | Description                            |
|-------------|----------------|------|----------------------------------------|
| OWNER       | VARCHAR2 (128) |      | Owner of the master table being logged |
| NAME        | VARCHAR2 (128) |      | Name of the master table being logged  |
| COLUMN_NAME | VARCHAR2 (128) |      | Column being logged                    |

## 6.224 DBA\_MVIEW\_LOGS

DBA\_MVIEW\_LOGS describes all materialized view logs in the database. Its columns are the same as those in ALL\_MVIEW\_LOGS.



**See Also:**

"ALL\_MVIEW\_LOGS"

## 6.225 DBA\_MVIEW\_REFRESH\_TIMES

DBA\_MVIEW\_REFRESH\_TIMES describes refresh times of all materialized views in the database. Its columns are the same as those in ALL\_MVIEW\_REFRESH\_TIMES.



**See Also:**

"ALL\_MVIEW\_REFRESH\_TIMES"

## 6.226 DBA\_MVIEWS

DBA\_MVIEWS describes all materialized views in the database. Its columns are the same as those in ALL\_MVIEWS.



**See Also:**

"ALL\_MVIEWS"

## 6.227 DBA\_MVREF\_CHANGE\_STATS

DBA\_MVREF\_CHANGE\_STATS displays the change data load information on the base tables associated with a refresh run for all the materialized views for the database.

### Related View

USER\_MVREF\_CHANGE\_STATS displays the change data load information on the master tables associated with a refresh run for all the materialized views in the database that are accessible to the current user.

| Column       | Datatype       | NULL     | Description                                                                                                                |
|--------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------|
| TBL_OWNER    | VARCHAR2 (128) | NOT NULL | Owner of the master table for the materialized view                                                                        |
| TBL_NAME     | VARCHAR2 (128) | NOT NULL | Name of the master table for the materialized view                                                                         |
| MV_OWNER     | VARCHAR2 (128) | NOT NULL | Owner of the materialized view                                                                                             |
| MV_NAME      | VARCHAR2 (128) | NOT NULL | Name of the materialized view                                                                                              |
| REFRESH_ID   | NUMBER         | NOT NULL | The refresh ID of the refresh run                                                                                          |
| NUM_ROWS_INS | NUMBER         |          | The number of inserts in the materialized view log of the table (applicable only if the table has a materialized view log) |
| NUM_ROWS_UPD | NUMBER         |          | The number of updates in the materialized view log of the table (applicable only if the table has a materialized view log) |
| NUM_ROWS_DEL | NUMBER         |          | The number of deletes in the materialized view log of the table (applicable only if the table has a materialized view log) |

| Column          | Datatype       | NULL | Description                                                                                                                                                                                    |
|-----------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM_ROWS_DL_INS | NUMBER         |      | The number of direct load inserts on the table                                                                                                                                                 |
| PMOPS_OCCURRED  | CHAR(1)        |      | Indicates whether a partition-maintenance operation (PMOP) occurred. Possible values: <ul style="list-style-type: none"> <li>Y</li> <li>N</li> <li>NULL: Indicates an unknown value</li> </ul> |
| PMOP_DETAILS    | VARCHAR2(4000) |      | Details of the PMOPs in the following format: <ul style="list-style-type: none"> <li>TRUNCATE (low_bound, high_bound)</li> <li>EXECHANGE (low_bound, high_bound)</li> </ul>                    |
| NUM_ROWS        | NUMBER         |      | The number of rows in the table at the start of the refresh operation                                                                                                                          |



**See Also:**

"USER\_MVREF\_CHANGE\_STATS"

## 6.228 DBA\_MVREF\_RUN\_STATS

DBA\_MVREF\_RUN\_STATS has information about each refresh run for all the materialized views for the database, with each run being identified by the REFRESH\_ID. The information includes timing statistics related to the run and the parameters specified in that run.

### Related View

USER\_MVREF\_RUN\_STATS has information about each refresh run for the materialized views accessible for the current database user, with each run being identified by the REFRESH\_ID. The information includes timing statistics related to the run and the parameters specified in that run. This view does not display the RUN\_OWNER column.

| Column               | Datatype       | NULL     | Description                                                                                                   |
|----------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------|
| RUN_OWNER            | VARCHAR2(128)  | NOT NULL | Owner of the refresh operation (the user who launched the operation)                                          |
| REFRESH_ID           | NUMBER         | NOT NULL | The refresh ID of the refresh run                                                                             |
| NUM_MVS              | NUMBER         | NOT NULL | The number of materialized views being refreshed in the run                                                   |
| MVIEWS               | VARCHAR2(4000) |          | Shows the list of comma separated parameters specified in the API for the materialized view refresh operation |
| BASE_TABLES          | VARCHAR2(4000) |          | For internal use only                                                                                         |
| METHOD               | VARCHAR2(4000) |          | The METHOD parameter specified by the API                                                                     |
| ROLLBACK_SEG         | VARCHAR2(4000) |          | The ROLLBACK_SEG parameter specified by the API                                                               |
| PUSH_DEFERRED_RPC    | CHAR(1)        |          | The PUSH_DEFERRED_RPC parameter specified by the API                                                          |
| REFRESH_AFTER_ERRORS | CHAR(1)        |          | The REFRESH_AFTER_ERRORS parameter specified by the API                                                       |

| Column                   | Datatype     | NULL | Description                                                                                                                                                                                                              |
|--------------------------|--------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PURGE_OPTION             | NUMBER       |      | The PURGE_OPTION parameter specified by the API                                                                                                                                                                          |
| PARALLELISM              | NUMBER       |      | The PARALLELISM parameter specified by the API                                                                                                                                                                           |
| HEAP_SIZE                | NUMBER       |      | The HEAP_SIZE parameter specified by the API                                                                                                                                                                             |
| ATOMIC_REFRESH           | CHAR(1)      |      | The ATOMIC_REFRESH parameter specified by the API                                                                                                                                                                        |
| NESTED                   | CHAR(1)      |      | The NESTED parameter specified by the API                                                                                                                                                                                |
| OUT_OF_PLACE             | CHAR(1)      |      | The OUT_OF_PLACE parameter specified by the API                                                                                                                                                                          |
| NUMBER_OF_FAILURES       | NUMBER       |      | The number of failures that occurred in processing the API                                                                                                                                                               |
| START_TIME               | TIMESTAMP(6) |      | Start time of the refresh run                                                                                                                                                                                            |
| END_TIME                 | TIMESTAMP(6) |      | End time of the refresh run                                                                                                                                                                                              |
| ELAPSED_TIME             | NUMBER       |      | The length of time for the refresh run, in seconds                                                                                                                                                                       |
| LOG_SETUP_TIME           | NUMBER       |      | Log setup time (in seconds) for the materialized view for a non-atomic refresh; NULL for an atomic refresh                                                                                                               |
| LOG_PURGE_TIME           | NUMBER       |      | Log purge time (in seconds) for the materialized view in the case of atomic refresh; NULL in the case of non-atomic refresh                                                                                              |
| COMPLETE_STATS_AVAILABLE | CHAR(1)      |      | Indicates whether all the complete refresh statistics are available for this run: <ul style="list-style-type: none"> <li>Y: All the statistics are available</li> <li>N: All the statistics are not available</li> </ul> |



#### See Also:

"USER\_MVREF\_RUN\_STATS"

## 6.229 DBA\_MVREF\_STATS

DBA\_MVREF\_STATS shows the REFRESH\_ID associated with each refresh run of each materialized view for the database. It also provides some basic timing statistics related to that materialized view's refresh in that run.

#### Related View

USER\_MVREF\_STATS shows the REFRESH\_ID associated with each refresh run of each materialized view for the database that is accessible to the current user. It also provides some basic timing statistics related to that materialized view's refresh in that run. This view does not display the MV\_OWNER column.

| Column     | Datatype      | NULL     | Description                       |
|------------|---------------|----------|-----------------------------------|
| MV_OWNER   | VARCHAR2(128) | NOT NULL | Owner of the materialized view    |
| MV_NAME    | VARCHAR2(128) | NOT NULL | Name of the materialized view     |
| REFRESH_ID | NUMBER        | NOT NULL | The refresh ID of the refresh run |

| Column                | Datatype        | NULL | Description                                                                                                                                                                                                                                     |
|-----------------------|-----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REFRESH_METHOD        | VARCHAR2 (30)   |      | The refresh method used to refresh the materialized view: <ul style="list-style-type: none"> <li>• FAST</li> <li>• PCT</li> <li>• COMPLETE</li> <li>• OUT OF PLACE FAST</li> <li>• OUT OF PLACE PCT</li> <li>• OUT OF PLACE COMPLETE</li> </ul> |
| REFRESH_OPTIMIZATIONS | VARCHAR2 (4000) |      | The refresh optimization, for example, a null refresh, or a primary key/foreign key that is applied during refresh of the materialize view                                                                                                      |
| ADDITIONAL_EXECUTIONS | VARCHAR2 (4000) |      | The additional executions, for example, an index rebuild, or log operations involved during refresh of the materialized view                                                                                                                    |
| START_TIME            | TIMESTAMP (6)   |      | Start time of the refresh run                                                                                                                                                                                                                   |
| END_TIME              | TIMESTAMP (6)   |      | End time of the refresh run                                                                                                                                                                                                                     |
| ELAPSED_TIME          | NUMBER          |      | The length of time for the refresh run, in seconds                                                                                                                                                                                              |
| LOG_SETUP_TIME        | NUMBER          |      | Log setup time (in seconds) for the materialized view for a non-atomic refresh; <b>NULL</b> for an atomic refresh                                                                                                                               |
| LOG_PURGE_TIME        | NUMBER          |      | Log purge time (in seconds) for the materialized view in the case of atomic refresh; <b>NULL</b> in the case of non-atomic refresh                                                                                                              |
| INITIAL_NUM_ROWS      | NUMBER          |      | Initial number of rows in the materialized view (at the start of the refresh)                                                                                                                                                                   |
| FINAL_NUM_ROWS        | NUMBER          |      | Final number of rows in the materialized view (at the end of the refresh)                                                                                                                                                                       |



**See Also:**

"USER\_MVREF\_STATS"

## 6.230 DBA\_MVREF\_STATS\_PARAMS

DBA\_MVREF\_STATS\_PARAMS displays the refresh statistics properties associated with each materialized view. These properties can be modified with the DBMS\_MVIEW\_STATS.SET\_MVREF\_STATS\_PARAMS procedure.

### Related View

USER\_MVREF\_STATS\_PARAMS displays the refresh statistics properties associated with each materialized view accessible to the current user. These properties can be modified with the DBMS\_MVIEW\_STATS.SET\_MVREF\_STATS\_PARAMS procedure.

| Column   | Datatype       | NULL     | Description                    |
|----------|----------------|----------|--------------------------------|
| MV_OWNER | VARCHAR2 (128) | NOT NULL | Owner of the materialized view |
| MV_NAME  | VARCHAR2 (128) | NOT NULL | Name of the materialized view  |

| Column           | Datatype     | NULL | Description                                    |
|------------------|--------------|------|------------------------------------------------|
| COLLECTION_LEVEL | VARCHAR2 (8) |      | The collection level for the materialized view |
| RETENTION_PERIOD | NUMBER       |      | The retention period for the materialize view  |

**See Also:**["USER\\_MVREF\\_STATS\\_PARAMS"](#)

## 6.231 DBA\_MVREF\_STATS\_SYS\_DEFAULTS

DBA\_MVREF\_STATS\_SYS\_DEFAULTS displays the system-wide defaults for the refresh history statistics properties for materialized views. These values can be altered with the SET\_SYSTEM\_DEFAULTS procedure by a database administrator.

This view contains exactly two rows corresponding to the collection-level and retention-period properties; their initial values are TYPICAL and 31 respectively.

### Related View

USER\_MVREF\_STATS\_SYS\_DEFAULTS displays the system-wide defaults for the refresh history statistics properties for materialized views accessible to the current user. These values can be altered with the SET\_SYSTEM\_DEFAULTS procedure by a database administrator.

| Column         | Datatype      | NULL | Description                                                                                                                      |
|----------------|---------------|------|----------------------------------------------------------------------------------------------------------------------------------|
| PARAMETER_NAME | CHAR (16)     |      | Value of the parameter_name parameter: <ul style="list-style-type: none"><li>COLLECTION_LEVEL</li><li>RETENTION_PERIOD</li></ul> |
| VALUE          | VARCHAR2 (40) |      | The system-wide default value for the parameter                                                                                  |

**See Also:**["USER\\_MVREF\\_STATS\\_SYS\\_DEFAULTS"](#)

## 6.232 DBA\_MVREF\_STMT\_STATS

DBA\_MVREF\_STMT\_STATS shows information associated with each refresh statement of a materialized view in a refresh run.

### Related View

USER\_MVREF\_STMT\_STATS shows information associated with each refresh statement of a materialized view accessible to the current user in a refresh run.

| Column         | Datatype                                       | NULL     | Description                                                                                                                                                       |
|----------------|------------------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MV_OWNER       | VARCHAR2 (128)                                 | NOT NULL | Owner of the materialized view                                                                                                                                    |
| MV_NAME        | VARCHAR2 (128)                                 | NOT NULL | Name of the materialized view                                                                                                                                     |
| REFRESH_ID     | NUMBER                                         | NOT NULL | The refresh ID of the refresh run                                                                                                                                 |
| STEP           | NUMBER                                         | NOT NULL | A number indicating the step in the refresh process in which the statement is executed for the materialized view. Steps are numbered consecutively starting at 1. |
| SQLID          | VARCHAR2 (14)                                  | NOT NULL | The SQL ID of the statement                                                                                                                                       |
| STMT           | CLOB                                           | NOT NULL | The text of the SQL statement                                                                                                                                     |
| EXECUTION_TIME | NUMBER                                         | NOT NULL | The time it took to execute the statement (in seconds)                                                                                                            |
| EXECUTION_PLAN | XMLTYPE STORAGE<br>NOT TRANSPORTABLE<br>BINARY |          | For internal use only                                                                                                                                             |

**See Also:**["USER\\_MVREF\\_STMT\\_STATS"](#)

## 6.233 DBA\_NESTED\_TABLE\_COLS

DBA\_NESTED\_TABLE\_COLS describes the columns of all nested tables in the database. Its columns are the same as those in ALL\_NESTED\_TABLE\_COLS.

To gather statistics for this view, use the DBMS\_STATS package.

**See Also:**["ALL\\_NESTED\\_TABLE\\_COLS"](#)

## 6.234 DBA\_NESTED\_TABLES

DBA\_NESTED\_TABLES describes all nested tables contained in all tables in the database. Its columns are the same as those in ALL\_NESTED\_TABLES.

**See Also:**["ALL\\_NESTED\\_TABLES"](#)



## 6.235 DBA\_NETWORK\_ACL\_PRIVILEGES

DBA\_NETWORK\_ACL\_PRIVILEGES describes the network privileges defined in all access control lists that are currently assigned to network hosts.



### Note:

This DBA\_NETWORK\_ACL\_PRIVILEGES view is deprecated in Oracle Database 12c Release 1 (12.1). Oracle recommends that you use the DBA\_HOST\_ACES view, instead.

| Column     | Datatype        | NULL     | Description                                                                                                  |
|------------|-----------------|----------|--------------------------------------------------------------------------------------------------------------|
| ACL        | VARCHAR2 (4000) |          | Path of the access control list                                                                              |
| ACLID      | RAW (8)         | NOT NULL | Object ID of the access control list                                                                         |
| PRINCIPAL  | VARCHAR2 (128)  |          | Principal (database user or role) whom the privilege is granted to or denied from                            |
| PRIVILEGE  | VARCHAR2 (128)  |          | Network privilege                                                                                            |
| IS_GRANT   | VARCHAR2 (5)    |          | Indicates whether the privilege is granted ( <i>true</i> ) or denied ( <i>false</i> )                        |
| INVERT     | VARCHAR2 (5)    |          | Indicates whether the access control entry contains invert principal ( <i>true</i> ) or not ( <i>false</i> ) |
| START_DATE | TIMESTAMP (6)   |          | Start date of the access control entry                                                                       |
| END_DATE   | TIMESTAMP (6)   |          | End date of the access control entry                                                                         |
| ACL_OWNER  | VARCHAR2 (128)  |          | Owner of the access control list                                                                             |



### See Also:

"DBA\_HOST\_ACES"

## 6.236 DBA\_NETWORK\_ACLS

DBA\_NETWORK\_ACLS describes the access control list assignments to network hosts.



### Note:

This DBA\_NETWORK\_ACLS view is deprecated in Oracle Database 12c Release 1 (12.1). Oracle recommends that you use the DBA\_HOST\_ACLS view, instead.

| Column     | Datatype        | NULL     | Description                   |
|------------|-----------------|----------|-------------------------------|
| HOST       | VARCHAR2 (1000) | NOT NULL | Network host                  |
| LOWER_PORT | NUMBER (5)      |          | Lower bound of the port range |

| Column     | Datatype        | NULL | Description                          |
|------------|-----------------|------|--------------------------------------|
| UPPER_PORT | NUMBER (5)      |      | Upper bound of the port range        |
| ACL        | VARCHAR2 (4000) |      | Path of the access control list      |
| ACLID      | RAW (8)         |      | Object ID of the access control list |
| ACL_OWNER  | VARCHAR2 (128)  |      | Owner of the access control list     |



#### See Also:

"DBA\_HOST\_ACLS"

## 6.237 DBA\_OBJ\_AUDIT\_OPTS

DBA\_OBJ\_AUDIT\_OPTS describes auditing options on all objects.



#### Note:

This view is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored and are viewable with this view. See *Oracle Database Security Guide* for more information about how this desupport works.

#### Related View

USER\_OBJ\_AUDIT\_OPTS describes auditing options on all objects owned by the current user. This view does not display the OWNER column.

| Column      | Datatype       | NULL | Description                                         |
|-------------|----------------|------|-----------------------------------------------------|
| OWNER       | VARCHAR2 (128) |      | Owner of the object                                 |
| OBJECT_NAME | VARCHAR2 (128) |      | Name of the object                                  |
| OBJECT_TYPE | VARCHAR2 (23)  |      | Type of the object                                  |
| ALT         | VARCHAR2 (3)   |      | Auditing ALTER WHENEVER SUCCESSFUL / UNSUCCESSFUL   |
| AUD         | VARCHAR2 (3)   |      | Auditing AUDIT WHENEVER SUCCESSFUL / UNSUCCESSFUL   |
| COM         | VARCHAR2 (3)   |      | Auditing COMMENT WHENEVER SUCCESSFUL / UNSUCCESSFUL |
| DEL         | VARCHAR2 (3)   |      | Auditing DELETE WHENEVER SUCCESSFUL / UNSUCCESSFUL  |
| GRA         | VARCHAR2 (3)   |      | Auditing GRANT WHENEVER SUCCESSFUL / UNSUCCESSFUL   |
| IND         | VARCHAR2 (3)   |      | Auditing INDEX WHENEVER SUCCESSFUL / UNSUCCESSFUL   |
| INS         | VARCHAR2 (3)   |      | Auditing INSERT WHENEVER SUCCESSFUL / UNSUCCESSFUL  |
| LOC         | VARCHAR2 (3)   |      | Auditing LOCK WHENEVER SUCCESSFUL / UNSUCCESSFUL    |

| Column | Datatype     | NULL | Description                                                  |
|--------|--------------|------|--------------------------------------------------------------|
| REN    | VARCHAR2 (3) |      | <b>Auditing</b> RENAME WHENEVER SUCCESSFUL / UNSUCCESSFUL    |
| SEL    | VARCHAR2 (3) |      | <b>Auditing</b> SELECT WHENEVER SUCCESSFUL / UNSUCCESSFUL    |
| UPD    | VARCHAR2 (3) |      | <b>Auditing</b> UPDATE WHENEVER SUCCESSFUL / UNSUCCESSFUL    |
| EXE    | VARCHAR2 (3) |      | <b>Auditing</b> EXECUTE WHENEVER SUCCESSFUL / UNSUCCESSFUL   |
| CRE    | VARCHAR2 (3) |      | <b>Auditing</b> CREATE WHENEVER SUCCESSFUL / UNSUCCESSFUL    |
| REA    | VARCHAR2 (3) |      | <b>Auditing</b> READ WHENEVER SUCCESSFUL / UNSUCCESSFUL      |
| WRI    | VARCHAR2 (3) |      | <b>Auditing</b> WRITE WHENEVER SUCCESSFUL / UNSUCCESSFUL     |
| FBK    | VARCHAR2 (3) |      | <b>Auditing</b> FLASHBACK WHENEVER SUCCESSFUL / UNSUCCESSFUL |

**See Also:**

- ["USER\\_OBJ\\_AUDIT\\_OPTS"](#)
- *Oracle Database SQL Language Reference* for more information about the SQL `AUDIT` statement for unified auditing
- *Oracle Database SQL Language Reference* for more information about the SQL `AUDIT` statement for traditional auditing
- *Oracle Database Security Guide* to learn how to find information about audited activities

## 6.238 DBA\_OBJ\_COLATTRS

DBA\_OBJ\_COLATTRS describes object columns and attributes contained in all tables in the database. Its columns are the same as those in ALL\_OBJ\_COLATTRS.

**See Also:**

- ["ALL\\_OBJ\\_COLATTRS"](#)

## 6.239 DBA\_OBJECT\_SIZE

DBA\_OBJECT\_SIZE lists the sizes, in bytes, of various PL/SQL objects.

**Related View**

- `USER_OBJECT_SIZE` lists the size of PL/SQL objects owned by the current user.

| Column      | Datatype       | NULL     | Description                                                                                                                                               |
|-------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER       | VARCHAR2 (128) | NOT NULL | Owner of the object                                                                                                                                       |
| NAME        | VARCHAR2 (128) | NOT NULL | Name of the object                                                                                                                                        |
| TYPE        | VARCHAR2 (18)  |          | Type of the object: TYPE, TYPE BODY, TABLE, VIEW, SYNONYM, SEQUENCE, PROCEDURE, FUNCTION, PACKAGE, PACKAGE BODY, JAVA SOURCE, JAVA CLASS or JAVA RESOURCE |
| SOURCE_SIZE | NUMBER         |          | Size of the source in bytes. Must be in memory during compilation, or dynamic recompilation.                                                              |
| PARSED_SIZE | NUMBER         |          | Size of the parsed form of the object, in bytes. Must be in memory when an object is being compiled that references this object.                          |
| CODE_SIZE   | NUMBER         |          | Code size, in bytes. Must be in memory when this object is executing.                                                                                     |
| ERROR_SIZE  | NUMBER         |          | Size of error messages, in bytes. In memory during the compilation of the object when there are compilation errors.                                       |

**See Also:**["USER\\_OBJECT\\_SIZE"](#)

## 6.240 DBA\_OBJECT\_TABLES

DBA\_OBJECT\_TABLES describes all object tables in the database. Its columns are the same as those in ALL\_OBJECT\_TABLES.

**See Also:**["ALL\\_OBJECT\\_TABLES"](#)

## 6.241 DBA\_OBJECT\_USAGE

DBA\_OBJECT\_USAGE displays statistics about index usage gathered from the database for all the indexes in the database.

You can use this view to monitor index usage. All indexes that have been used at least once can be monitored and displayed in this view.

### Related View

- **USER\_OBJECT\_USAGE** displays statistics about index usage gathered from the database for the indexes owned by the current user.

| Column           | Datatype       | NULL     | Description                                                                                                                                   |
|------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128) | NOT NULL | Index owner                                                                                                                                   |
| INDEX_NAME       | VARCHAR2 (128) | NOT NULL | Index name in sys.obj\$.name                                                                                                                  |
| TABLE_NAME       | VARCHAR2 (128) | NOT NULL | Table name in sys.obj\$.name                                                                                                                  |
| MONITORING       | VARCHAR2 (3)   |          | Indicates whether the monitoring feature is turned on.<br>Possible values: <ul style="list-style-type: none"><li>• YES</li><li>• NO</li></ul> |
| USED             | VARCHAR2 (3)   |          | Indicates whether the index has been accessed.<br>Possible values: <ul style="list-style-type: none"><li>• YES</li><li>• NO</li></ul>         |
| START_MONITORING | VARCHAR2 (19)  |          | Start monitoring time in<br>sys.object_stats.start_monitoring                                                                                 |
| END_MONITORING   | VARCHAR2 (19)  |          | End monitoring time in<br>sys.object_stats.end_monitoring                                                                                     |

**See Also:**["USER\\_OBJECT\\_USAGE"](#)

## 6.242 DBA\_OBJECTS

DBA\_OBJECTS describes all objects in the database. Its columns are the same as those in ALL\_OBJECTS.

**See Also:**["ALL\\_OBJECTS"](#)

## 6.243 DBA\_OBJECTS\_AE

DBA\_OBJECTS\_AE describes all objects (across all editions) in the database. Its columns are the same as those in ALL\_OBJECTS\_AE.

**See Also:**["ALL\\_OBJECTS\\_AE"](#)

## 6.244 DBA\_OGG\_AUTO\_CAPTURED\_TABLES

DBA\_OGG\_AUTO\_CAPTURED\_TABLES describes all tables in the database that are enabled for Oracle GoldenGate automatic capture.

### Related View

USER\_OGG\_AUTO\_CAPTURED\_TABLES describes the tables owned by the current user that are enabled for Oracle GoldenGate automatic capture. This view does not display the OWNER column.

| Column              | Datatype       | NULL     | Description                                                                                                                      |
|---------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128) | NOT NULL | Owner of the table                                                                                                               |
| NAME                | VARCHAR2 (128) | NOT NULL | Name of the table                                                                                                                |
| ALLOW_NOVALIDATE_PK | VARCHAR2 (3)   |          | Indicates whether a primary key constraint in NOVALIDATE mode can be used as a unique identifier for the table (YES) or not (NO) |



### See Also:

"USER\_OGG\_AUTO\_CAPTURED\_TABLES"

## 6.245 DBA\_OPANCILLARY

DBA\_OPANCILLARY provides ancillary information for all operator bindings in the database. Its columns are the same as those in ALL\_OPANCILLARY.



### See Also:

"ALL\_OPANCILLARY"

## 6.246 DBA\_OPARGUMENTS

DBA\_OPARGUMENTS provides argument information for all operator bindings in the database. Its columns are the same as those in ALL\_OPARGUMENTS.



### See Also:

"ALL\_OPARGUMENTS"

## 6.247 DBA\_OPBINDINGS

DBA\_OPBINDINGS describes the binding functions and methods on all operators in the database. Its columns are the same as those in ALL\_OPBINDINGS.



**See Also:**

["ALL\\_OPBINDINGS"](#)

## 6.248 DBA\_OPERATOR\_COMMENTS

DBA\_OPERATOR\_COMMENTS displays comments for all user-defined operators in the database. Its columns are the same as those in ALL\_OPERATOR\_COMMENTS.



**See Also:**

["ALL\\_OPERATOR\\_COMMENTS"](#)

## 6.249 DBA\_OPERATORS

DBA\_OPERATORS describes all operators in the database. Its columns are the same as those in ALL\_OPERATORS.



**See Also:**

["ALL\\_OPERATORS"](#)

## 6.250 DBA\_OPTSTAT\_OPERATION\_TASKS

DBA\_OPTSTAT\_OPERATION\_TASKS displays the history of tasks that are performed as part of statistics operations (recorded in DBA\_OPTSTAT\_OPERATIONS). Each task represents a target object to be processed in the corresponding parent operation.

| Column      | Datatype       | NULL | Description                                                               |
|-------------|----------------|------|---------------------------------------------------------------------------|
| OPID        | NUMBER         |      | Internal identifier for the statistics operation that the task belongs to |
| TARGET      | VARCHAR2 (100) |      | Name of the object that this task operates on                             |
| TARGET_OBJN | NUMBER         |      | Object number of the target object                                        |

| Column         | Datatype                     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------|------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TARGET_TYPE    | VARCHAR2 (40)                |      | Type of the target object. Possible values are: <ul style="list-style-type: none"> <li>TABLE</li> <li>TABLE (GLOBAL STATS ONLY):<br/>Task is created to gather only global statistics of a partitioned table</li> <li>TABLE (COORDINATOR JOB):<br/>Coordinator task for a partitioned table when concurrency is on</li> <li>TABLE PARTITION</li> <li>TABLE SUBPARTITION</li> <li>INDEX</li> <li>INDEX PARTITION</li> <li>INDEX SUBPARTITION</li> </ul>                                                                                                        |
| TARGET_SIZE    | NUMBER                       |      | Target size (in number of blocks) when the task started                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| START_TIME     | TIMESTAMP (6) WITH TIME ZONE |      | Task start time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| END_TIME       | TIMESTAMP (6) WITH TIME ZONE |      | Task end time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| STATUS         | VARCHAR2 (49)                |      | Current task status. Possible values are: <ul style="list-style-type: none"> <li>PENDING: Task is queued for processing</li> <li>IN PROGRESS: Task is currently running</li> <li>COMPLETED: Task has completed successfully</li> <li>FAILED: Task has failed</li> <li>SKIPPED: Task has been skipped, as it does not exist any more, or its stats are not stale (applies only to only automatic statistics gathering)</li> <li>TIMED OUT: Maintenance window was not enough to complete this task (applies only to automatic statistics gathering)</li> </ul> |
| JOB_NAME       | VARCHAR2 (50)                |      | Name of the scheduler job that executes this task (for example, when concurrency is on)                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ESTIMATED_COST | NUMBER                       |      | Estimated cost of the task (measured as elapsed time in seconds). This column is populated only when concurrency is on.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| BATCHING_COEFF | NUMBER                       |      | For internal use only                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ACTIONS        | NUMBER                       |      | For internal use only                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PRIORITY       | NUMBER                       |      | Rank of the task among all target objects for the parent operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| FLAGS          | NUMBER                       |      | For internal use only                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| NOTES          | VARCHAR2 (4000)              |      | Notes about the underlying task, such as the failure message for tasks with status FAILED.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |



#### See Also:

"DBA\_OPTSTAT\_OPERATIONS"



## 6.251 DBA\_OPTSTAT\_OPERATIONS

DBA\_OPTSTAT\_OPERATIONS contains a history of statistics operations performed at the schema and database level using the DBMS\_STATS package.

| Column     | Datatype                     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                      |
|------------|------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ID         | NUMBER                       |      | Internal ID of the statistics operation                                                                                                                                                                                                                                                                                                                                          |
| OPERATION  | VARCHAR2 (64)                |      | Operation name                                                                                                                                                                                                                                                                                                                                                                   |
| TARGET     | VARCHAR2 (64)                |      | Target on which the operation was performed                                                                                                                                                                                                                                                                                                                                      |
| START_TIME | TIMESTAMP (6) WITH TIME ZONE |      | Time at which the operation started                                                                                                                                                                                                                                                                                                                                              |
| END_TIME   | TIMESTAMP (6) WITH TIME ZONE |      | Time at which the operation ended                                                                                                                                                                                                                                                                                                                                                |
| STATUS     | VARCHAR2 (49)                |      | Current operation status. Possible values are: <ul style="list-style-type: none"><li>• IN PROGRESS: Operation is currently running</li><li>• COMPLETED: Operation has completed successfully</li><li>• FAILED: Operation has failed</li><li>• TIMED OUT: Maintenance window was not enough to complete this operation (applies only to automatic statistics gathering)</li></ul> |
| JOB_NAME   | VARCHAR2 (32)                |      | Name of the scheduler job that executes this operation (for example, a user scheduled statistics gathering job)                                                                                                                                                                                                                                                                  |
| SESSION_ID | NUMBER                       |      | ID of the session in which this operation is invoked                                                                                                                                                                                                                                                                                                                             |
| NOTES      | VARCHAR2 (4000)              |      | Notes about the operation, such as a failure message for operations with status FAILED                                                                                                                                                                                                                                                                                           |

### See Also:

- ["DBA\\_OPTSTAT\\_OPERATION\\_TASKS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_STATS package
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_REPAIR.ADMIN\_TABLES procedure
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_REPAIR.DUMP\_ORPHAN\_KEYS procedure

## 6.252 DBA\_ORPHAN\_KEY\_TABLE

DBA\_ORPHAN\_KEY\_TABLE reports key values from indexes where the underlying base table has block corruptions.

To create the view, run the DBMS\_REPAIR.ADMIN\_TABLES procedure. To populate the orphan key table for an index, run the DBMS\_REPAIR.DUMP\_ORPHAN\_KEYS procedure on the index. For each key in the index that points to a corrupt data block, Oracle inserts a row into the orphan key table.

| Column         | Datatype       | NULL     | Description                                                 |
|----------------|----------------|----------|-------------------------------------------------------------|
| SCHEMA_NAME    | VARCHAR2 (128) | NOT NULL | Schema name of the index                                    |
| INDEX_NAME     | VARCHAR2 (128) | NOT NULL | Name of the index                                           |
| IPART_NAME     | VARCHAR2 (128) | NULL     | Name of the index partition or subpartition                 |
| INDEX_ID       | NUMBER         | NOT NULL | Dictionary object ID of the index                           |
| TABLE_NAME     | VARCHAR2 (128) | NOT NULL | Name of the base table of the index                         |
| PART_NAME      | VARCHAR2 (128) | NULL     | Name of the base table partition or subpartition            |
| TABLE_ID       | NUMBER         | NOT NULL | Dictionary object ID of the base table                      |
| KEYROWID       | ROWID          | NOT NULL | Physical rowid of the corrupt data row                      |
| KEY            | ROWID          | NOT NULL | Key values for the index entry                              |
| DUMP_TIMESTAMP | DATE           | NOT NULL | Timestamp when the entry was made into the orphan key table |

## 6.253 DBA\_OUTLINE\_HINTS

DBA\_OUTLINE\_HINTS describes the set of hints stored in all outlines in the database.

### Related View

USER\_OUTLINE\_HINTS describes the set of hints stored in the outlines owned by the current user. This view does not display the OWNER column.

| Column   | Datatype       | NULL | Description                                                                                                                                                             |
|----------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME     | VARCHAR2 (128) |      | Name of the outline                                                                                                                                                     |
| OWNER    | VARCHAR2 (128) |      | Name of the user who created the outline                                                                                                                                |
| NODE     | NUMBER         |      | ID of the query or subquery to which the hint applies. The top-level query is labeled 1. Subqueries are assigned sequentially numbered labels, starting with 2.         |
| STAGE    | NUMBER         |      | Outline hints can be applied at three different stages during the compilation process. This column indicates the stage at which this hint was applied.                  |
| JOIN_POS | NUMBER         |      | Position of the table in the join order. The value is 0 for all hints except access method hints, which identify a table to which the hint and the join position apply. |
| HINT     | CLOB           |      | Text of the hint                                                                                                                                                        |



### See Also:

"USER\_OUTLINE\_HINTS"

## 6.254 DBA\_OUTLINES

DBA\_OUTLINES describes all stored outlines in the database.

### Related View

USER\_OUTLINES describes the stored outlines owned by the current user. This view does not display the OWNER column.

| Column     | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME       | VARCHAR2 (128) |      | User-specified or generated name of the stored outline. The name must be of a form that can be expressed in SQL.                                                                                                                                                                                                                                                                                               |
| OWNER      | VARCHAR2 (128) |      | Name of the user who created the outline                                                                                                                                                                                                                                                                                                                                                                       |
| CATEGORY   | VARCHAR2 (128) |      | User-defined name of the category to which the outline belongs                                                                                                                                                                                                                                                                                                                                                 |
| USED       | VARCHAR2 (6)   |      | Indicates whether the outline has ever been used (USED) or not (UNUSED)                                                                                                                                                                                                                                                                                                                                        |
| TIMESTAMP  | DATE           |      | Timestamp of outline creation                                                                                                                                                                                                                                                                                                                                                                                  |
| VERSION    | VARCHAR2 (64)  |      | Oracle version that created the outline                                                                                                                                                                                                                                                                                                                                                                        |
| SQL_TEXT   | LONG           |      | SQL text of the query, including any hints that were a part of the original statement. If bind variables are included, the variable names are stored as SQL text, not the values that are assigned to the variables.<br><b>Note:</b> This field may contain sensitive information about your database or application. Therefore, use discretion when granting SELECT or VIEW object privileges on these views. |
| SIGNATURE  | RAW (16)       |      | Signature uniquely identifying the outline SQL text                                                                                                                                                                                                                                                                                                                                                            |
| COMPATIBLE | VARCHAR2 (12)  |      | Indicates whether the outline hints were compatible across a migration (COMPATIBLE) or not (INCOMPATIBLE)                                                                                                                                                                                                                                                                                                      |
| ENABLED    | VARCHAR2 (8)   |      | Indicates whether the outline is enabled (ENABLED) or disabled (DISABLED)                                                                                                                                                                                                                                                                                                                                      |
| FORMAT     | VARCHAR2 (6)   |      | Hint format: <ul style="list-style-type: none"><li>• NORMAL</li><li>• LOCAL</li></ul>                                                                                                                                                                                                                                                                                                                          |
| MIGRATED   | VARCHAR2 (12)  |      | Indicates whether the outline has been migrated to a SQL plan baseline (MIGRATED) or not (NOT-MIGRATED)                                                                                                                                                                                                                                                                                                        |



### See Also:

"USER\_OUTLINES"

## 6.255 DBA\_OUTSTANDING\_ALERTS

DBA\_OUTSTANDING\_ALERTS describes alerts which the server considers to be outstanding.

| Column                  | Datatype                     | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------|------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SEQUENCE_ID             | NUMBER                       |          | Alert sequence number                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| REASON_ID               | NUMBER                       | NOT NULL | ID of the alert reason                                                                                                                                                                                                                                                                                                                                                                                                                                |
| OWNER                   | VARCHAR2 (128)               |          | Owner of the object on which the alert was issued                                                                                                                                                                                                                                                                                                                                                                                                     |
| OBJECT_NAME             | VARCHAR2 (513)               |          | Name of the object                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SUBOBJECT_NAME          | VARCHAR2 (128)               |          | Name of the subobject (for example: partition)                                                                                                                                                                                                                                                                                                                                                                                                        |
| OBJECT_TYPE             | VARCHAR2 (64)                |          | Object type (for example: table, tablespace)                                                                                                                                                                                                                                                                                                                                                                                                          |
| REASON                  | VARCHAR2 (4000)              |          | Reason for the alert                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TIME_SUGGESTED          | TIMESTAMP (6) WITH TIME ZONE |          | Time when the alert was last updated                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CREATION_TIME           | TIMESTAMP (6) WITH TIME ZONE |          | Time when the alert was first created                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SUGGESTED_ACTION        | VARCHAR2 (4000)              |          | Advice of the recommended action                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ADVISOR_NAME            | VARCHAR2 (128)               |          | Name of the advisor to be invoked for more information                                                                                                                                                                                                                                                                                                                                                                                                |
| METRIC_VALUE            | NUMBER                       |          | Value of the related metrics                                                                                                                                                                                                                                                                                                                                                                                                                          |
| MESSAGE_TYPE            | VARCHAR2 (12)                |          | Message type: <ul style="list-style-type: none"> <li>• Notification</li> <li>• Warning</li> </ul>                                                                                                                                                                                                                                                                                                                                                     |
| MESSAGE_GROUP           | VARCHAR2 (64)                |          | Name of the message group to which the alert belongs                                                                                                                                                                                                                                                                                                                                                                                                  |
| MESSAGE_LEVEL           | NUMBER                       |          | Message severity level (1 to 32)                                                                                                                                                                                                                                                                                                                                                                                                                      |
| HOSTING_CLIENT_ID       | VARCHAR2 (64)                |          | ID of the client or security group to which the alert relates                                                                                                                                                                                                                                                                                                                                                                                         |
| MODULE_ID               | VARCHAR2 (64)                |          | ID of the module that originated the alert                                                                                                                                                                                                                                                                                                                                                                                                            |
| PROCESS_ID              | VARCHAR2 (128)               |          | Process ID                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| HOST_ID                 | VARCHAR2 (256)               |          | DNS host name of the originating host                                                                                                                                                                                                                                                                                                                                                                                                                 |
| HOST_NW_ADDR            | VARCHAR2 (256)               |          | IP or other network address of the originating host                                                                                                                                                                                                                                                                                                                                                                                                   |
| INSTANCE_NAME           | VARCHAR2 (16)                |          | Originating instance name                                                                                                                                                                                                                                                                                                                                                                                                                             |
| INSTANCE_NUMBER         | NUMBER                       |          | Originating instance number                                                                                                                                                                                                                                                                                                                                                                                                                           |
| USER_ID                 | VARCHAR2 (128)               |          | User ID                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| EXECUTION_CONTEXT_ID    | VARCHAR2 (128)               |          | Execution Context ID                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ERROR_INSTANCE_ID       | VARCHAR2 (142)               |          | ID of an error instance plus a sequence number                                                                                                                                                                                                                                                                                                                                                                                                        |
| STATE_TRANSITION_NUMBER | NUMBER                       |          | Sequence number of the state transition for the alert                                                                                                                                                                                                                                                                                                                                                                                                 |
| PDB_NAME                | VARCHAR2 (128)               |          | PDB name                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID                  | NUMBER                       | NOT NULL | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 6.256 DBA\_PARALLEL\_EXECUTE\_CHUNKS

DBA\_PARALLEL\_EXECUTE\_CHUNKS displays the chunks for all tasks in the database.

### Related View

USER\_PARALLEL\_EXECUTE\_CHUNKS displays the chunks for tasks created by the current user. This view does not display the TASK\_OWNER column.

| Column        | Datatype        | NULL     | Description                                                                                                                                             |
|---------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| CHUNK_ID      | NUMBER          | NOT NULL | Unique ID for the chunk                                                                                                                                 |
| TASK_OWNER    | VARCHAR2 (128)  | NOT NULL | Owner of the task                                                                                                                                       |
| TASK_NAME     | VARCHAR2 (128)  | NOT NULL | Name of the task                                                                                                                                        |
| STATUS        | VARCHAR2 (20)   |          | Status of the chunk: <ul style="list-style-type: none"><li>• UNASSIGNED</li><li>• ASSIGNED</li><li>• PROCESSED</li><li>• PROCESSED_WITH_ERROR</li></ul> |
| START_ROWID   | ROWID           |          | Rowid for the first row in the chunk                                                                                                                    |
| END_ROWID     | ROWID           |          | Rowid for the last row in the chunk                                                                                                                     |
| START_ID      | NUMBER          |          | Number column value of the first row in the chunk                                                                                                       |
| END_ID        | NUMBER          |          | Number column value of the last row in the chunk                                                                                                        |
| JOB_NAME      | VARCHAR2 (128)  |          | Name of the job which processed this chunk                                                                                                              |
| START_TS      | TIMESTAMP (6)   |          | Processing start time for the chunk                                                                                                                     |
| END_TS        | TIMESTAMP (6)   |          | Processing end time for the chunk                                                                                                                       |
| ERROR_CODE    | NUMBER          |          | Error code returned during the execution of the chunk if the STATUS column is PROCESSED_WITH_ERROR                                                      |
| ERROR_MESSAGE | VARCHAR2 (4000) |          | Error message returned during the execution of the chunk if the STATUS column is PROCESSED_WITH_ERROR                                                   |



**See Also:**

"USER\_PARALLEL\_EXECUTE\_CHUNKS"

## 6.257 DBA\_PARALLEL\_EXECUTE\_TASKS

DBA\_PARALLEL\_EXECUTE\_TASKS displays all tasks in the database.

### Related View

USER\_PARALLEL\_EXECUTE\_TASKS displays the tasks created by the current user. This view does not display the TASK\_OWNER column.

| Column     | Datatype       | NULL     | Description       |
|------------|----------------|----------|-------------------|
| TASK_OWNER | VARCHAR2 (128) | NOT NULL | Owner of the task |

| Column                     | Datatype        | NULL     | Description                                                                                                                                                                                                                                   |
|----------------------------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TASK_NAME                  | VARCHAR2 (128)  | NOT NULL | Name of the task                                                                                                                                                                                                                              |
| CHUNK_TYPE                 | VARCHAR2 (12)   |          | Type of parallel update: <ul style="list-style-type: none"> <li>• UNDELARED</li> <li>• ROWID_RANGE</li> <li>• NUMBER_RANGE</li> </ul>                                                                                                         |
| STATUS                     | VARCHAR2 (19)   |          | Status of the task: <ul style="list-style-type: none"> <li>• CREATED</li> <li>• CHUNKING</li> <li>• CHUNKING_FAILED</li> <li>• CHUNKED</li> <li>• PROCESSING</li> <li>• FINISHED</li> <li>• FINISHED_WITH_ERROR</li> <li>• CRASHED</li> </ul> |
| TABLE_OWNER                | VARCHAR2 (128)  |          | Owner of the table to be chunked                                                                                                                                                                                                              |
| TABLE_NAME                 | VARCHAR2 (128)  |          | Name of the table to be chunked                                                                                                                                                                                                               |
| NUMBER_COLUMN              | VARCHAR2 (128)  |          | Name of the column holding IDs (only applicable to NUMBER_RANGE chunking type)                                                                                                                                                                |
| TASK_COMMENT               | VARCHAR2 (4000) |          | Comment field                                                                                                                                                                                                                                 |
| JOB_PREFIX                 | VARCHAR2 (128)  |          | Prefix of the job name executing this task                                                                                                                                                                                                    |
| SQL_STMT                   | CLOB            |          | Argument used in the previous DBMS_PARALLEL_EXECUTE.RUN_TASK                                                                                                                                                                                  |
| LANGUAGE_FLAG              | NUMBER          |          | Argument used in the previous DBMS_PARALLEL_EXECUTE.RUN_TASK                                                                                                                                                                                  |
| EDITION                    | VARCHAR2 (130)  |          | Argument used in the previous DBMS_PARALLEL_EXECUTE.RUN_TASK                                                                                                                                                                                  |
| APPLY_CROSSEDITION_TRIGGER | VARCHAR2 (130)  |          | Argument used in the previous DBMS_PARALLEL_EXECUTE.RUN_TASK                                                                                                                                                                                  |
| FIRE_APPLY_TRIGGER         | VARCHAR2 (10)   |          | Argument used in the previous DBMS_PARALLEL_EXECUTE.RUN_TASK                                                                                                                                                                                  |
| PARALLEL_LEVEL             | NUMBER          |          | Argument used in the previous DBMS_PARALLEL_EXECUTE.RUN_TASK                                                                                                                                                                                  |
| JOB_CLASS                  | VARCHAR2 (128)  |          | Argument used in the previous DBMS_PARALLEL_EXECUTE.RUN_TASK                                                                                                                                                                                  |



#### See Also:

- ["USER\\_PARALLEL\\_EXECUTE\\_TASKS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_PARALLEL\_EXECUTE.RUN\_TASK procedure

## 6.258 DBA\_PART\_COL\_STATISTICS

DBA\_PART\_COL\_STATISTICS displays column statistics and histogram information for all table partitions in the database. Its columns are the same as those in ALL\_PART\_COL\_STATISTICS.



**See Also:**

["ALL\\_PART\\_COL\\_STATISTICS"](#)

## 6.259 DBA\_PART\_HISTOGRAMS

DBA\_PART\_HISTOGRAMS displays the histogram data (endpoints per histogram) for the histograms on all table partitions in the database. Its columns are the same as those in ALL\_PART\_HISTOGRAMS.



**See Also:**

["ALL\\_PART\\_HISTOGRAMS"](#)

## 6.260 DBA\_PART\_INDEXES

DBA\_PART\_INDEXES displays the object-level partitioning information for all partitioned indexes in the database. Its columns are the same as those in ALL\_PART\_INDEXES.



**See Also:**

["ALL\\_PART\\_INDEXES"](#)

## 6.261 DBA\_PART\_KEY\_COLUMNS

DBA\_PART\_KEY\_COLUMNS describes the partitioning key columns for all partitioned objects in the database. Its columns are the same as those in ALL\_PART\_KEY\_COLUMNS.



**See Also:**

["ALL\\_PART\\_KEY\\_COLUMNS"](#)

## 6.262 DBA\_PART\_LOBS

DBA\_PART\_LOBS displays table-level information for all partitioned LOBs in the database, including default attributes for LOB data partitions. Its columns are the same as those in ALL\_PART\_LOBS.



**See Also:**

"ALL\_PART\_LOBS"

## 6.263 DBA\_PART\_TABLES

DBA\_PART\_TABLES displays the object-level partitioning information for all partitioned tables in the database. Its columns are the same as those in ALL\_PART\_TABLES.



**See Also:**

"ALL\_PART\_TABLES"

## 6.264 DBA\_PARTIAL\_DROP\_TABS

DBA\_PARTIAL\_DROP\_TABS describes all tables in the database that have partially completed DROP COLUMN operations. Its columns are the same as those in ALL\_PARTIAL\_DROP\_TABS.



**See Also:**

"ALL\_PARTIAL\_DROP\_TABS"

## 6.265 DBA\_PDB\_HISTORY

DBA\_PDB\_HISTORY describes the lineage of the PDB to which it belongs.

| Column    | Datatype       | NULL     | Description                                                                     |
|-----------|----------------|----------|---------------------------------------------------------------------------------|
| PDB_NAME  | VARCHAR2 (128) | NOT NULL | Name of this PDB in one of its incarnations                                     |
| PDB_ID    | NUMBER         | NOT NULL | Container ID of this PDB in one of its incarnations.                            |
| PDB_DBID  | NUMBER         | NOT NULL | Database ID of this PDB in one of its incarnations                              |
| PDB_GUID  | RAW (16)       | NOT NULL | Globally unique ID of this PDB in one of its incarnations                       |
| OP_SCNBAS | NUMBER         | NOT NULL | SCN base when an operation was performed on one of the incarnations of this PDB |



| Column               | Datatype       | NULL     | Description                                                                           |
|----------------------|----------------|----------|---------------------------------------------------------------------------------------|
| OP_SCNWRP            | NUMBER         | NOT NULL | SCN wrap when an operation was performed on one of incarnations of this PDB           |
| OP_TIMESTAMP         | DATE           | NOT NULL | Timestamp of an operation performed on one of the incarnations of this PDB            |
| OPERATION            | VARCHAR2 (16)  | NOT NULL | Operation that was performed on one of the incarnations of this PDB                   |
| DB_VERSION           | NUMBER         | NOT NULL | Database version                                                                      |
| CLONED_FROM_PDB_NAME | VARCHAR2 (128) |          | Name of a PDB from which one of the incarnations of this PDB was cloned               |
| CLONED_FROM_PDB_DBID | NUMBER         |          | Database ID of a PDB from which one of the incarnations of this PDB was cloned        |
| CLONED_FROM_PDB_GUID | RAW (16)       |          | Globally unique ID of a PDB from which one of the incarnations of this PDB was cloned |
| DB_NAME              | VARCHAR2 (128) |          | Name of a CDB in which one of the incarnations of this PDB was created                |
| DB_UNIQUE_NAME       | VARCHAR2 (128) |          | Unique name of a CDB in which one of the incarnations of this PDB was created         |
| DB_DBID              | NUMBER         |          | Database ID of a CDB in which one of the incarnations of this PDB was created         |
| CLONETAG             | VARCHAR2 (128) |          | Clone tag name for the PDB if the PDB was cloned using the snapshot copy mechanism    |
| DB_VERSION_STRING    | VARCHAR2 (204) |          | Database version string                                                               |

## 6.266 DBA\_PDB\_SAVED\_STATES

DBA\_PDB\_SAVED\_STATES shows information about the current saved PDB states in the CDB.

This view is a data link, so the data is also available within the PDB.

| Column        | Datatype       | NULL     | Description                                                       |
|---------------|----------------|----------|-------------------------------------------------------------------|
| CON_ID        | NUMBER         | NOT NULL | The ID of the PDB                                                 |
| CON_NAME      | VARCHAR2 (128) | NOT NULL | Name of the PDB                                                   |
| INSTANCE_NAME | VARCHAR2 (128) | NOT NULL | Name of the instance for which the state is saved                 |
| CON_UID       | NUMBER         | NOT NULL | Unique ID assigned to the PDB at creation time                    |
| GUID          | RAW (16)       |          | Globally unique immutable ID assigned to the PDB at creation time |
| STATE         | VARCHAR2 (14)  |          | Open state of the PDB                                             |
| RESTRICTED    | VARCHAR2 (3)   |          | Restricted mode of the PDB                                        |



### See Also:

*Oracle Database SQL Language Reference* for more information about preserving a PDB's open mode across an instance restart

## 6.267 DBA\_PDB\_SNAPSHOTFILE

DBA\_PDB\_SNAPSHOTFILE displays the files associated with snapshots taken of pluggable databases (PDBs).

You can use this view in conjunction with the DBA\_PDB\_SNAPSHOT view. Join the SNAPSHOT\_SCN column in this view with the SNAPSHOT\_SCN column in DBA\_PDB\_SNAPSHOT to determine the files associated with a particular PDB snapshot. A PDB snapshot consists of an archive log file, one or more data files, and one or more XML files. A row is added to this view for each file associated with a PDB snapshot.

| Column            | Datatype       | NULL     | Description                                                                                                                                                   |
|-------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID            | NUMBER         | NOT NULL | The ID of the PDB                                                                                                                                             |
| SNAPSHOT_SCN      | NUMBER         | NOT NULL | SCN at which the snapshot was taken                                                                                                                           |
| SNAPSHOT_FILENAME | VARCHAR2 (513) | NOT NULL | Snapshot file name                                                                                                                                            |
| SNAPSHOT_FILETYPE | VARCHAR2 (8)   | NOT NULL | Snapshot file type. Possible values: <ul style="list-style-type: none"> <li>ARCH: Archive log file</li> <li>DATA: Data file</li> <li>XML: XML file</li> </ul> |



**See Also:**

"DBA\_PDB\_SNAPSHOTS"

## 6.268 DBA\_PDB\_SNAPSHOTS

DBA\_PDB\_SNAPSHOTS describes the snapshots taken of pluggable databases (PDBs).

Rows are added to this view when a snapshot of a PDB is taken by using the ALTER PLUGGABLE DATABASE SNAPSHOT SQL statement.

| Column                 | Datatype        | NULL     | Description                                              |
|------------------------|-----------------|----------|----------------------------------------------------------|
| CON_ID                 | NUMBER          | NOT NULL | The ID of the PDB                                        |
| CON_UID                | NUMBER          | NOT NULL | Unique ID assigned to the PDB at creation time           |
| CON_NAME               | VARCHAR2 (128)  | NOT NULL | Name of the PDB                                          |
| SNAPSHOT_NAME          | VARCHAR2 (128)  | NOT NULL | Snapshot name of the PDB                                 |
| SNAPSHOT_SCN           | NUMBER          | NOT NULL | SCN at which the snapshot was taken                      |
| PREVIOUS_SNAPSHOT_SCN  | NUMBER          | NOT NULL | SCN at which the previous snapshot for the PDB was taken |
| SNAPSHOT_TIME          | NUMBER          | NOT NULL | Timestamp at which the snapshot was taken                |
| PREVIOUS_SNAPSHOT_TIME | NUMBER          | NOT NULL | Timestamp of the previous snapshot for this PDB          |
| FULL_SNAPSHOT_PATH     | VARCHAR2 (4000) | NOT NULL | Full path for the snapshot                               |

**Note:**

This view does not display snapshot copy PDBs, which are created by using the `CREATE PLUGGABLE DATABASE ... SNAPSHOT COPY SQL` statement.

**See Also:**

"[DBA\\_PDB\\_SNAPSHOTFILE](#)" for information about the files associated with a particular PDB snapshot

## 6.269 DBA\_PDBS

DBA\_PDBS describes PDBs belonging to a given CDB.

When queried from a CDB root, this view describes all PDBs that belong to the CDB. When queried from an application root, it describes all PDBs that belong to the application container. When queried from a regular PDB or from an application PDB, it describes the regular PDB or the application PDB.

| Column   | Datatype       | NULL     | Description                                                                                              |
|----------|----------------|----------|----------------------------------------------------------------------------------------------------------|
| PDB_ID   | NUMBER         | NOT NULL | Container ID of the PDB                                                                                  |
| PDB_NAME | VARCHAR2 (128) | NOT NULL | Name of the PDB                                                                                          |
| DBID     | NUMBER         | NOT NULL | PDB identifier calculated when the PDB is created and stored in all file headers associated with the PDB |
| CON_UID  | NUMBER         | NOT NULL | Unique identifier associated with the container                                                          |
| GUID     | RAW (16)       |          | Globally unique immutable ID assigned to the PDB at creation time                                        |

| Column                  | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------|---------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS                  | VARCHAR2 (10) |      | <p>State of the PDB. Possible values:</p> <ul style="list-style-type: none"> <li>• <b>NEW</b> - The PDB has never been opened since it was created. It must be opened in <b>READ WRITE</b> mode for Oracle to perform processing needed to complete the integration of the PDB into the CDB and mark it <b>NORMAL</b>. An error will be thrown if an attempt is made to open the PDB read only.</li> <li>• <b>NORMAL</b> - The PDB is ready to be used.</li> <li>• <b>UNPLUGGED</b> - The PDB has been unplugged. The only operation that can be performed on it is <b>DROP PLUGGABLE DATABASE</b>.</li> <li>• <b>RELOCATING</b>: The PDB is in the process of being relocated to a different CDB.</li> <li>• <b>RELOCATED</b>: The PDB has been relocated to a different CDB.</li> <li>• <b>REFRESHING</b>: The PDB is a refresh PDB.</li> <li>• <b>UNDEFINED</b>: The PDB is in an undefined state.</li> <li>• <b>UNUSABLE</b> - The PDB is being created or an unrecoverable error was encountered during its creation. The PDB cannot be opened while its state is set to <b>UNUSABLE</b>. If the PDB remains in this state because of an error encountered during its creation, it can only be dropped. The alert log can be checked to determine if there was an error during PDB creation.</li> </ul> |
| CREATION_SCN            | NUMBER        |      | Creation SCN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| VSN                     | NUMBER        |      | The version number of the PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| LOGGING                 | VARCHAR2 (9)  |      | <p>Shows the current logging mode for the PDB. Possible values:</p> <ul style="list-style-type: none"> <li>• <b>LOGGING</b></li> <li>• <b>NOLOGGING</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| FORCE_LOGGING           | VARCHAR2 (3)  |      | <p>Specifies whether force logging is turned on for the PDB. Possible values:</p> <ul style="list-style-type: none"> <li>• <b>NO</b></li> <li>• <b>YES</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| FORCE_NOLOGGING         | VARCHAR2 (3)  |      | <p>Specifies whether force nologging is turned on for the PDB. Possible values:</p> <ul style="list-style-type: none"> <li>• <b>NO</b></li> <li>• <b>YES</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| APPLICATION_ROOT        | VARCHAR2 (3)  |      | Indicates whether the PDB is an application root.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| APPLICATION_PDB         | VARCHAR2 (3)  |      | Indicates whether a PDB is an application PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| APPLICATION_SEED        | VARCHAR2 (3)  |      | Indicates whether a PDB is an application seed (an application seed is also an application PDB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| APPLICATION_ROOT_CON_ID | NUMBER        |      | <p>If this PDB is an application PDB, the container ID of an application root to which this application PDB belongs.</p> <p>If this PDB is an application root clone, the container ID of an application root to which this application root clone belongs.</p> <p>Otherwise, NULL.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| IS_PROXY_PDB            | VARCHAR2 (3)  |      | Indicates whether this PDB is a proxy PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Column            | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------|-----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID            | NUMBER          | NOT NULL | The ID of the container that CON_DBID identifies. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire multitenant container database (CDB). This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                               |
| UPGRADE_PRIORITY  | NUMBER          |          | The upgrade priority of the PDB.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| APPLICATION_CLONE | VARCHAR2 (3)    |          | Indicates whether this PDB is an application root clone (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| FOREIGN_CDB_DBID  | NUMBER          |          | The foreign CDB's DBID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| UNPLUG_SCN        | NUMBER          |          | SCN at which the PDB was unplugged                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| FOREIGN_PDB_ID    | NUMBER          |          | The foreign PDB ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CREATION_TIME     | DATE            | NOT NULL | PDB creation timestamp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| REFRESH_MODE      | VARCHAR2 (6)    |          | PDB refresh mode. Possible values: <ul style="list-style-type: none"> <li>MANUAL</li> <li>AUTO</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                    |
| REFRESH_INTERVAL  | NUMBER          |          | PDB refresh interval. This is applicable only when REFRESH_MODE is AUTO.                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TEMPLATE          | VARCHAR2 (3)    |          | For internal use only                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| LAST_REFRESH_SCN  | NUMBER          |          | System change number (SCN) of the last refresh operation                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TENANT_ID         | VARCHAR2 (255)  |          | Pluggable database tenant key                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| SNAPSHOT_MODE     | VARCHAR2 (6)    |          | Pluggable database snapshot mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SNAPSHOT_INTERVAL | NUMBER          |          | Pluggable database snapshot interval, in minutes                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CREDENTIAL_NAME   | VARCHAR2 (262)  |          | Credential object name associated with the PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LAST_REFRESH_TIME | DATE            |          | Time of the last refresh operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CLOUD_IDENTITY    | VARCHAR2 (4000) |          | Cloud identifier for the PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SOURCE_PDB_NAME   | VARCHAR2 (128)  |          | Name of the source PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SOURCE_DB_LINK    | VARCHAR2 (128)  |          | Name of the source database link                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| PRIORITY          | NUMBER          |          | The priority of the PDB when performing an OPEN or SAVE STATE operation on multiple PDBs with a single ALTER PLUGGABLE DATABASE or ALTER DATABASE statement<br><br>If a priority is not assigned to the PDB, then the value of this column is null.<br><br>An operation is performed first on the PDB with the lowest PRIORITY number, then on the PDB with the second lowest PRIORITY number, and so on. The operation is then performed on PDBs with no assigned priority, if any, in no particular order. |

## 6.270 DBA\_PENDING\_CONV\_TABLES

DBA\_PENDING\_CONV\_TABLES describes all pending conversion tables in the database. Its columns are the same as those in ALL\_PENDING\_CONV\_TABLES.



### See Also:

"ALL\_PENDING\_CONV\_TABLES"

## 6.271 DBA\_PENDING\_TRANSACTIONS

DBA\_PENDING\_TRANSACTIONS describes unresolved transactions (either due to failure or if the coordinator has not sent a commit/rollback).

| Column   | Datatype | NULL | Description                                                |
|----------|----------|------|------------------------------------------------------------|
| FORMATID | NUMBER   |      | The format identifier of the transaction identifier        |
| GLOBALID | RAW (64) |      | The global part (gtrid) of the transaction identifier      |
| BRANCHID | RAW (64) |      | The branch qualifier (bqual) of the transaction identifier |

## 6.272 DBA\_PG\_EDGE\_RELATIONSHIPS

DBA\_PG\_EDGE\_RELATIONSHIPS describes edge relationships in all property graphs in the database. Its columns are the same as those in ALL\_PG\_EDGE\_RELATIONSHIPS.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

"ALL\_PG\_EDGE\_RELATIONSHIPS"

## 6.273 DBA\_PG\_ELEMENT\_LABELS

DBA\_PG\_ELEMENT\_LABELS describes labels for the element tables in all property graphs in the database. Its columns are the same as those in ALL\_PG\_ELEMENT\_LABELS.



### Note:

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_PG\\_ELEMENT\\_LABELS"](#)

## 6.274 DBA\_PG\_ELEMENTS

DBA\_PG\_ELEMENTS describes element tables in all property graphs in the database. Its columns are the same as those in ALL\_PG\_ELEMENTS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_PG\\_ELEMENTS"](#)

## 6.275 DBA\_PG\_KEYS

DBA\_PG\_KEYS describes key columns in all property graphs in the database. Its columns are the same as those in ALL\_PG\_KEYS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_PG\\_KEYS"](#)

## 6.276 DBA\_PG\_LABEL\_PROPERTIES

DBA\_PG\_LABEL\_PROPERTIES describes properties in all property graphs in the database. Its columns are the same as those in ALL\_PG\_LABEL\_PROPERTIES.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_PG\\_LABEL\\_PROPERTIES"](#)

## 6.277 DBA\_PG\_LABELS

DBA\_PG\_LABELS describes labels in all property graphs in the database. Its columns are the same as those in ALL\_PG\_LABELS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_PG\\_LABELS"](#)

## 6.278 DBA\_PG\_PROP\_DEFINITIONS

DBA\_PG\_PROP\_DEFINITIONS describes columns and expressions exposed as properties in all property graphs in the database. Its columns are the same as those in ALL\_PG\_PROP\_DEFINITIONS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_PG\\_PROP\\_DEFINITIONS"](#)



## 6.279 DBA\_PLSQL\_COLL\_TYPES

DBA\_PLSQL\_COLL\_TYPES describes all named PL/SQL collection types in the database. Its columns (except for CHAR\_USED) are the same as those in ALL\_PLSQL\_COLL\_TYPES.



**See Also:**

["ALL\\_PLSQL\\_COLL\\_TYPES"](#)

## 6.280 DBA\_PLSQL\_OBJECT\_SETTINGS

DBA\_PLSQL\_OBJECT\_SETTINGS displays information about the compiler settings for all stored objects in the database. Its columns are the same as those in ALL\_PLSQL\_OBJECT\_SETTINGS.



**See Also:**

["ALL\\_PLSQL\\_OBJECT\\_SETTINGS"](#)

## 6.281 DBA\_PLSQL\_TYPE\_ATTRS

DBA\_PLSQL\_TYPE\_ATTRS describes the attributes of all PL/SQL types in the database. Its columns are the same as those in ALL\_PLSQL\_TYPE\_ATTRS.



**See Also:**

["ALL\\_PLSQL\\_TYPE\\_ATTRS"](#)

## 6.282 DBA\_PLSQL\_TYPES

DBA\_PLSQL\_TYPES describes all PL/SQL types in the database. Its columns are the same as those in ALL\_PLSQL\_TYPES.



**See Also:**

["ALL\\_PLSQL\\_TYPES"](#)

## 6.283 DBA\_POLICIES

DBA\_POLICIES describes all Oracle Virtual Private Database (VPD) security policies in the database. Its columns are the same as those in ALL\_POLICIES.

A security policy is a list of security requirements and rules that regulate row level access to database objects.



**See Also:**

["ALL\\_POLICIES"](#)

## 6.284 DBA\_POLICY\_ATTRIBUTES

DBA\_POLICY\_ATTRIBUTES lists the attribute associations {Namespaces, Attributes} of all context-sensitive and shared context-sensitive Oracle Virtual Private Database (VPD) policies in the database. Its columns are the same as those in ALL\_POLICY\_ATTRIBUTES.



**See Also:**

["ALL\\_POLICY\\_ATTRIBUTES"](#)

## 6.285 DBA\_POLICY\_CONTEXTS

DBA\_POLICY\_CONTEXTS describes all driving contexts in the database. Its columns are the same as those in ALL\_POLICY\_CONTEXTS.



**See Also:**

["ALL\\_POLICY\\_CONTEXTS"](#)

## 6.286 DBA\_POLICY\_GROUPS

DBA\_POLICY\_GROUPS describes all policy groups in the database. Its columns are the same as those in ALL\_POLICY\_GROUPS.



**See Also:**

["ALL\\_POLICY\\_GROUPS"](#)

## 6.287 DBA\_PRIV\_AUDIT\_OPTS

DBA\_PRIV\_AUDIT\_OPTS describes current system privileges being audited across the system and by user.



### Note:

This view is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored and are viewable with this view. See *Oracle Database Security Guide* for more information about how this desupport works.

| Column     | Datatype       | NULL     | Description                                                                                                                         |
|------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------|
| USER_NAME  | VARCHAR2 (128) |          | User name if by user auditing; ANY CLIENT if access by a proxy on behalf of a client is being audited; NULL for systemwide auditing |
| PROXY_NAME | VARCHAR2 (128) |          | Name of the proxy user which is performing an operation for the client; NULL if the client is performing the operation directly     |
| PRIVILEGE  | VARCHAR2 (40)  | NOT NULL | Name of the system privilege being audited                                                                                          |
| SUCCESS    | VARCHAR2 (10)  |          | Mode for WHENEVER SUCCESSFUL system auditing                                                                                        |
| FAILURE    | VARCHAR2 (10)  |          | Mode for WHENEVER NOT SUCCESSFUL system auditing                                                                                    |

## 6.288 DBA\_PRIV\_CAPTURES

DBA\_PRIV\_CAPTURES lists the privilege analysis policies in the database.

| Column      | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                        |
|-------------|-----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME        | VARCHAR2 (128)  | NOT NULL | Name of the privilege analysis policy                                                                                                                                                                                                                                                                              |
| DESCRIPTION | VARCHAR2 (1024) |          | Description of the privilege analysis                                                                                                                                                                                                                                                                              |
| TYPE        | VARCHAR2 (16)   |          | Type of the privilege analysis policy.<br>Possible values: <ul style="list-style-type: none"> <li>G_DATABASE: Database wide privilege analysis</li> <li>G_ROLE: Role privilege analysis</li> <li>G_CONTEXT: Context privilege analysis</li> <li>G_ROLE_AND_CONTEXT: Role and context privilege analysis</li> </ul> |
| ENABLED     | VARCHAR2 (1)    |          | Enabling status of the privilege analysis                                                                                                                                                                                                                                                                          |
| ROLES       | ROLE_ID_LIST    |          | List of roles whose privileges to analyze if the privilege analysis type is G_ROLE or G_ROLE_AND_CONTEXT                                                                                                                                                                                                           |
| CONTEXT     | VARCHAR2 (4000) |          | Context condition if the privilege analysis type is G_CONTEXT or G_ROLE_AND_CONTEXT                                                                                                                                                                                                                                |
| RUN_NAME    | VARCHAR2 (128)  |          | Displays run name information for each run                                                                                                                                                                                                                                                                         |

**See Also:**

*Oracle Database Security Guide* for more information about privilege analysis

## 6.289 DBA\_PRIVATE\_TEMP\_TABLES

DBA\_PRIVATE\_TEMP\_TABLES describes all of the private temporary tables in the database.

### Related View

USER\_PRIVATE\_TEMP\_TABLES describes the private temporary tables in the current session. This view does not display the INST\_ID column.

| Column          | Datatype       | NULL | Description                                                                   |
|-----------------|----------------|------|-------------------------------------------------------------------------------|
| SID             | NUMBER         |      | Session ID of the session that created the private temporary table            |
| SERIAL#         | NUMBER         |      | Session serial number of the session that created the private temporary table |
| INST_ID         | NUMBER         |      | Instance ID of the session that created the private temporary table           |
| OWNER           | VARCHAR2 (128) |      | Owner name of the private temporary table                                     |
| TABLE_NAME      | VARCHAR2 (128) |      | Private temporary table name                                                  |
| TABLESPACE_NAME | VARCHAR2 (128) |      | Private temporary table's tablespace name                                     |
| DURATION        | VARCHAR2 (128) |      | Private temporary table's duration (for example, SESSION or TRANSACTION)      |
| NUM_ROWS        | NUMBER         |      | Number of rows in the private temporary table when analyzed                   |
| BLOCKS          | NUMBER         |      | Number of blocks used by private temporary table                              |
| AVG_ROW_LEN     | NUMBER         |      | Average row length                                                            |
| LAST_ANALYZED   | DATE           |      | Timestamp of last analyze                                                     |
| TXN_ID          | RAW (8)        |      | Transaction ID of the transaction duration private temporary table            |
| SAVE_POINT_NUM  | NUMBER         |      | Save point number of the transaction duration private temporary table         |

**See Also:**

- "USER\_PRIVATE\_TEMP\_TABLES"
- "PRIVATE\_TEMP\_TABLE\_PREFIX"
- *Oracle Database Administrator's Guide* for an introduction to private temporary tables

## 6.290 DBA\_PROCEEDURES

DBA\_PROCEEDURES lists all functions and procedures that are available in the database, along with their associated properties. Its columns are the same as those in ALL\_PROCEEDURES.



### See Also:

- ["ALL\\_PROCEEDURES"](#)
- ["DBA\\_ARGUMENTS"](#) for information about the arguments of all of the functions and procedures that are available in the database

## 6.291 DBA\_PROFILES

DBA\_PROFILES displays all profiles and their limits.

| Column            | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                 |
|-------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROFILE           | VARCHAR2 (128) | NOT NULL | Profile name                                                                                                                                                                                                                                                                                |
| RESOURCE_NAME     | VARCHAR2 (32)  | NOT NULL | Resource name                                                                                                                                                                                                                                                                               |
| RESOURCE_TYPE     | VARCHAR2 (8)   |          | Indicates whether the resource profile is a <code>KERNEL</code> or a <code>PASSWORD</code> parameter                                                                                                                                                                                        |
| LIMIT             | VARCHAR2 (128) |          | Limit placed on this resource for the profile                                                                                                                                                                                                                                               |
| COMMON            | VARCHAR2 (3)   |          | Indicates whether the profile is common. Possible values: <ul style="list-style-type: none"><li>• <code>YES</code> if a profile is common</li><li>• <code>NO</code> if a profile is local (not common)</li></ul>                                                                            |
| INHERITED         | VARCHAR2 (3)   |          | Indicates whether the profile definition was inherited from another container ( <code>YES</code> ) or not ( <code>NO</code> )                                                                                                                                                               |
| IMPLICIT          | VARCHAR2 (3)   |          | Indicates whether the profile was created by an implicit application ( <code>YES</code> ) or not ( <code>NO</code> )                                                                                                                                                                        |
| ORACLE_MAINTAINED | VARCHAR2 (3)   |          | Indicates whether the profile was created by Oracle-supplied scripts ( <code>YES</code> ) or not ( <code>NO</code> )<br><br>Note that a profile created by Oracle-supplied scripts is local to all PDBs and can be changed inside a PDB to accommodate individual application requirements. |
| MANDATORY         | VARCHAR2 (3)   |          | Indicates whether the profile is a mandatory user profile ( <code>YES</code> ) or not ( <code>NO</code> )<br><br><b>See Also:</b> The <a href="#">MANDATORY_USER_PROFILE</a> initialization parameter                                                                                       |

## 6.292 DBA\_PROPERTY\_GRAPHS

DBA\_PROPERTY\_GRAPHS describes all property graphs in the database. Its columns are the same as those in ALL\_PROPERTY\_GRAPHS.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

"ALL\_PROPERTY\_GRAPHS"

## 6.293 DBA\_PROPAGATION

DBA\_PROPAGATION displays information about all propagations in the database. Its columns are the same as those in ALL\_PROPAGATION.



### See Also:

"ALL\_PROPAGATION"

## 6.294 DBA\_PROXIES

DBA\_PROXIES displays information about all proxy connections in the database.

### Related View

USER\_PROXIES displays information about connections the current user is allowed to proxy. This view does not display the PROXY or PROXY\_AUTHORITY columns.

| Column                   | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                        |
|--------------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROXY                    | VARCHAR2 (128) |          | Name of the proxy user                                                                                                                                                                                                                                                             |
| CLIENT                   | VARCHAR2 (128) | NOT NULL | Name of the client user who the proxy user can act on behalf of                                                                                                                                                                                                                    |
| AUTHENTICATION           | VARCHAR2 (3)   |          | Indicates whether the proxy is required to supply the client's authentication credentials (YES) or not (NO)                                                                                                                                                                        |
| AUTHORIZATION_CONSTRAINT | VARCHAR2 (35)  |          | Indicates the proxy's authority to exercise roles on the client's behalf: <ul style="list-style-type: none"><li>• NO CLIENT ROLES MAY BE ACTIVATED</li><li>• PROXY MAY ACTIVATE ROLE</li><li>• PROXY MAY ACTIVATE ALL CLIENT ROLES</li><li>• PROXY MAY NOT ACTIVATE ROLE</li></ul> |

| Column          | Datatype       | NULL | Description                                                                                                                                                                                  |
|-----------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ROLE            | VARCHAR2 (128) |      | Name of the role referenced in AUTHORIZATION_CONSTRAINT                                                                                                                                      |
| PROXY_AUTHORITY | VARCHAR2 (9)   |      | Value is either: <ul style="list-style-type: none"> <li>DIRECTORY if EUS proxy is enabled for that database user</li> <li>DATABASE if this row describes a local proxy permission</li> </ul> |



**See Also:**

"USER\_PROXIES"

## 6.295 DBA\_QUARANTINED\_TRANSACTIONS

DBA\_QUARANTINED\_TRANSACTIONS lists all quarantined transactions in the current container.

| Column              | Datatype        | NULL     | Description                                                                                                                              |
|---------------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------|
| USN                 | NUMBER          | NOT NULL | Undo segment number of the quarantined transaction                                                                                       |
| SLT                 | NUMBER          | NOT NULL | Slot number of the quarantined transaction                                                                                               |
| SQN                 | NUMBER          | NOT NULL | Sequence number of the quarantined transaction                                                                                           |
| REASON              | VARCHAR2 (256)  |          | Reason the transaction failed to recover                                                                                                 |
| TRACE_FILE_NAME     | VARCHAR2 (4096) |          | Name of the trace file containing the reason for the transaction's recovery failure, along with diagnostic information about the failure |
| UNDO_TSN            | NUMBER          |          | Undo tablespace number for the quarantined transaction                                                                                   |
| UNDO_RECORD_OBJN    | NUMBER          |          | Dictionary object number of the object (OBJN)                                                                                            |
| UNDO_RECORD_OBJD    | NUMBER          |          | Dictionary object number of the segment that contains the object (OBJD)                                                                  |
| DATA_BLOCK_TSN      | NUMBER          |          | Tablespace ID for the object                                                                                                             |
| PREV_UNDO_BLOCK_DBA | NUMBER          |          | Previous undo block address, which was used for rollback                                                                                 |
| UBA_RDBA            | NUMBER          |          | Relative data block address of the current undo block being applied for rollback                                                         |
| UBA_SQN             | NUMBER          |          | Undo block sequence number of the current undo block being applied for rollback                                                          |
| UBA_RECORD_NUMBER   | NUMBER          |          | Undo record number of the current undo block being applied for rollback                                                                  |
| TXN_START_SCN       | NUMBER          |          | Start SCN of the quarantined transaction                                                                                                 |
| INCIDENT_TIME       | VARCHAR2 (64)   |          | Time at which the incident occurred                                                                                                      |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["V\\$FAST\\_START\\_TRANSACTIONS"](#)

## 6.296 DBA\_QUEUE\_EVENT\_STREAMS

DBA\_QUEUE\_EVENT\_STREAMS describes all Transactional Event Queue (TxEventQ) event streams in the database. Its columns are the same as those in ALL\_QUEUE\_EVENT\_STREAMS.

**See Also:**

["ALL\\_QUEUE\\_EVENT\\_STREAMS"](#)

## 6.297 DBA\_QUEUE\_SCHEDULES

DBA\_QUEUE\_SCHEDULES describes all propagation schedules in the database. Its columns are the same as those in ALL\_QUEUE\_SCHEDULES.

**See Also:**

["ALL\\_QUEUE\\_SCHEDULES"](#)

## 6.298 DBA\_QUEUE\_SUBSCRIBERS

DBA\_QUEUE\_SUBSCRIBERS displays all subscribers on all queues in the database. Its columns are the same as those in ALL\_QUEUE\_SUBSCRIBERS.

**See Also:**

["ALL\\_QUEUE\\_SUBSCRIBERS"](#)



## 6.299 DBA\_QUEUE\_TABLES

DBA\_QUEUE\_TABLES contains information about the owner instance for a queue table.

A queue table can contain multiple queues. In this case, each queue in a queue table has the same owner instance as the queue table. Its columns are the same as those in ALL\_QUEUE\_TABLES.



### See Also:

"ALL\_QUEUE\_TABLES"

## 6.300 DBA\_QUEUES

DBA\_QUEUES describes the operational characteristics of every queue in a database. Its columns are the same as those in ALL\_QUEUES.



### See Also:

- "ALL\_QUEUES"
- *Oracle Database Advanced Queuing User's Guide* for more information about Advanced Queuing

## 6.301 DBA\_RAT\_CAPTURE\_SCHEMA\_INFO

DBA\_RAT\_CAPTURE\_SCHEMA\_INFO displays the login schema and current schema that were in effect when SQL statements were recorded in a workload capture.

This view is useful when you perform a workload replay in extended PL/SQL mode. This type of replay may include SQL statements that perform table operations such as `SELECT`, `UPDATE`, and `DELETE`. If the current schema was different from the login schema at the time of the workload capture, then those table operations may have been performed with the privileges of the current user, not the login user. During workload replay, all operations are performed with the privileges of the login user. Therefore, errors can occur during replay if the login user does not have the necessary privileges to perform the table operations.

To resolve this issue, you can use this view in conjunction with the `DBA_WORKLOAD_CAPTURE_SQLTEXT` view. Join the `CAPTURE_ID` column in this view with the `CAPTURE_ID` column in `DBA_WORKLOAD_CAPTURE_SQLTEXT` to determine the login schema and current schema that were in effect when each SQL statement in `DBA_WORKLOAD_CAPTURE_SQLTEXT` was captured. Examine the `SQL_TEXT` column in `DBA_WORKLOAD_CAPTURE_SQLTEXT` to determine whether the SQL statement involved any table operations, and whether those table operations were performed with the privileges of the current user or the login user. You can then grant to the login user the necessary privileges for performing those table operations before performing a workload replay.

| Column         | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                        |
|----------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAPTURE_ID     | NUMBER (38)    |      | Internal key for the workload capture                                                                                                                                                                                                                                                                                              |
| SQL_ID         | VARCHAR2 (13)  |      | SQL identifier for the parent cursor in the library cache                                                                                                                                                                                                                                                                          |
| LOGIN_SCHEMA   | VARCHAR2 (128) |      | The schema of the user who logged on to the session in which the SQL statement was recorded in the workload capture. This value does not change during a session.                                                                                                                                                                  |
| CURRENT_SCHEMA | VARCHAR2 (128) |      | The currently active default schema for the session when the SQL statement was recorded in the workload capture. This value may change during a session through use of an <code>ALTER SESSION SET CURRENT_SCHEMA</code> statement. It may also change during a session to reflect the owner of any active definer's rights object. |



**See Also:**

"[DBA\\_WORKLOAD\\_CAPTURE\\_SQLTEXT](#)"

## 6.302 DBA\_RCHILD

DBA\_RCHILD displays all the children in any refresh group.

| Column   | Datatype       | NULL     | Description                              |
|----------|----------------|----------|------------------------------------------|
| REFGROUP | NUMBER         |          | Internal identifier of the refresh group |
| OWNER    | VARCHAR2 (128) | NOT NULL | Owner of the object in the refresh group |
| NAME     | VARCHAR2 (128) | NOT NULL | Name of the object in the refresh group  |
| TYPE#    | VARCHAR2 (128) |          | Type of the object in the refresh group  |

## 6.303 DBA\_RECOVERABLE\_SCRIPT

DBA\_RECOVERABLE\_SCRIPT provides details about recoverable operations.

| Column                 | Datatype       | NULL | Description                                                                              |
|------------------------|----------------|------|------------------------------------------------------------------------------------------|
| SCRIPT_ID              | RAW (16)       |      | Unique ID of the operation                                                               |
| CREATION_TIME          | DATE           |      | Time the operation was invoked                                                           |
| INVOKING_PACKAGE_OWNER | VARCHAR2 (128) |      | Invoking package owner of the operation                                                  |
| INVOKING_PACKAGE       | VARCHAR2 (128) |      | Invoking package of the operation                                                        |
| INVOKING_PROCEDURE     | VARCHAR2 (128) |      | Invoking procedure of the operation                                                      |
| INVOKING_USER          | VARCHAR2 (128) |      | Script owner                                                                             |
| STATUS                 | VARCHAR2 (12)  |      | State of the recoverable script: GENERATING, NOT EXECUTED, EXECUTING, EXECUTED, or ERROR |
| TOTAL_BLOCKS           | NUMBER         |      | Total number of blocks for the recoverable script to be executed                         |

| Column         | Datatype        | NULL | Description                        |
|----------------|-----------------|------|------------------------------------|
| DONE_BLOCK_NUM | NUMBER          |      | Last block executed, thus far      |
| SCRIPT_COMMENT | VARCHAR2 (4000) |      | Comment for the recoverable script |

## 6.304 DBA\_RECOVERABLE\_SCRIPT\_BLOCKS

DBA\_RECOVERABLE\_SCRIPT\_BLOCKS provides details about recoverable script blocks.

| Column               | Datatype        | NULL | Description                                                                            |
|----------------------|-----------------|------|----------------------------------------------------------------------------------------|
| SCRIPT_ID            | RAW (16)        |      | Global unique ID of the recoverable script to which this block belongs                 |
| BLOCK_NUM            | NUMBER          |      | The <i>n</i> th block in the recoverable script to be executed                         |
| FORWARD_BLOCK        | CLOB            |      | Forward block to be executed                                                           |
| FORWARD_BLOCK_DBLINK | VARCHAR2 (128)  |      | Database where the forward block is executed                                           |
| UNDO_BLOCK           | CLOB            |      | Block to roll back the forward operation                                               |
| UNDO_BLOCK_DBLINK    | VARCHAR2 (128)  |      | Database where the undo block is executed                                              |
| STATUS               | VARCHAR2 (12)   |      | Status of the block execution: GENERATING, NOT EXECUTED, EXECUTING, EXECUTED, or ERROR |
| BLOCK_COMMENT        | VARCHAR2 (4000) |      | Comment for the block                                                                  |

## 6.305 DBA\_RECOVERABLE\_SCRIPT\_ERRORS

DBA\_RECOVERABLE\_SCRIPT\_ERRORS provides details about errors that occurred during script execution.

| Column              | Datatype        | NULL | Description                                               |
|---------------------|-----------------|------|-----------------------------------------------------------|
| SCRIPT_ID           | RAW (16)        |      | Global unique ID of the recoverable script                |
| BLOCK_NUM           | NUMBER          |      | The <i>n</i> th block that failed                         |
| ERROR_NUMBER        | NUMBER          |      | Number of the error encountered while executing the block |
| ERROR_MESSAGE       | VARCHAR2 (4000) |      | Error message encountered while executing the block       |
| ERROR_CREATION_TIME | DATE            |      | Time that the error was created                           |

## 6.306 DBA\_RECOVERABLE\_SCRIPT\_HIST

DBA\_RECOVERABLE\_SCRIPT\_HIST displays details about executed or purged recoverable operations.

| Column                 | Datatype       | NULL | Description                             |
|------------------------|----------------|------|-----------------------------------------|
| SCRIPT_ID              | RAW (16)       |      | Unique id of the operation              |
| CREATION_TIME          | DATE           |      | Time the operation was invoked          |
| INVOKING_PACKAGE_OWNER | VARCHAR2 (128) |      | Invoking package owner of the operation |
| INVOKING_PACKAGE       | VARCHAR2 (128) |      | Invoking package of the operation       |

| Column             | Datatype        | NULL | Description                                                      |
|--------------------|-----------------|------|------------------------------------------------------------------|
| INVOKING_PROCEDURE | VARCHAR2 (128)  |      | Invoking procedure of the operation                              |
| INVOKING_USER      | VARCHAR2 (128)  |      | Script owner                                                     |
| STATUS             | VARCHAR2 (8)    |      | state of the recoverable script: EXECUTED, PURGED                |
| TOTAL_BLOCKS       | NUMBER          |      | total number of blocks for the recoverable script to be executed |
| DONE_BLOCK_NUM     | NUMBER          |      | last block so far executed                                       |
| SCRIPT_COMMENT     | VARCHAR2 (4000) |      | comment for the recoverable script                               |

## 6.307 DBA\_RECOVERABLE\_SCRIPT\_PARAMS

DBA\_RECOVERABLE\_SCRIPT\_PARAMS provides details about recoverable operation parameters.

| Column      | Datatype        | NULL | Description                      |
|-------------|-----------------|------|----------------------------------|
| SCRIPT_ID   | RAW (16)        |      | Unique ID of the operation       |
| PARAMETER   | VARCHAR2 (128)  |      | Name of the parameter            |
| PARAM_INDEX | NUMBER          |      | Index for multi-valued parameter |
| VALUE       | VARCHAR2 (4000) |      | Value of the parameter           |

## 6.308 DBA\_RECYCLEBIN

DBA\_RECYCLEBIN displays information about all recycle bins in the database.

### Related View

USER\_RECYCLEBIN displays information about the recycle bin owned by the current user. This view does not display the OWNER column.

| Column        | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                     |
|---------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER         | VARCHAR2 (128) | NOT NULL | Name of the original owner of the object                                                                                                                                                                                                                                                                        |
| OBJECT_NAME   | VARCHAR2 (128) | NOT NULL | New name of the object                                                                                                                                                                                                                                                                                          |
| ORIGINAL_NAME | VARCHAR2 (128) |          | Original name of the object                                                                                                                                                                                                                                                                                     |
| OPERATION     | VARCHAR2 (9)   |          | Operation carried out on the object: <ul style="list-style-type: none"><li>• DROP - Object was dropped</li><li>• TRUNCATE - Object was truncated</li></ul> <b>Note:</b> The Oracle Database currently only supports recovering dropped objects from the recycle bin. The truncated objects cannot be recovered. |

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE           | VARCHAR2 (25)  |          | Type of the object: <ul style="list-style-type: none"> <li>• TABLE</li> <li>• NORMAL INDEX</li> <li>• BITMAP INDEX</li> <li>• NESTED TABLE</li> <li>• LOB</li> <li>• LOB INDEX</li> <li>• DOMAIN INDEX</li> <li>• IOT TOP INDEX</li> <li>• IOT OVERFLOW SEGMENT</li> <li>• IOT MAPPING TABLE</li> <li>• TRIGGER</li> <li>• Table Partition</li> <li>• Table Composite Partition</li> <li>• Index Partition</li> <li>• Index Composite Partition</li> <li>• LOB Partition</li> <li>• LOB Composite Partition</li> </ul> |
| TS_NAME        | VARCHAR2 (30)  |          | Name of the tablespace to which the object belongs                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CREATETIME     | VARCHAR2 (19)  |          | Timestamp for the creation of the object                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DROPTIME       | VARCHAR2 (19)  |          | Timestamp for the dropping of the object                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DROPSCN        | NUMBER         |          | System change number (SCN) of the transaction which moved the object to the recycle bin                                                                                                                                                                                                                                                                                                                                                                                                                                |
| PARTITION_NAME | VARCHAR2 (128) |          | Name of the partition which was dropped                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CAN_UNDROP     | VARCHAR2 (3)   |          | Indicates whether the object can be undropped (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CAN_PURGE      | VARCHAR2 (3)   |          | Indicates whether the object can be purged (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| RELATED        | NUMBER         | NOT NULL | Object number of the parent object                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| BASE_OBJECT    | NUMBER         | NOT NULL | Object number of the base object                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| PURGE_OBJECT   | NUMBER         | NOT NULL | Object number for the object which gets purged                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SPACE          | NUMBER         |          | Number of blocks used by the object                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |



**See Also:**

"USER\_RECYCLEBIN"

## 6.309 DBA\_REDEFINITION\_ERRORS

DBA\_REDEFINITION\_ERRORS is an online redefinition view. It displays the dependent objects for which errors were raised while attempting to create similar objects on the interim table of the redefinition.

| Column           | Datatype        | NULL     | Description                                                                                                                                                                                                         |
|------------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_TYPE      | VARCHAR2 (12)   |          | Type of the redefinition object: <ul style="list-style-type: none"> <li>• TABLE</li> <li>• INDEX</li> <li>• CONSTRAINT</li> <li>• TRIGGER</li> <li>• NESTED TABLE</li> <li>• PARTITION</li> <li>• MV LOG</li> </ul> |
| OBJECT_OWNER     | VARCHAR2 (4000) |          | Owner of the redefinition object                                                                                                                                                                                    |
| OBJECT_NAME      | VARCHAR2 (128)  | NOT NULL | Name of the redefinition object                                                                                                                                                                                     |
| BASE_TABLE_OWNER | VARCHAR2 (128)  |          | Owner of the base table of the redefinition object                                                                                                                                                                  |
| BASE_TABLE_NAME  | VARCHAR2 (128)  |          | Name of the base table of the redefinition object                                                                                                                                                                   |
| DDL_TXT          | CLOB            |          | DDL used to create the corresponding interim redefinition object                                                                                                                                                    |
| EDITION_NAME     | VARCHAR2 (128)  |          | Reserved for future use                                                                                                                                                                                             |
| ERR_NO           | NUMBER (38)     |          | Oracle error number corresponding to this error                                                                                                                                                                     |
| ERR_TXT          | VARCHAR2 (1000) |          | Oracle error text corresponding to this error                                                                                                                                                                       |



#### See Also:

*Oracle Database Administrator's Guide* for more information about online redefinition

## 6.310 DBA\_REDEFINITION\_OBJECTS

DBA\_REDEFINITION\_OBJECTS is an online redefinition view. It displays the objects involved in the current redefinitions.

| Column               | Datatype        | NULL     | Description                                                                                                                                                                                                         |
|----------------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_TYPE          | VARCHAR2 (12)   |          | Type of the redefinition object: <ul style="list-style-type: none"> <li>• TABLE</li> <li>• INDEX</li> <li>• CONSTRAINT</li> <li>• TRIGGER</li> <li>• NESTED TABLE</li> <li>• PARTITION</li> <li>• MV LOG</li> </ul> |
| OBJECT_OWNER         | VARCHAR2 (4000) |          | Owner of the redefinition object                                                                                                                                                                                    |
| OBJECT_NAME          | VARCHAR2 (128)  | NOT NULL | Name of the redefinition object                                                                                                                                                                                     |
| BASE_TABLE_OWNER     | VARCHAR2 (128)  |          | Owner of the base table of the redefinition object                                                                                                                                                                  |
| BASE_TABLE_NAME      | VARCHAR2 (128)  |          | Name of the base table of the redefinition object                                                                                                                                                                   |
| INTERIM_OBJECT_OWNER | VARCHAR2 (4000) |          | Owner of the corresponding interim redefinition object                                                                                                                                                              |
| INTERIM_OBJECT_NAME  | VARCHAR2 (128)  |          | Name of the corresponding interim redefinition object                                                                                                                                                               |
| EDITION_NAME         | VARCHAR2 (128)  |          | Reserved for future use                                                                                                                                                                                             |

**See Also:***Oracle Database Administrator's Guide* for more information about online redefinition

## 6.311 DBA\_REDEFINITION\_STATUS

DBA\_REDEFINITION\_STATUS is an online redefinition view. It provides information about the online redefinition status.

| Column               | Datatype       | NULL     | Description                                                                                                                                                                                            |
|----------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REDEFINITION_ID      | NUMBER(38)     | NOT NULL | ID for the redefinition object                                                                                                                                                                         |
| BASE_TABLE_OWNER     | VARCHAR2(128)  |          | Owner of the base table of the redefinition object                                                                                                                                                     |
| BASE_TABLE_NAME      | VARCHAR2(128)  |          | Name of the base table of the redefinition object                                                                                                                                                      |
| BASE_OBJECT_NAME     | VARCHAR2(128)  | NOT NULL | Name of the base object of the redefinition object                                                                                                                                                     |
| BASE_OBJECT_TYPE     | VARCHAR2(9)    |          | Type of the base object of the redefinition object                                                                                                                                                     |
| INTERIM_OBJECT_OWNER | VARCHAR2(128)  |          | Owner of the interim object of the redefinition object                                                                                                                                                 |
| INTERIM_OBJECT_NAME  | VARCHAR2(128)  |          | Name of the interim object of the redefinition object                                                                                                                                                  |
| OPERATION            | VARCHAR2(128)  | NOT NULL | The current redefinition operation: <ul style="list-style-type: none"> <li>• START_REDEF_TABLE</li> <li>• SYNC_INTERIM_TABLE</li> <li>• COPY_TABLE_DEPENDENTS</li> <li>• FINISH_REDEF_TABLE</li> </ul> |
| STATUS               | VARCHAR2(128)  | NOT NULL | Status of the previous redefinition operation: <ul style="list-style-type: none"> <li>• FAILURE</li> <li>• SUCCESS</li> </ul>                                                                          |
| RESTARTABLE          | VARCHAR2(1)    | NOT NULL | Indicates whether the previous operation can be restarted                                                                                                                                              |
| ERR_TXT              | VARCHAR2(1000) |          | The error message raised from the previous operation                                                                                                                                                   |
| ACTION               | VARCHAR2(400)  |          | The suggested action                                                                                                                                                                                   |
| REFRESH_DEP_MVIEWS   | VARCHAR2(1)    |          | Indicates whether the online redefinition will also refresh dependent materialized views when syncing the interim table (Y) or not (N)                                                                 |

**See Also:***Oracle Database Administrator's Guide* for more information about online redefinition

## 6.312 DBA\_REFRESH

DBA\_REFRESH describes all refresh groups in the database. Its columns are the same as those in ALL\_REFRESH.



**See Also:**

"ALL\_REFRESH"

## 6.313 DBA\_REFRESH\_CHILDREN

DBA\_REFRESH\_CHILDREN lists all of the objects in all refresh groups in the database. Its columns are the same as those in ALL\_REFRESH\_CHILDREN.



**See Also:**

"ALL\_REFRESH\_CHILDREN"

## 6.314 DBA\_REFS

DBA\_REFS describes the REF columns and REF attributes in object type columns of all the objects in the database. Its columns are the same as those in ALL\_REFS.



**See Also:**

"ALL\_REFS"

## 6.315 DBA\_REGISTERED\_ARCHIVED\_LOG

DBA\_REGISTERED\_ARCHIVED\_LOG displays information about all registered archived logfiles in the database.

| Column          | Datatype       | NULL     | Description                                                                                                                                                      |
|-----------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CONSUMER_NAME   | VARCHAR2 (128) | NOT NULL | Consumer name of the archived logs                                                                                                                               |
| SOURCE_DATABASE | VARCHAR2 (128) |          | Name of the database which generated the redo logs                                                                                                               |
| THREAD#         | NUMBER         | NOT NULL | Thread number of the archived redo log. The thread number is 1 for a single instance. For Real Application Clusters, this column will contain different numbers. |
| SEQUENCE#       | NUMBER         | NOT NULL | Sequence number of the archived redo log file                                                                                                                    |
| FIRST_SCN       | NUMBER         | NOT NULL | System change number (SCN) of the current archived redo log                                                                                                      |



| Column             | Datatype       | NULL     | Description                                                                                           |
|--------------------|----------------|----------|-------------------------------------------------------------------------------------------------------|
| NEXT_SCN           | NUMBER         |          | System change number (SCN) of the next archived redo log                                              |
| FIRST_TIME         | DATE           |          | Date and time of the current archived redo log                                                        |
| NEXT_TIME          | DATE           |          | Date and time of the next archived redo log                                                           |
| NAME               | VARCHAR2 (513) |          | Name of the archived redo log                                                                         |
| MODIFIED_TIME      | DATE           |          | Time when the archived redo log was registered                                                        |
| DICTIONARY_BEGIN   | VARCHAR2 (3)   |          | Indicates whether the beginning of the dictionary build is in the archived redo log (YES) or not (NO) |
| DICTIONARY_END     | VARCHAR2 (3)   |          | Indicates whether the end of the dictionary build is in the archived redo log (YES) or not (NO)       |
| PURGEABLE          | VARCHAR2 (3)   |          | Indicates whether the redo log can be permanently removed (YES) or not (NO)                           |
| RESET_LOGS_CHANGE# | NUMBER         | NOT NULL | Resetlogs change number of the database when the log was written                                      |
| RESET_TIMESTAMP    | NUMBER         | NOT NULL | Resetlogs time of the database when the log was written                                               |

## 6.316 DBA\_REGISTERED\_MVIEWS

DBA\_REGISTERED\_MVIEWS describes all registered materialized views (registered at a master site or a master materialized view site) in the database. Its columns are the same as those in ALL\_REGISTERED\_MVIEWS.



**See Also:**

"ALL\_REGISTERED\_MVIEWS"

## 6.317 DBA\_REGISTRY

DBA\_REGISTRY displays information about all components in the database that are loaded into the component registry.

The component registry tracks components that can be separately loaded into the Oracle Database. When a SQL script loads the PL/SQL packages and other database objects for a component into the database, the script records the component name, status, and version. If scripts are used to upgrade/downgrade the dictionary elements for the component, then those scripts also record status and version information.

### Related View

USER\_REGISTRY displays information about the components owned by the current user that are loaded into the component registry.

| Column  | Datatype      | NULL     | Description          |
|---------|---------------|----------|----------------------|
| COMP_ID | VARCHAR2 (30) | NOT NULL | Component identifier |

| Column        | Datatype        | NULL     | Description                                                                                                                                                                                                                                                      |
|---------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMP_NAME     | VARCHAR2 (255)  |          | Component name                                                                                                                                                                                                                                                   |
| VERSION       | VARCHAR2 (30)   |          | Component version loaded                                                                                                                                                                                                                                         |
| VERSION_FULL  | VARCHAR2 (30)   |          | Component full version                                                                                                                                                                                                                                           |
| STATUS        | VARCHAR2 (11)   |          | Component status: <ul style="list-style-type: none"> <li>• INVALID</li> <li>• VALID</li> <li>• LOADING</li> <li>• LOADED</li> <li>• UPGRADING</li> <li>• UPGRADED</li> <li>• DOWNGRADING</li> <li>• DOWNGRADED</li> <li>• REMOVING</li> <li>• REMOVED</li> </ul> |
| MODIFIED      | VARCHAR2 (20)   |          | Time when the component was last modified                                                                                                                                                                                                                        |
| NAMESPACE     | VARCHAR2 (30)   | NOT NULL | Component namespace                                                                                                                                                                                                                                              |
| CONTROL       | VARCHAR2 (128)  | NOT NULL | User that created the component entry                                                                                                                                                                                                                            |
| SCHEMA        | VARCHAR2 (128)  | NOT NULL | User that contains the objects for the component                                                                                                                                                                                                                 |
| PROCEDURE     | VARCHAR2 (61)   |          | Validation procedure                                                                                                                                                                                                                                             |
| STARTUP       | VARCHAR2 (8)    |          | Indicates whether the component requires a startup after the upgrade (REQUIRED) or not                                                                                                                                                                           |
| PARENT_ID     | VARCHAR2 (30)   |          | Parent component identifier                                                                                                                                                                                                                                      |
| OTHER_SCHEMAS | VARCHAR2 (4000) |          | A list of ancillary schema names associated with the component                                                                                                                                                                                                   |



#### See Also:

"USER\_REGISTRY"

## 6.318 DBA\_REGISTRY\_BACKPORTS

DBA\_REGISTRY\_BACKPORTS displays backported bug fixes that were applied to the database. This view displays only bug fixes that changed the data dictionary of the database.

| Column        | Datatype      | NULL     | Description                                                                                                                                                               |
|---------------|---------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BUGNO         | NUMBER        | NOT NULL | Bug number                                                                                                                                                                |
| VERSION_FULL  | VARCHAR2 (30) | NOT NULL | Component full version                                                                                                                                                    |
| COMP_ID       | VARCHAR2 (30) | NOT NULL | Component identifier                                                                                                                                                      |
| NAMESPACE     | VARCHAR2 (30) | NOT NULL | Component namespace                                                                                                                                                       |
| BACKPORT_TYPE | VARCHAR2 (30) | NOT NULL | Type of backported bug fix<br>The value of this columns is always <code>DICTIONARY</code> , which indicates that the bug fix changed the data dictionary of the database. |

| Column        | Datatype      | NULL     | Description                                               |
|---------------|---------------|----------|-----------------------------------------------------------|
| BACKPORT_TIME | TIMESTAMP (6) | NOT NULL | Date and time at which the backported bug fix was applied |

## 6.319 DBA\_REGISTRY\_HIERARCHY

DBA\_REGISTRY\_HIERARCHY displays information about the components loaded into the database, grouped by owner and organized in the component hierarchy.

| Column       | Datatype        | NULL     | Description                                                                                                                                                                                                                                                      |
|--------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAMESPACE    | VARCHAR2 (30)   | NOT NULL | Component namespace                                                                                                                                                                                                                                              |
| COMP_ID      | VARCHAR2 (4000) |          | Component identifier                                                                                                                                                                                                                                             |
| VERSION      | VARCHAR2 (30)   |          | Component version loaded                                                                                                                                                                                                                                         |
| VERSION_FULL | VARCHAR2 (30)   |          | Component full version                                                                                                                                                                                                                                           |
| STATUS       | VARCHAR2 (11)   |          | Component status: <ul style="list-style-type: none"> <li>• INVALID</li> <li>• VALID</li> <li>• LOADING</li> <li>• LOADED</li> <li>• UPGRADING</li> <li>• UPGRADED</li> <li>• DOWNGRADING</li> <li>• DOWNGRADED</li> <li>• REMOVING</li> <li>• REMOVED</li> </ul> |
| MODIFIED     | VARCHAR2 (20)   |          | Time when the component was last modified                                                                                                                                                                                                                        |

## 6.320 DBA\_REGISTRY\_HISTORY

DBA\_REGISTRY\_HISTORY provides information about upgrades, downgrades, and critical patch updates that have been performed on the database.

| Column        | Datatype       | NULL | Description                                                    |
|---------------|----------------|------|----------------------------------------------------------------|
| ACTION_TIME   | TIMESTAMP (6)  |      | The time the upgrade, downgrade, or patch action was completed |
| ACTION        | VARCHAR2 (30)  |      | The specific action (for example, UPGRADE or DOWNGRADE)        |
| NAMESPACE     | VARCHAR2 (30)  |      | The namespace of the components affected (for example, SERVER) |
| VERSION       | VARCHAR2 (30)  |      | The version number of the server (for example, 10.2.0.1.0)     |
| ID            | NUMBER         |      | Bundle ID                                                      |
| COMMENTS      | VARCHAR2 (255) |      | Additional comments about the action taken                     |
| BUNDLE_SERIES | VARCHAR2 (30)  |      | If a bundle patch, the series (for example, PSU or DBBP)       |

## 6.321 DBA\_REGISTRY\_LOG

DBA\_REGISTRY\_LOG displays operating information about components loaded into the database.

| Column    | Datatype        | NULL | Description          |
|-----------|-----------------|------|----------------------|
| OPTIME    | VARCHAR2 (20)   |      | Operation time       |
| NAMESPACE | VARCHAR2 (30)   |      | Component namespace  |
| COMP_ID   | VARCHAR2 (30)   |      | Component identifier |
| OPERATION | VARCHAR2 (11)   |      | Operation name       |
| MESSAGE   | VARCHAR2 (1000) |      | Message              |

## 6.322 DBA\_REGISTRY\_SCHEMAS

DBA\_REGISTRY\_SCHEMAS lists the primary and ancillary schemas included in the component registry. The ancillary schemas that are listed in this view are the same schemas that would be included in the OTHER\_SCHEMAS column of the DBA\_REGISTRY view.

| Column    | Datatype       | NULL | Description                                      |
|-----------|----------------|------|--------------------------------------------------|
| NAMESPACE | VARCHAR2 (30)  |      | Component namespace                              |
| COMP_ID   | VARCHAR2 (30)  |      | Component identifier                             |
| SCHEMA    | VARCHAR2 (128) |      | User that contains the objects for the component |

### See Also:

- "DBA\_REGISTRY"
- "USER\_REGISTRY"

## 6.323 DBA\_REGISTRY\_SQLPATCH

DBA\_REGISTRY\_SQLPATCH contains information about the SQL patches that have been installed in the database.

A SQL patch is a patch that contains SQL scripts which need to be run after OPatch completes. DBA\_REGISTRY\_SQLPATCH is updated by the datapatch utility. Each row contains information about an installation attempt (apply or roll back) for a given patch.

| Column     | Datatype | NULL     | Description                                                                                                                                              |
|------------|----------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| INSTALL_ID | NUMBER   | NOT NULL | Unique numeric identifier for this datapatch session. All patches installed in the same invocation of datapatch will have the same value for INSTALL_ID. |
| PATCH_ID   | NUMBER   | NOT NULL | ID associated with the patch                                                                                                                             |
| PATCH_UID  | NUMBER   | NOT NULL | UPI (Universal Patch ID) associated with the patch                                                                                                       |

| Column                   | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                   |
|--------------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PATCH_TYPE               | VARCHAR2 (10)  | NOT NULL | Type of the patch. Possible values: <ul style="list-style-type: none"> <li>• INTERIM: Interim patch</li> <li>• RU: Release Update</li> <li>• RUI: Release Update Increment</li> <li>• RUR: Release Update Revision</li> <li>• CU: Cumulative Update</li> </ul>                                                |
| ACTION                   | VARCHAR2 (15)  | NOT NULL | APPLY or ROLLBACK                                                                                                                                                                                                                                                                                             |
| STATUS                   | VARCHAR2 (25)  | NOT NULL | Possible values: <ul style="list-style-type: none"> <li>• SUCCESS: Patch application has completed with no errors</li> <li>• WITH ERRORS: Patch application finished with errors</li> </ul>                                                                                                                   |
| ACTION_TIME              | TIMESTAMP (6)  | NOT NULL | Timestamp when the install was performed                                                                                                                                                                                                                                                                      |
| DESCRIPTION              | VARCHAR2 (100) |          | Description of this patch from OPatch metadata                                                                                                                                                                                                                                                                |
| LOGFILE                  | VARCHAR2 (500) | NOT NULL | Location of the logfile for this apply or rollback attempt                                                                                                                                                                                                                                                    |
| RU_LOGFILE               | VARCHAR2 (500) |          | Logfile location for RU specific commands                                                                                                                                                                                                                                                                     |
| FLAGS                    | VARCHAR2 (10)  |          | One or more of the following: <ul style="list-style-type: none"> <li>• J: Patch is a JVM patch</li> <li>• M: Patch installation was merged with another patch</li> <li>• N: Patch requires normal mode</li> <li>• R: Patch installation has been retried</li> <li>• U: Patch requires upgrade mode</li> </ul> |
| PATCH_DESCRIPTOR         | XMLTYPE        |          | Contents of the XML descriptor for the patch                                                                                                                                                                                                                                                                  |
| PATCH_DIRECTORY          | BLOB           |          | Contents of the patch directory under ORACLE_HOME/sqlpatch                                                                                                                                                                                                                                                    |
| SOURCE_VERSION           | VARCHAR2 (15)  |          | 5 digit version (for example, 18.3.2.0.0) for the version on which the patch was applied                                                                                                                                                                                                                      |
| SOURCE_BUILD_DESCRIPTION | VARCHAR2 (80)  |          | Build description (for example, Release_Update or Release_Update_Revision) for the version on which the patch was applied                                                                                                                                                                                     |
| SOURCE_BUILD_TIMESTAMP   | TIMESTAMP (6)  |          | Build timestamp for the version on which the patch was applied                                                                                                                                                                                                                                                |
| TARGET_VERSION           | VARCHAR2 (15)  |          | 5 digit version (for example, 18.4.0.0.0) for the version to be installed                                                                                                                                                                                                                                     |
| TARGET_BUILD_DESCRIPTION | VARCHAR2 (80)  |          | Build description (for example, Release_Update or Release_Update_Revision) for the version to be installed                                                                                                                                                                                                    |
| TARGET_BUILD_TIMESTAMP   | TIMESTAMP (6)  |          | Build timestamp for the version to be installed                                                                                                                                                                                                                                                               |

 **See Also:**

- *Oracle OPatch User's Guide for Windows and UNIX* for more information about OPatch and related patching utilities
- My Oracle Support note 1585822.1 "Datapatch: Database 12c Post Patch SQL Automation" at the following URL for more information about datapatch:

<https://support.oracle.com/rs?type=doc&id=1585822.1>

## 6.324 DBA\_REPAIR\_TABLE

DBA\_REPAIR\_TABLE describes any corruptions found by the DBMS\_REPAIR.CHECK\_OBJECT procedure.

This information is used by the DBMS\_REPAIR.FIX\_CORRUPT\_BLOCKS procedure on execution. To create this view, first run the DBMS\_REPAIR.ADMIN\_TABLES procedure. To populate the resulting repair table for an object, run the DBMS\_REPAIR.CHECK\_OBJECT procedure on the object.

 **Note:**

The table created by the DBMS\_REPAIR.ADMIN\_TABLES procedure is called REPAIR\_TABLE by default. If you specify a different name, this view will have the name you specify, preceded by "DBA\_REPAIR\_".

| Column              | Datatype        | NULL     | Description                                                                                  |
|---------------------|-----------------|----------|----------------------------------------------------------------------------------------------|
| OBJECT_ID           | NUMBER          | NOT NULL | Dictionary object number of the object with the corruption                                   |
| TABLESPACE_ID       | NUMBER          | NOT NULL | Tablespace number of the corrupt object                                                      |
| RELATIVE_FILE_ID    | NUMBER)         | NOT NULL | Relative file number of the corrupt object                                                   |
| BLOCK_ID            | NUMBER          | NOT NULL | Block number of the corruption                                                               |
| CORRUPT_TYPE        | NUMBER          | NOT NULL | Type of corruption encountered                                                               |
| SCHEMA_NAME         | VARCHAR2 (128)  | NOT NULL | Schema of the corrupt object                                                                 |
| OBJECT_NAME         | VARCHAR2 (128)  | NOT NULL | Name of the corrupt object                                                                   |
| BASEOBJECT_NAME     | VARCHAR2 (128)  | NULL     | If the object is an index, the name of its base table                                        |
| PARTITION_NAME      | VARCHAR2 (128)  | NULL     | Partition or subpartition name, if applicable                                                |
| CORRUPT_DESCRIPTION | VARCHAR2 (2000) | NULL     | Description of corruption                                                                    |
| REPAIR_DESCRIPTION  | VARCHAR2 (200)  | NULL     | Description of repair action                                                                 |
| MARKED_CORRUPT      | VARCHAR2 (10)   | NOT NULL | Whether the block is marked corrupt (TRUE   FALSE)                                           |
| CHECK_TIMESTAMP     | DATE            | NOT NULL | Date and time when this row was inserted into the repair table                               |
| FIX_TIMESTAMP       | DATE            | NULL     | Date and time when the block was modified by the FIX_CORRUPT_BLOCKS procedure, if applicable |
| REFORMAT_TIMESTAMP  | DATE            | NULL     | Reserved for future use                                                                      |

**See Also:**

*Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_REPAIR package

## 6.325 DBA\_REPL\_DBNAME\_MAPPING

DBA\_REPL\_DBNAME\_MAPPING provides details about the database name mapping in replication. Its columns are the same as those in ALL\_REPL\_DBNAME\_MAPPING.

**See Also:**

["ALL\\_REPL\\_DBNAME\\_MAPPING"](#)

## 6.326 DBA\_REPLICATION\_PROCESS\_EVENTS

DBA\_REPLICATION\_PROCESS\_EVENTS provides information about the replication processes events in the database. Its columns are the same as those in ALL\_REPLICATION\_PROCESS\_EVENTS.

**See Also:**

["ALL\\_REPLICATION\\_PROCESS\\_EVENTS"](#)

## 6.327 DBA\_RESOURCE\_INCARNATIONS

DBA\_RESOURCE\_INCARNATIONS lists all resource incarnations that are running or eligible for HA status notification.

| Column         | Datatype                        | NULL     | Description                                   |
|----------------|---------------------------------|----------|-----------------------------------------------|
| RESOURCE_TYPE  | VARCHAR2 (30)                   | NOT NULL | Type of resource                              |
| RESOURCE_NAME  | VARCHAR2 (256)                  |          | Name of resource                              |
| DB_UNIQUE_NAME | VARCHAR2 (30)                   | NOT NULL | Database unique name                          |
| DB_DOMAIN      | VARCHAR2 (128)                  | NOT NULL | Database domain                               |
| INSTANCE_NAME  | VARCHAR2 (30)                   | NOT NULL | Name of instance at which resource is located |
| HOST_NAME      | VARCHAR2 (512)                  |          | Name of host at which resource is located     |
| STARTUP_TIME   | TIMESTAMP (9) WITH<br>TIME ZONE |          | Resource startup date and time                |

## 6.328 DBA\_RESUMABLE

DBA\_RESUMABLE displays all resumable statements executed in the system.

### Related View

USER\_RESUMABLE displays the resumable statements executed by the current user. This view does not display the USER\_ID column.

| Column            | Datatype        | NULL | Description                                                                                                                                                                |
|-------------------|-----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USER_ID           | NUMBER          |      | User ID Number of the Resumable Statement Owner                                                                                                                            |
| SESSION_ID        | NUMBER          |      | Session Identifier of the Resumable Statement                                                                                                                              |
| INSTANCE_ID       | NUMBER          |      | Instance Number of the Resumable Statement                                                                                                                                 |
| COORD_INSTANCE_ID | NUMBER          |      | Instance Number on which the Parallel Coordinator is Running                                                                                                               |
| COORD_SESSION_ID  | NUMBER          |      | Session Identifier of the Parallel Coordinator                                                                                                                             |
| STATUS            | VARCHAR2 (9)    |      | Status of the resumable statement: <ul style="list-style-type: none"> <li>• RUNNING</li> <li>• SUSPENDED</li> <li>• TIMEOUT</li> <li>• ERROR</li> <li>• ABORTED</li> </ul> |
| TIMEOUT           | NUMBER          |      | Timeout of the resumable statement                                                                                                                                         |
| START_TIME        | VARCHAR2 (20)   |      | Start time of the resumable statement                                                                                                                                      |
| SUSPEND_TIME      | VARCHAR2 (20)   |      | Last time the resumable statement was suspended (initialized to NULL)                                                                                                      |
| RESUME_TIME       | VARCHAR2 (20)   |      | Last time the suspended resumable statement was resumed (initialized to NULL)                                                                                              |
| NAME              | VARCHAR2 (4000) |      | Name given in the resumable clause of the resumable statement                                                                                                              |
| SQL_TEXT          | VARCHAR2 (1000) |      | Resumable statement, selected from the V\$SQL view                                                                                                                         |
| ERROR_NUMBER      | NUMBER          |      | Error code of the last correctable error. When STATUS is set to RUNNING, its value will be 0.                                                                              |
| ERROR_PARAMETER1  | VARCHAR2 (80)   |      | First parameter for the error message (NULL if no error)                                                                                                                   |
| ERROR_PARAMETER2  | VARCHAR2 (80)   |      | Second parameter for the error message (NULL if no error)                                                                                                                  |
| ERROR_PARAMETER3  | VARCHAR2 (80)   |      | Third parameter for the error message (NULL if no error)                                                                                                                   |
| ERROR_PARAMETER4  | VARCHAR2 (80)   |      | Forth parameter for the error message (NULL if no error)                                                                                                                   |
| ERROR_PARAMETERS5 | VARCHAR2 (80)   |      | Fifth parameter for the error message (NULL if no error)                                                                                                                   |
| ERROR_MSG         | VARCHAR2 (4000) |      | Error message corresponding to ERROR_NUMBER. It will be NULL when ERROR_NUMBER is 0.                                                                                       |



**See Also:**["USER\\_RESUMABLE"](#)

## 6.329 DBA\_REWRITE\_EQUIVALENCES

DBA\_REWRITE\_EQUIVALENCES describes all rewrite equivalences in the database. Its columns are the same as those in ALL\_REWRITE\_EQUIVALENCES.

**See Also:**["ALL\\_REWRITE\\_EQUIVALENCES"](#)

## 6.330 DBA\_RGROUP

DBA\_RGROUP displays all refresh groups.

| Column               | Datatype       | NULL     | Description                                                                                                                |
|----------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------|
| REFGROUP             | NUMBER         |          | Internal identifier of the refresh group                                                                                   |
| OWNER                | VARCHAR2 (128) | NOT NULL | Owner of the object in the refresh group                                                                                   |
| NAME                 | VARCHAR2 (128) | NOT NULL | Name of the object in the refresh group                                                                                    |
| IMPLICIT_DESTROY     | VARCHAR2 (1)   |          | Indicates whether the refresh group is destroyed when its last item is removed (Y) or not (N)                              |
| PUSH_DEFERRED_RPC    | VARCHAR2 (1)   |          | Indicates whether changes are pushed from the snapshot to the master before refresh (Y) or not (N)                         |
| REFRESH_AFTER_ERRORS | VARCHAR2 (1)   |          | Indicates whether to proceed with refresh despite errors when pushing deferred RPCs (Y) or not (N)                         |
| ROLLBACK_SEG         | VARCHAR2 (128) |          | Name of the rollback segment to use while refreshing                                                                       |
| JOB                  | NUMBER         | NOT NULL | Identifier of the job used to refresh the group automatically                                                              |
| PURGE_OPTION         | NUMBER (38)    |          | Method for purging the transaction queue after each push. 1 indicates quick purge option; 2 indicates precise purge option |
| PARALLELISM          | NUMBER (38)    |          | Level of parallelism for transaction propagation                                                                           |
| HEAP_SIZE            | NUMBER (38)    |          | Size of the heap                                                                                                           |
| JOB_NAME             | VARCHAR2 (128) |          | The name of the job used to automatically refresh the group                                                                |

## 6.331 DBA\_ROLE\_PRIVS

DBA\_ROLE\_PRIVS describes the roles granted to all users and roles in the database.

### Related View

USER\_ROLE\_PRIVS describes the roles granted to the current user.

| Column          | Datatype       | NULL | Description                                                                                                                                                                                                                                  |
|-----------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GRANTEE         | VARCHAR2 (128) |      | Name of the user or role receiving the grant                                                                                                                                                                                                 |
| GRANTED_ROLE    | VARCHAR2 (128) |      | Granted role name                                                                                                                                                                                                                            |
| ADMIN_OPTION    | VARCHAR2 (3)   |      | Indicates whether the grant was with the ADMIN OPTION (YES) or not (NO)                                                                                                                                                                      |
| DELEGATE_OPTION | VARCHAR2 (3)   |      | Indicates whether the grant was with the DELEGATE OPTION (YES) or not (NO)                                                                                                                                                                   |
| DEFAULT_ROLE    | VARCHAR2 (3)   |      | Indicates whether the role is designated as a DEFAULT ROLE for the user (YES) or not (NO)                                                                                                                                                    |
| COMMON          | VARCHAR2 (3)   |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"><li>• YES if the role was granted commonly (CONTAINER=ALL was used)</li><li>• NO if the role was granted locally (CONTAINER=ALL was not used)</li></ul> |
| INHERITED       | VARCHAR2 (3)   |      | Indicates whether the role grant was inherited from another container (YES) or not (NO)                                                                                                                                                      |



**See Also:**

["USER\\_ROLE\\_PRIVS"](#)

## 6.332 DBA\_ROLES

DBA\_ROLES describes all roles in the database.

| Column            | Datatype       | NULL     | Description                                                          |
|-------------------|----------------|----------|----------------------------------------------------------------------|
| ROLE              | VARCHAR2 (128) | NOT NULL | Name of the role                                                     |
| ROLE_ID           | NUMBER         | NOT NULL | ID number of the role                                                |
| PASSWORD_REQUIRED | VARCHAR2 (8)   |          | This column is deprecated in favor of the AUTHENTICATION_TYPE column |

| Column              | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------|-----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AUTHENTICATION_TYPE | VARCHAR2 (11)   |      | Indicates the authentication mechanism for the role: <ul style="list-style-type: none"> <li>NONE - CREATE ROLE <i>role1</i>;</li> <li>EXTERNAL - CREATE ROLE <i>role2</i> IDENTIFIED EXTERNALLY;</li> <li>GLOBAL - CREATE ROLE <i>role3</i> IDENTIFIED GLOBALLY;</li> <li>APPLICATION - CREATE ROLE <i>role4</i> IDENTIFIED USING <i>schema.package</i>;</li> <li>PASSWORD - CREATE ROLE <i>role5</i> IDENTIFIED BY <i>role5</i>;</li> </ul> |
| COMMON              | VARCHAR2 (3)    |      | Indicates whether a given role is common. Possible values: <ul style="list-style-type: none"> <li>YES if the role is common</li> <li>NO if the role is local (not common)</li> </ul>                                                                                                                                                                                                                                                         |
| ORACLE_MAINTAINED   | VARCHAR2 (1)    |      | Denotes whether the role was created, and is maintained, by Oracle-supplied scripts (such as catalog.sql or catproc.sql). A role for which this column has the value Y must not be changed in any way except by running an Oracle-supplied script.                                                                                                                                                                                           |
| INHERITED           | VARCHAR2 (3)    |      | Indicates whether the role was inherited from another container (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                            |
| IMPLICIT            | VARCHAR2 (3)    |      | Indicates whether the role is a common role created by an implicit application (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                             |
| EXTERNAL_NAME       | VARCHAR2 (4000) |      | For a global role, the external name refers to the DN of a group from a directory service that is mapped to the global role. This is not applicable to a local role.                                                                                                                                                                                                                                                                         |

## 6.333 DBA\_ROLLBACK\_SEGS

DBA\_ROLLBACK\_SEGS describes rollback segments.

| Column          | Datatype      | NULL     | Description                                                                                          |
|-----------------|---------------|----------|------------------------------------------------------------------------------------------------------|
| SEGMENT_NAME    | VARCHAR2 (30) | NOT NULL | Name of the rollback segment                                                                         |
| OWNER           | VARCHAR2 (6)  |          | Owner of the rollback segment: <ul style="list-style-type: none"> <li>PUBLIC</li> <li>SYS</li> </ul> |
| TABLESPACE_NAME | VARCHAR2 (30) | NOT NULL | Name of the tablespace containing the rollback segment                                               |
| SEGMENT_ID      | NUMBER        | NOT NULL | ID number of the rollback segment                                                                    |
| FILE_ID         | NUMBER        | NOT NULL | Absolute file number of the data file containing the segment header                                  |
| BLOCK_ID        | NUMBER        | NOT NULL | ID number of the block containing the segment header                                                 |
| INITIAL_EXTENT  | NUMBER        |          | Initial extent size in bytes                                                                         |
| NEXT_EXTENT     | NUMBER        |          | Secondary extent size in bytes                                                                       |
| MIN_EXTENTS     | NUMBER        | NOT NULL | Minimum number of extents                                                                            |
| MAX_EXTENTS     | NUMBER        | NOT NULL | Maximum number of extent                                                                             |
| PCT_INCREASE    | NUMBER        |          | Percent increase for extent size                                                                     |

| Column       | Datatype      | NULL     | Description                                                                                                                                                                       |
|--------------|---------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS       | VARCHAR2 (16) |          | Rollback segment status: <ul style="list-style-type: none"> <li>• OFFLINE</li> <li>• ONLINE</li> <li>• NEEDS RECOVERY</li> <li>• PARTLY AVAILABLE</li> <li>• UNDEFINED</li> </ul> |
| INSTANCE_NUM | VARCHAR2 (40) |          | Rollback segment owning Oracle Real Application Clusters instance number                                                                                                          |
| RELATIVE_FNO | NUMBER        | NOT NULL | Relative file number of the segment header                                                                                                                                        |

## 6.334 DBA\_ROLLING\_DATABASES

DBA\_ROLLING\_DATABASES lists all the databases eligible for configuration with rolling operations.

| Column          | Datatype       | NULL | Description                                                                                 |
|-----------------|----------------|------|---------------------------------------------------------------------------------------------|
| RDBID           | NUMBER         |      | Rolling operation database identifier                                                       |
| DBID            | NUMBER         |      | Oracle database identifier                                                                  |
| DBUN            | VARCHAR2 (128) |      | Database unique name                                                                        |
| ROLE            | VARCHAR2 (8)   |      | Database role                                                                               |
| OPEN_MODE       | VARCHAR2 (15)  |      | Open mode information                                                                       |
| PARTICIPANT     | VARCHAR2 (3)   |      | Indicates whether the database is participating in the rolling operation (YES) or not (NO)  |
| VERSION         | VARCHAR2 (128) |      | RDBMS version number                                                                        |
| ENGINE_STATUS   | VARCHAR2 (14)  |      | Running status of the MRP-recovery or LSP-apply process                                     |
| RAC             | VARCHAR2 (3)   |      | Indicates whether the database is an Oracle Real Application Clusters (Oracle RAC) database |
| UPDATE_PROGRESS | VARCHAR2 (11)  |      | Upgrade status of the system catalog                                                        |
| PROD_RSCN       | VARCHAR (40)   |      | Resetlogs SCN at which redo is currently being produced                                     |
| PROD_RID        | VARCHAR (40)   |      | Resetlogs ID at which redo is currently being produced                                      |
| PROD_SCN        | VARCHAR (40)   |      | Last SCN at which redo was produced                                                         |
| REDO_SOURCE     | VARCHAR2 (128) |      | Database unique name of the producer of redo being consumed                                 |
| CONS_RSCN       | VARCHAR (40)   |      | Resetlogs SCN at which redo is currently being consumed                                     |
| CONS_RID        | VARCHAR (40)   |      | Resetlogs ID at which redo is currently being consumed                                      |
| CONS_SCN        | VARCHAR (40)   |      | Last SCN at which redo was consumed                                                         |
| UPDATE_TIME     | TIMESTAMP (6)  |      | Time of the last record update                                                              |

**See Also:**

*Oracle Data Guard Concepts and Administration* for more information about rolling operations.

## 6.335 DBA\_ROLLING\_EVENTS

DBA\_ROLLING\_EVENTS lists all the events reported from the DBMS\_ROLLING PL/SQL package.

| Column     | Datatype       | NULL | Description                                    |
|------------|----------------|------|------------------------------------------------|
| EVENTID    | NUMBER         |      | Event identifier which identifies event order  |
| EVENT_TIME | TIMESTAMP (6)  |      | Time associated with the event                 |
| TYPE       | VARCHAR2 (7)   |      | Type of event: INFO, NOTICE, WARNING, or ERROR |
| MESSAGE    | VARCHAR2 (256) |      | Text describing the event details              |
| STATUS     | NUMBER         |      | Status code associated with an event           |
| INSTID     | NUMBER         |      | Instruction ID associated with an event        |
| REVISION   | NUMBER         |      | Plan revision number associated with an event  |

**See Also:**

- *Oracle Data Guard Concepts and Administration* for more information about rolling operations.
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_ROLLING package

## 6.336 DBA\_ROLLING\_PARAMETERS

DBA\_ROLLING\_PARAMETERS lists the available parameters of the DBMS\_ROLLING PL/SQL package.

| Column      | Datatype       | NULL | Description                                      |
|-------------|----------------|------|--------------------------------------------------|
| SCOPE       | VARCHAR2 (128) |      | Database unique name associated with a parameter |
| TYPE        | VARCHAR2 (7)   |      | Type of parameter                                |
| NAME        | VARCHAR2 (32)  |      | Name of the parameter                            |
| DESCRIPTION | VARCHAR2 (256) |      | Description of the parameter                     |
| CURVAL      | VARCHAR2 (256) |      | Current value of the parameter                   |
| LSTVAL      | VARCHAR2 (256) |      | Prior value of the parameter                     |
| DEFVAL      | VARCHAR2 (256) |      | Default value of the parameter                   |
| MINVAL      | NUMBER         |      | Minimum value of the parameter                   |
| MAXVAL      | NUMBER         |      | Maximum value of the parameter                   |

 **See Also:**

- *Oracle Data Guard Concepts and Administration* for more information about rolling operations.
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_ROLLING` package

## 6.337 DBA\_ROLLING\_PLAN

`DBA_ROLLING_PLAN` displays the instructions which constitute the active upgrade plan.

Each row in `DBA_ROLLING_PLAN` identifies a specific instruction scheduled to execute at a specific database. Instructions are created as a result of successful calls to the `DBMS_ROLLING.BUILD_PLAN` procedure.

During execution, groups of instructions are scheduled in batches to execute at remote databases. Groups of instructions are guaranteed to complete in `BATCHID` order.

| Column      | Datatype       | NULL | Description                                                         |
|-------------|----------------|------|---------------------------------------------------------------------|
| REVISION    | NUMBER         |      | Plan revision number associated with an instruction                 |
| BATCHID     | NUMBER         |      | Identifier for a batch of instructions which are requested together |
| INSTID      | NUMBER         |      | Identifier for a single instruction                                 |
| SOURCE      | VARCHAR2 (128) |      | Database unique name where an instruction executes                  |
| TARGET      | VARCHAR2 (128) |      | The site where a given instruction will execute                     |
| PHASE       | VARCHAR2 (14)  |      | rolling operation phase in which an instruction executes            |
| STATUS      | VARCHAR2 (7)   |      | Scheduling status of the instruction                                |
| PROGRESS    | VARCHAR2 (10)  |      | Execution progress of the instruction                               |
| DESCRIPTION | VARCHAR2 (256) |      | Description of the instruction                                      |
| EXEC_STATUS | NUMBER         |      | Status code returned from instruction execution                     |
| EXEC_INFO   | VARCHAR2 (256) |      | Supplemental information obtained during instruction execution      |
| EXEC_TIME   | TIMESTAMP (6)  |      | Time of instruction execution                                       |
| FINISH_TIME | TIMESTAMP (6)  |      | Time of instruction completion                                      |

 **See Also:**

- *Oracle Data Guard Concepts and Administration* for more information about rolling operations.
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_ROLLING` package

## 6.338 DBA\_ROLLING\_STATISTICS

DBA\_ROLLING\_STATISTICS provides a list of rolling operation statistics.

| Column      | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME        | VARCHAR2 (256) |      | Name of the statistic. Possible values: <ul style="list-style-type: none"><li>• DBMS_ROLLING execution time</li><li>• logical to primary switchover finish time</li><li>• primary services offline for</li><li>• primary to logical switchover start time</li><li>• rolling upgrade finish time</li><li>• rolling upgrade start time</li><li>• time for former primary to fully recover upgrade redo</li><li>• time for former primary to start upgrade redo recovery</li><li>• total time former primary in physical role</li><li>• transient logical creation finish time</li><li>• transient logical creation start time</li><li>• transient logical protection finish time</li><li>• transient logical protection start time</li><li>• user upgrade time</li></ul> |
| VALUE       | VARCHAR2 (256) |      | Value of the statistic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| UPDATE_TIME | TIMESTAMP (6)  |      | Time of last update                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |



### See Also:

*Oracle Data Guard Concepts and Administration* for more information about rolling operations.

## 6.339 DBA\_ROLLING\_STATUS

DBA\_ROLLING\_STATUS displays the overall status of the rolling operation.

| Column                 | Datatype      | NULL | Description                                                           |
|------------------------|---------------|------|-----------------------------------------------------------------------|
| REVISION               | NUMBER        |      | Revision number of the current upgrade plan                           |
| STATUS                 | VARCHAR2 (12) |      | Readiness of the facility to begin or resume the rolling operation    |
| PHASE                  | VARCHAR2 (14) |      | Current phase of the plan                                             |
| NEXT_INSTRUCTION       | NUMBER        |      | Instruction ID of the next pending instruction                        |
| REMAINING_INSTRUCTIONS | NUMBER        |      | Number of remaining instructions to execute in the plan               |
| COORDINATOR_INSTANCE   | NUMBER        |      | Instance number from which the rolling operation is being coordinated |
| COORDINATOR_PID        | NUMBER        |      | Process PID in which the rolling operation is being coordinated       |

| Column                  | Datatype       | NULL | Description                                                                |
|-------------------------|----------------|------|----------------------------------------------------------------------------|
| ORIGINAL_PRIMARY        | VARCHAR2 (128) |      | Database unique name of the original primary                               |
| FUTURE_PRIMARY          | VARCHAR2 (128) |      | Database unique name of the future primary                                 |
| TOTAL_DATABASES         | NUMBER         |      | Number of total databases eligible to participate in the rolling operation |
| PARTICIPATING_DATABASES | NUMBER         |      | Number of databases configured to participate in the rolling operation     |
| INIT_TIME               | TIMESTAMP (6)  |      | Time of the last call to DBMS_ROLLING.INIT_PLAN                            |
| BUILD_TIME              | TIMESTAMP (6)  |      | Time of the last call to DBMS_ROLLING.BUILD                                |
| START_TIME              | TIMESTAMP (6)  |      | Time of the last call to DBMS_ROLLING.START_UPGRADE                        |
| SWITCH_TIME             | TIMESTAMP (6)  |      | Time of the last call to DBMS_ROLLING.SWITCHOVER                           |
| FINISH_TIME             | TIMESTAMP (6)  |      | Time of the last call to DBMS_ROLLING.FINISH                               |

**See Also:**

- *Oracle Data Guard Concepts and Administration* for more information about rolling operations.
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_ROLLING package

## 6.340 DBA\_ROLLING\_SUPPORT\_MODE

DBA\_ROLLING\_SUPPORT\_MODE displays information about whether tables in the database are supported for rolling upgrades performed using the DBMS\_ROLLING package.

| Column       | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER        | VARCHAR2 (128) |      | Table owner                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TABLE_NAME   | VARCHAR2 (128) |      | Table name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SUPPORT_MODE | VARCHAR2 (11)  |      | Indicates whether the table is supported<br>Possible values: <ul style="list-style-type: none"><li>• SUPPORTED - The table is fully supported</li><li>• INTERNAL - The table is not supported because it contains data that should not be replicated. Such tables include mapping tables for index-organized tables, storage tables for nested tables, materialized view logs, secondary objects associated with domain indexes, and temporary tables.</li><li>• UNSUPPORTED - The table is not supported because it contains a data type that is not supported or uses a feature that is not supported</li></ul> |



| Column      | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                       |
|-------------|-----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EXPLANATION | VARCHAR2 (4000) |      | Reason why the table is not fully supported<br>This column is populated only when both of the following conditions are met: <ul style="list-style-type: none"> <li>The value of the <code>COMPATIBLE</code> initialization parameter is 20.0 or higher</li> <li>The value of the <code>SUPPORT_MODE</code> column is <code>INTERNAL</code> or <code>UNSUPPORTED</code></li> </ul> |

## 6.341 DBA\_ROLLING\_UNSUPPORTED

`DBA_ROLLING_UNSUPPORTED` displays the schemas, tables, and columns in those tables that contain unsupported data types for a rolling upgrade operation for a logical standby database using the `DBMS_ROLLING` PL/SQL package.

Use this view before you perform a rolling upgrade using `DBMS_ROLLING` to determine what is unsupported.

The data pertains to the container in which the view is queried.

| Column      | Datatype        | NULL | Description                                                                                                                                                                                                                                                             |
|-------------|-----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER       | VARCHAR2 (128)  |      | Schema name of the unsupported column                                                                                                                                                                                                                                   |
| TABLE_NAME  | VARCHAR2 (128)  |      | Name of the table that the unsupported column belongs to                                                                                                                                                                                                                |
| COLUMN_NAME | VARCHAR2 (128)  |      | Name of the unsupported column                                                                                                                                                                                                                                          |
| ATTRIBUTES  | VARCHAR2 (4000) |      | When the value of the <code>COMPATIBLE</code> initialization parameter is 20.0 or higher, this column displays the reason the table is unsupported.<br>Otherwise, this column displays the reason the table is unsupported only if the reason is not a data type issue. |
| DATA_TYPE   | VARCHAR2 (106)  |      | Data type of the unsupported column                                                                                                                                                                                                                                     |



### Note:

When the value of the `COMPATIBLE` initialization parameter is 20.0 or higher, this view displays all columns in unsupported tables. Otherwise, this view displays only the unsupported columns in unsupported tables.



### Note:

A rolling upgrade using `DBMS_ROLLING` supports more object types than a manual rolling upgrade using transient logical standby databases

 **See Also:**

- "[DBA\\_LOGSTDBY\\_UNSUPPORTED](#)" for more information about determining unsupported data types for a manual rolling upgrade operation using transient logical standby databases
- *Oracle Data Guard Concepts and Administration* for more information about rolling operations
- *Oracle Data Guard Concepts and Administration* for more information about unsupported tables for rolling upgrade operations
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_ROLLING` package

## 6.342 DBA\_RSRC\_CATEGORIES

`DBA_RSRC_CATEGORIES` displays all resource consumer group categories.

| Column    | Datatype        | NULL | Description                                                                                                                     |
|-----------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------|
| NAME      | VARCHAR2 (128)  |      | Name of the consumer group category                                                                                             |
| COMMENTS  | VARCHAR2 (2000) |      | Text comment on the consumer group category                                                                                     |
| STATUS    | VARCHAR2 (128)  |      | Indicates whether the consumer group category is part of the pending area ( <code>PENDING</code> ) or not ( <code>NULL</code> ) |
| MANDATORY | VARCHAR2 (3)    |      | Indicates whether the consumer group category is mandatory ( <code>YES</code> ) or not ( <code>NO</code> )                      |

## 6.343 DBA\_RSRC\_CONSUMER\_GROUP\_PRIVS

`DBA_RSRC_CONSUMER_GROUP_PRIVS` displays information about all resource consumer groups and the users and roles assigned to them.

The grant referred to in this view and the related view is the grant of the `SWITCH_CONSUMER_GROUP` object privilege, which is granted using the `DBMS_RESOURCE_MANAGER_PRIVS` package. This privilege is not granted through the `GRANT SQL` statement.

### Related View

`USER_RSRC_CONSUMER_GROUP_PRIVS` displays information about the resource consumer groups to which the current user is assigned. This view does not display the `GRANTEE` column.

| Column        | Datatype       | NULL     | Description                                                                                                                             |
|---------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------|
| GRANTEE       | VARCHAR2 (128) | NOT NULL | User or role receiving the grant                                                                                                        |
| GRANTED_GROUP | VARCHAR2 (128) |          | Granted consumer group name                                                                                                             |
| GRANT_OPTION  | VARCHAR2 (3)   |          | Indicates whether the grant was with the <code>GRANT</code> option ( <code>YES</code> ) or not ( <code>NO</code> )                      |
| INITIAL_GROUP | VARCHAR2 (3)   |          | Indicates whether the consumer group is designated as the default for this user or role ( <code>YES</code> ) or not ( <code>NO</code> ) |

 **See Also:**

- ["USER\\_RSRC\\_CONSUMER\\_GROUP\\_PRIVS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_RESOURCE\_MANAGER\_PRIVS package

## 6.344 DBA\_RSRC\_CONSUMER\_GROUPS

DBA\_RSRC\_CONSUMER\_GROUPS displays information about all resource consumer groups in the database.

| Column            | Datatype        | NULL     | Description                                                                              |
|-------------------|-----------------|----------|------------------------------------------------------------------------------------------|
| CONSUMER_GROUP_ID | NUMBER          | NOT NULL | ID of the consumer group                                                                 |
| CONSUMER_GROUP    | VARCHAR2 (128)  |          | Name of the consumer group                                                               |
| CPU_METHOD        | VARCHAR2 (128)  |          | CPU resource allocation method for the consumer group                                    |
| MGMT_METHOD       | VARCHAR2 (128)  |          | Resource allocation method for the consumer group                                        |
| INTERNAL_USE      | VARCHAR2 (3)    |          | Indicates whether the consumer group is for internal use only (YES) or not (NO)          |
| COMMENTS          | VARCHAR2 (2000) |          | Text comment on the consumer group                                                       |
| CATEGORY          | VARCHAR2 (128)  |          | Category of the consumer group                                                           |
| STATUS            | VARCHAR2 (128)  |          | Indicates whether the consumer group is part of the pending area (PENDING) or not (NULL) |
| MANDATORY         | VARCHAR2 (3)    |          | Indicates whether the consumer group is mandatory (YES) or not (NO)                      |

## 6.345 DBA\_RSRC\_GROUP\_MAPPINGS

DBA\_RSRC\_GROUP\_MAPPINGS displays the mapping between session attributes and consumer groups in the database.

| Column         | Datatype       | NULL | Description                                                                              |
|----------------|----------------|------|------------------------------------------------------------------------------------------|
| ATTRIBUTE      | VARCHAR2 (128) |      | Session attribute to match                                                               |
| VALUE          | VARCHAR2 (128) |      | Attribute value                                                                          |
| CONSUMER_GROUP | VARCHAR2 (128) |      | Target consumer group name                                                               |
| STATUS         | VARCHAR2 (128) |      | Indicates whether the consumer group is part of the pending area (PENDING) or not (NULL) |

## 6.346 DBA\_RSRC\_IO\_CALIBRATE

DBA\_RSRC\_IO\_CALIBRATE displays I/O calibration results for the latest calibration run.

| Column             | Datatype        | NULL | Description                                                                                  |
|--------------------|-----------------|------|----------------------------------------------------------------------------------------------|
| START_TIME         | TIMESTAMP (6)   |      | Start time of the most recent I/O calibration                                                |
| END_TIME           | TIMESTAMP (6)   |      | End time of the most recent I/O calibration                                                  |
| MAX_IOPS           | NUMBER          |      | Maximum number of data block read requests that can be sustained per second                  |
| MAX_MBPS           | NUMBER          |      | Maximum megabytes per second of maximum-sized read requests that can be sustained            |
| MAX_PMBPS          | NUMBER          |      | Maximum megabytes per second of large I/O requests that can be sustained by a single process |
| LATENCY            | NUMBER          |      | Latency for data block read requests                                                         |
| NUM_PHYSICAL_DISKS | NUMBER          |      | Number of physical disks in the storage subsystem (as specified by the user)                 |
| ADDITIONAL_INFO    | VARCHAR2 (1024) |      | Additional information about the most recent calibration run                                 |

## 6.347 DBA\_RSRC\_MANAGER\_SYSTEM\_PRIVS

DBA\_RSRC\_MANAGER\_SYSTEM\_PRIVS displays information about all the users and roles that have been granted the ADMINISTER\_RESOURCE\_MANAGER system privilege, which is granted using the DBMS\_RESOURCE\_MANAGER\_PRIVS package.

This privilege is not granted through the GRANT SQL statement.

### Related View

USER\_RSRC\_MANAGER\_SYSTEM\_PRIVS displays information about the users who are granted system privileges for the DBMS\_RESOURCE\_MANAGER package. This view does not display the GRANTEE column.

| Column       | Datatype       | NULL     | Description                                                             |
|--------------|----------------|----------|-------------------------------------------------------------------------|
| GRANTEE      | VARCHAR2 (128) | NOT NULL | User or role receiving the grant                                        |
| PRIVILEGE    | VARCHAR2 (40)  | NOT NULL | Name of the system privilege                                            |
| ADMIN_OPTION | VARCHAR2 (3)   |          | Indicates whether the grant was with the ADMIN option (YES) or not (NO) |

### See Also:

- "USER\_RSRC\_MANAGER\_SYSTEM\_PRIVS"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_RESOURCE\_MANAGER package

## 6.348 DBA\_RSRC\_MAPPING\_PRIORITY

DBA\_RSRC\_MAPPING\_PRIORITY displays information about all consumer group mapping attribute priorities.

| Column    | Datatype       | NULL | Description                                                                                                            |
|-----------|----------------|------|------------------------------------------------------------------------------------------------------------------------|
| ATTRIBUTE | VARCHAR2 (128) |      | Session attribute                                                                                                      |
| PRIORITY  | NUMBER         |      | Priority (1 is the highest)                                                                                            |
| STATUS    | VARCHAR2 (128) |      | Indicates whether the consumer group is part of the pending area ( <code>PENDING</code> ) or not ( <code>NULL</code> ) |

## 6.349 DBA\_RSRC\_PLAN\_DIRECTIVES

DBA\_RSRC\_PLAN\_DIRECTIVES displays information about all resource plan directives in the database.

| Column              | Datatype       | NULL | Description                                                                                                                   |
|---------------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------|
| PLAN                | VARCHAR2 (128) |      | Name of the plan to which the directive belongs                                                                               |
| GROUP_OR_SUBPLAN    | VARCHAR2 (128) |      | Name of the consumer group or subplan referred to                                                                             |
| TYPE                | VARCHAR2 (14)  |      | Indicates whether GROUP_OR_SUBPLAN refers to a consumer group ( <code>CONSUMER_GROUP</code> ) or a plan ( <code>PLAN</code> ) |
| CPU_P1              | NUMBER         |      | This column is deprecated. Use the MGMT_P1 column instead.                                                                    |
| CPU_P2              | NUMBER         |      | This column is deprecated. Use the MGMT_P2 column instead.                                                                    |
| CPU_P3              | NUMBER         |      | This column is deprecated. Use the MGMT_P3 column instead.                                                                    |
| CPU_P4              | NUMBER         |      | This column is deprecated. Use the MGMT_P4 column instead.                                                                    |
| CPU_P5              | NUMBER         |      | This column is deprecated. Use the MGMT_P5 column instead.                                                                    |
| CPU_P6              | NUMBER         |      | This column is deprecated. Use the MGMT_P6 column instead.                                                                    |
| CPU_P7              | NUMBER         |      | This column is deprecated. Use the MGMT_P7 column instead.                                                                    |
| CPU_P8              | NUMBER         |      | This column is deprecated. Use the MGMT_P8 column instead.                                                                    |
| MGMT_P1             | NUMBER         |      | Resource allocation at level 1. For share-based plans, indicates the number of shares.                                        |
| MGMT_P2             | NUMBER         |      | Resource allocation at level 2.                                                                                               |
| MGMT_P3             | NUMBER         |      | Resource allocation at level 3.                                                                                               |
| MGMT_P4             | NUMBER         |      | Resource allocation at level 4.                                                                                               |
| MGMT_P5             | NUMBER         |      | Resource allocation at level 5.                                                                                               |
| MGMT_P6             | NUMBER         |      | Resource allocation at level 6.                                                                                               |
| MGMT_P7             | NUMBER         |      | Resource allocation at level 7.                                                                                               |
| MGMT_P8             | NUMBER         |      | Resource allocation at level 8.                                                                                               |
| ACTIVE_SESS_POOL_P1 | NUMBER         |      | Maximum number of calls this consumer group can run concurrently                                                              |
| QUEUEING_P1         | NUMBER         |      | Timeout in seconds for waits in the Active Session Limit queue                                                                |

| Column                     | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PARALLEL_TARGET_PERCENTAGE | NUMBER         |      | This column is deprecated. Use the <code>PARALLEL_SERVER_LIMIT</code> column instead.                                                                                                                                                                                                                                                                                                                                                                                           |
| PARALLEL_DEGREE_LIMIT_P1   | NUMBER         |      | Sessions in this consumer group are limited to this maximum degree of parallelism for all parallel operations                                                                                                                                                                                                                                                                                                                                                                   |
| SWITCH_GROUP               | VARCHAR2 (128) |      | Group to switch to once the switch time is reached                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SWITCH_FOR_CALL            | VARCHAR2 (5)   |      | Indicates whether to switch back to the initial consumer group once the top call has completed (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                            |
| SWITCH_TIME                | NUMBER         |      | Amount of run time (in seconds) within a group before the session is automatically switched. As with other switch directives, if <code>SWITCH_FOR_CALL</code> is TRUE, the run time is accumulated from the start of a call. Otherwise, the run time is accumulated for the length of the session.                                                                                                                                                                              |
| SWITCH_IO_MEGABYTES        | NUMBER         |      | The maximum megabytes of I/O within a group that will trigger the action specified by <code>SWITCH_GROUP</code> . As with other switch directives, if <code>SWITCH_FOR_CALL</code> is TRUE, the maximum megabytes of I/O is accumulated from the start of a call. Otherwise, the maximum megabytes of I/O is accumulated for the length of the session.                                                                                                                         |
| SWITCH_IO_REQS             | NUMBER         |      | The maximum I/O requests within a group that will trigger the action specified by <code>SWITCH_GROUP</code> . As with other switch directives, if <code>SWITCH_FOR_CALL</code> is TRUE, the maximum I/O requests is accumulated from the start of a call. Otherwise, the maximum I/O requests is accumulated for the length of the session.                                                                                                                                     |
| SWITCH_ESTIMATE            | VARCHAR2 (5)   |      | Indicates whether estimated execution time should be used for switch criteria (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                                             |
| MAX_EST_EXEC_TIME          | NUMBER         |      | Maximum estimated execution time                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| UNDO_POOL                  | NUMBER         |      | Undo pool size for the consumer group                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| MAX_IDLE_TIME              | NUMBER         |      | Maximum idle time for the session                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| MAX_IDLE_BLOCKER_TIME      | NUMBER         |      | Maximum idle time for the session when blocking other sessions                                                                                                                                                                                                                                                                                                                                                                                                                  |
| MAX_UTILIZATION_LIMIT      | NUMBER         |      | This column is deprecated. Use <code>UTILIZATION_LIMIT</code> instead.                                                                                                                                                                                                                                                                                                                                                                                                          |
| PARALLEL_QUEUE_TIMEOUT     | NUMBER         |      | Time (in seconds) that a query can remain in the parallel statement queue for the consumer group before it is removed from the queue.<br><br>The <code>PQ_TIMEOUT_ACTION</code> directive in a Resource Manager plan can be used in conjunction with the <code>PARALLEL_QUEUE_TIMEOUT</code> directive to either cancel or run the removed query. If the <code>PQ_TIMEOUT_ACTION</code> directive is not specified, the default behavior is to cancel the query with ORA-07454. |
| SWITCH_TIME_IN_CALL        | NUMBER         |      | This column is deprecated. Specify the time in the <code>SWITCH_TIME</code> directive and set <code>SWITCH_FOR_CALL</code> to TRUE.                                                                                                                                                                                                                                                                                                                                             |

| Column                 | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|-----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SWITCH_IO_LOGICAL      | NUMBER          |      | The number of logical I/Os that will trigger the action specified by SWITCH_GROUP. As with other switch directives, if SWITCH_FOR_CALL is TRUE, the number of logical I/Os is accumulated from the start of a call. Otherwise, the number of logical I/Os is accumulated for the length of the session.                                                                                                                                                                                                                                                                                                                            |
| SWITCH_ELAPSED_TIME    | NUMBER          |      | The elapsed time that will trigger the action specified by SWITCH_GROUP. As with other switch directives, if SWITCH_FOR_CALL is TRUE, the elapsed time is accumulated from the start of a call. Otherwise, the elapsed time is accumulated for the length of the session.                                                                                                                                                                                                                                                                                                                                                          |
| PARALLEL_SERVER_LIMIT  | NUMBER          |      | Maximum percentage of the parallel target used before queuing subsequent parallel queries                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| UTILIZATION_LIMIT      | NUMBER          |      | Maximum resource utilization allowed, expressed in percentage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PARALLEL_STMT_CRITICAL | VARCHAR2 (12)   |      | Indicates whether parallel statements from this consumer group are eligible for queuing in the parallel statement queue: <ul style="list-style-type: none"> <li>• BYPASS_QUEUE - Parallel statements in this consumer group are critical and should never be queued.</li> <li>• QUEUE - All parallel statements in this consumer group, irrespective of the PARALLEL_DEGREE_POLICY initialization parameter value, are eligible for being queued.</li> <li>• FALSE - Certain parallel statements are eligible for queuing, depending on the PARALLEL_DEGREE_POLICY initialization parameter value. This is the default.</li> </ul> |
| SESSION_PGA_LIMIT      | NUMBER          |      | The maximum amount of untunable PGA in MB that sessions in this consumer group can allocate before being terminated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| PQ_TIMEOUT_ACTION      | VARCHAR2 (6)    |      | Indicates the action to be taken on a parallel query in the parallel queue when its queue time exceeds the limit set by the Resource Manager plan's PARALLEL_QUEUE_TIMEOUT directive: <ul style="list-style-type: none"> <li>• CANCEL - The statement terminates with error ORA-07454</li> <li>• RUN - The statement runs immediately, and may get downgraded if parallel servers are unavailable</li> </ul>                                                                                                                                                                                                                       |
| COMMENTS               | VARCHAR2 (2000) |      | Text comment on the plan directive                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| STATUS                 | VARCHAR2 (128)  |      | Indicates whether the plan directive is part of the pending area (PENDING) or not (NULL). <p><b>Note:</b> PDB resource plans must be single-level, they cannot contain subplans, and they must have 8 or fewer consumer groups. If a resource plan is imported into a PDB and it violates any of these PDB requirements, then the import will automatically convert the resource plan to a compliant version. The original, unmodified resource plan will be stored with a STATUS of LEGACY.</p>                                                                                                                                   |

| Column    | Datatype     | NULL | Description                                                                                             |
|-----------|--------------|------|---------------------------------------------------------------------------------------------------------|
| MANDATORY | VARCHAR2 (3) |      | Indicates whether the plan directive is mandatory (YES) or not (NO). Mandatory plans cannot be deleted. |

**See Also:**

- ["PARALLEL\\_DEGREE\\_POLICY"](#)
- *Oracle Database Administrator's Guide* for information on resource plans in general
- *Oracle Database PL/SQL Packages and Types Reference* for information about specifying Resource Manager directive values using the DBMS\_RESOURCE\_MANAGER.CREATE\_PLAN\_DIRECTIVE procedure

## 6.350 DBA\_RSRC\_PLANS

DBA\_RSRC\_PLANS displays information about all resource plans in the database.

For a list of currently active plans, see "[V\\$RSRC\\_PLAN](#)".

| Column                    | Datatype        | NULL     | Description                                                                                   |
|---------------------------|-----------------|----------|-----------------------------------------------------------------------------------------------|
| PLAN_ID                   | NUMBER          | NOT NULL | ID number of the resource plan                                                                |
| PLAN                      | VARCHAR2 (128)  |          | Name of the resource plan                                                                     |
| NUM_PLAN_DIRECTIVES       | NUMBER          |          | Number of plan directives for the plan                                                        |
| CPU_METHOD                | VARCHAR2 (128)  |          | CPU resource allocation method for the plan                                                   |
| MGMT_METHOD               | VARCHAR2 (128)  |          | Resource allocation method for the plan                                                       |
| ACTIVE_SESS_POOL_MTH      | VARCHAR2 (128)  |          | Active session pool resource allocation method for the plan                                   |
| PARALLEL_DEGREE_LIMIT_MTH | VARCHAR2 (128)  |          | Parallel degree limit resource allocation method for the plan                                 |
| QUEUING_MTH               | VARCHAR2 (128)  |          | Queuing resource allocation method for the plan                                               |
| SUB_PLAN                  | VARCHAR2 (3)    |          | Indicates whether the plan is a subplan (YES) or not (NO)                                     |
| COMMENTS                  | VARCHAR2 (2000) |          | Text comment on the plan                                                                      |
| STATUS                    | VARCHAR2 (128)  |          | Indicates whether the plan is part of the pending area (PENDING) or not (NULL)                |
| MANDATORY                 | VARCHAR2 (3)    |          | Indicates whether the plan is mandatory (YES) or not (NO). Mandatory plans cannot be deleted. |



 **See Also:**

- *Oracle Database Administrator's Guide* for information on resource plans in general
- *Oracle Database PL/SQL Packages and Types Reference* for more information on creating resource plans with the `DBMS_RESOURCE_MANAGER` package

## 6.351 DBA\_RULE\_SET\_RULES

`DBA_RULE_SET_RULES` describes the rules in all rule sets in the database. Its columns are the same as those in `ALL_RULE_SET_RULES`.

 **See Also:**

["ALL\\_RULE\\_SET\\_RULES"](#)

## 6.352 DBA\_RULE\_SETS

`DBA_RULE_SETS` describes all rule sets in the database. Its columns are the same as those in `ALL_RULE_SETS`.

 **See Also:**

["ALL\\_RULE\\_SETS"](#)

## 6.353 DBA\_RULES

`DBA_RULES` describes all rules in the database. Its columns are the same as those in `ALL_RULES`.

 **See Also:**

["ALL\\_RULES"](#)

## 6.354 DBA\_SAGA\_BROKERS

DBA\_SAGA\_BROKERS displays all saga brokers in the database.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_SAGA\\_BROKERS"](#)

## 6.355 DBA\_SAGA\_DETAILS

DBA\_SAGA\_DETAILS displays details for all sagas in the database. Its columns are the same as those in ALL\_SAGA\_DETAILS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_SAGA\\_DETAILS"](#)

## 6.356 DBA\_SAGA\_ERRORS

DBA\_SAGA\_ERRORS describes errors generated by all sagas in the database. Its columns are the same as those in ALL\_SAGA\_ERRORS.

This view displays sagas that were either initiated in the current PDB or joined by participants in the current PDB.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_SAGA\_ERRORS"

## 6.357 DBA\_SAGA\_FINALIZATION

DBA\_SAGA\_FINALIZATION displays information about pending finalization actions for all sagas in the database. Its columns are the same as those in ALL\_SAGA\_FINALIZATION.

This view displays one row for each unique reservable table updated as part of a participant transaction for sagas that were either initiated in the current PDB or joined by participants in the current PDB.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_SAGA\_FINALIZATION"

## 6.358 DBA\_SAGA\_PARTICIPANT\_SET

DBA\_SAGA\_PARTICIPANT\_SET displays information about saga participants for all sagas in the database. Its columns are the same as those in ALL\_SAGA\_PARTICIPANT\_SET.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_SAGA\_PARTICIPANT\_SET"

## 6.359 DBA\_SAGA\_PARTICIPANTS

DBA\_SAGA\_PARTICIPANTS describes all saga participants in the database. Its columns are the same as those in ALL\_SAGA\_PARTICIPANTS.

This view displays sagas that were either initiated in the current PDB or joined by participants or coordinators in the current PDB.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"[ALL\\_SAGA\\_PARTICIPANTS](#)"

## 6.360 DBA\_SAGA\_PENDING

DBA\_SAGA\_PENDING describes all pending sagas in the database. Its columns are the same as those in ALL\_SAGA\_PENDING.

This view displays sagas that were initiated in the current PDB.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"[ALL\\_SAGA\\_PENDING](#)"

## 6.361 DBA\_SAGAS

DBA\_SAGAS describes all active sagas in the database. Its columns are the same as those in ALL\_SAGAS.

This view displays sagas that were either initiated in the current PDB or joined by participants in the current PDB.

**Note:**

This view displays active sagas. Completed sagas are displayed in the [DBA\\_HIST\\_SAGAS](#) view.

**Note:**

This view is available starting with Oracle Database 23ai.



**See Also:**

["ALL\\_SAGAS"](#)

## 6.362 DBA\_SCHEDULER\_CHAIN\_RULES

DBA\_SCHEDULER\_CHAIN\_RULES displays information about the rules for all chains in the database. Its columns are the same as those in ALL\_SCHEDULER\_CHAIN\_RULES.



**See Also:**

["ALL\\_SCHEDULER\\_CHAIN\\_RULES"](#)

## 6.363 DBA\_SCHEDULER\_CHAIN\_STEPS

DBA\_SCHEDULER\_CHAIN\_STEPS displays information about the defined steps of all chains in the database. Its columns are the same as those in ALL\_SCHEDULER\_CHAIN\_STEPS.



**See Also:**

["ALL\\_SCHEDULER\\_CHAIN\\_STEPS"](#)

## 6.364 DBA\_SCHEDULER\_CHAINS

DBA\_SCHEDULER\_CHAINS displays information about all chains in the database. Its columns are the same as those in ALL\_SCHEDULER\_CHAINS.



**See Also:**

["ALL\\_SCHEDULER\\_CHAINS"](#)

## 6.365 DBA\_SCHEDULER\_CREDENTIALS

DBA\_SCHEDULER\_CREDENTIALS displays information about all credentials in the database. Its columns are the same as those in ALL\_SCHEDULER\_CREDENTIALS.



### Note:

This view is deprecated in favor of the DBA\_CREDENTIALS view. Oracle recommends that you use DBA\_CREDENTIALS instead. DBA\_SCHEDULER\_CREDENTIALS is retained for backward compatibility only.



### See Also:

- ["DBA\\_CREDENTIALS"](#)
- ["ALL\\_SCHEDULER\\_CREDENTIALS"](#)

## 6.366 DBA\_SCHEDULER\_DB\_DESTS

DBA\_SCHEDULER\_DB\_DESTS displays information about all destination objects in the database pointing to remote databases. Its columns are the same as those in ALL\_SCHEDULER\_DB\_DESTS.



### See Also:

- ["ALL\\_SCHEDULER\\_DB\\_DESTS"](#)

## 6.367 DBA\_SCHEDULER\_DESTS

DBA\_SCHEDULER\_DESTS displays information about all destination objects for jobs in the database. Its columns are the same as those in ALL\_SCHEDULER\_DESTS.



### See Also:

- ["ALL\\_SCHEDULER\\_DESTS"](#)

## 6.368 DBA\_SCHEDULER\_EXTERNAL\_DESTS

DBA\_SCHEDULER\_EXTERNAL\_DESTS displays information about all destination objects in the database pointing to remote agents. Its columns are the same as those in ALL\_SCHEDULER\_EXTERNAL\_DESTS.



### See Also:

"ALL\_SCHEDULER\_EXTERNAL\_DESTS"

## 6.369 DBA\_SCHEDULER\_FILE\_WATCHERS

DBA\_SCHEDULER\_FILE\_WATCHERS displays information about all scheduler file watch requests in the database. Its columns are the same as those in ALL\_SCHEDULER\_FILE\_WATCHERS.



### See Also:

"ALL\_SCHEDULER\_FILE\_WATCHERS"

## 6.370 DBA\_SCHEDULER\_GLOBAL\_ATTRIBUTE

DBA\_SCHEDULER\_GLOBAL\_ATTRIBUTE displays the values of all scheduler attributes in the database (for example, DEFAULT\_TIMEZONE and CURRENT\_OPEN\_WINDOW). Its columns are the same as those in ALL\_SCHEDULER\_GLOBAL\_ATTRIBUTE.



### See Also:

"ALL\_SCHEDULER\_GLOBAL\_ATTRIBUTE"

## 6.371 DBA\_SCHEDULER\_GROUP\_MEMBERS

DBA\_SCHEDULER\_GROUP\_MEMBERS displays information about the members of all Scheduler object groups in the database. Its columns are the same as those in ALL\_SCHEDULER\_GROUP\_MEMBERS.



### See Also:

"ALL\_SCHEDULER\_GROUP\_MEMBERS"

## 6.372 DBA\_SCHEDULER\_GROUPS

DBA\_SCHEDULER\_GROUPS displays information about all Scheduler object groups in the database. Its columns are the same as those in ALL\_SCHEDULER\_GROUPS.



### See Also:

"ALL\_SCHEDULER\_GROUPS"

## 6.373 DBA\_SCHEDULER\_IN\_MEMORY\_TRACE

DBA\_SCHEDULER\_IN\_MEMORY\_TRACE displays scheduler in-memory trace information generated by all user processes in the database.

| Column      | Datatype       | NULL | Description                                                           |
|-------------|----------------|------|-----------------------------------------------------------------------|
| USER#       | NUMBER         |      | Oracle identifier of the user generating scheduler trace              |
| USERNAME    | VARCHAR2 (128) |      | Name of the user generating scheduler trace                           |
| PROCESSNAME | VARCHAR2 (5)   |      | Name of the process generating scheduler trace                        |
| SPID        | VARCHAR2 (24)  |      | Operating system identifier of the process generating scheduler trace |
| PADDR       | RAW (8)        |      | Address of the process state object generating scheduler trace        |
| TRACE_ST    | CLOB           |      | Scheduler trace generated by the process                              |



### Note:

This view is available starting with Oracle Database 23ai.

## 6.374 DBA\_SCHEDULER\_INCOMPAT\_MEMBER

DBA\_SCHEDULER\_INCOMPAT\_MEMBER displays all Scheduler incompatibility resource objects members in the database. Its columns are the same as those in ALL\_SCHEDULER\_INCOMPAT\_MEMBER.



### See Also:

"ALL\_SCHEDULER\_INCOMPAT\_MEMBER"



## 6.375 DBA\_SCHEDULER\_INCOMPATS

DBA\_SCHEDULER\_INCOMPATS displays all Scheduler incompatibility resource objects in the database. Its columns are the same as those in ALL\_SCHEDULER\_INCOMPATS.



**See Also:**

"ALL\_SCHEDULER\_INCOMPATS"

## 6.376 DBA\_SCHEDULER\_JOB\_ARGS

DBA\_SCHEDULER\_JOB\_ARGS displays information about the arguments of all Scheduler jobs in the database. Its columns are the same as those in ALL\_SCHEDULER\_JOB\_ARGS.



**See Also:**

"ALL\_SCHEDULER\_JOB\_ARGS"

## 6.377 DBA\_SCHEDULER\_JOB\_CLASSES

DBA\_SCHEDULER\_JOB\_CLASSES displays information about all Scheduler job classes in the database. Its columns are the same as those in ALL\_SCHEDULER\_JOB\_CLASSES.



**See Also:**

"ALL\_SCHEDULER\_JOB\_CLASSES"

## 6.378 DBA\_SCHEDULER\_JOB\_DESTS

DBA\_SCHEDULER\_JOB\_DESTS displays information about the state of all jobs in the database at each of their destinations. Its columns are the same as those in ALL\_SCHEDULER\_JOB\_DESTS.



**See Also:**

"ALL\_SCHEDULER\_JOB\_DESTS"

## 6.379 DBA\_SCHEDULER\_JOB\_LOG

DBA\_SCHEDULER\_JOB\_LOG displays log information for all Scheduler jobs in the database. Its columns are the same as those in ALL\_SCHEDULER\_JOB\_LOG.



**See Also:**

"ALL\_SCHEDULER\_JOB\_LOG"

## 6.380 DBA\_SCHEDULER\_JOB\_ROLES

DBA\_SCHEDULER\_JOB\_ROLES displays information about all Scheduler jobs in the database by database role.

| Column         | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER          | VARCHAR2 (128)  | NOT NULL | Owner of the Scheduler job                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| JOB_NAME       | VARCHAR2 (128)  | NOT NULL | Name of the Scheduler job                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| JOB_SUBNAME    | VARCHAR2 (128)  |          | Subname of the Scheduler job (for a job running a chain step)                                                                                                                                                                                                                                                                                                                                                                                                                                |
| JOB_CREATOR    | VARCHAR2 (128)  |          | Creator of the Scheduler job                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DATABASE_ROLE  | VARCHAR2 (16)   |          | Name of the database role                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| PROGRAM_OWNER  | VARCHAR2 (4000) |          | Owner of the program associated with the job                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PROGRAM_NAME   | VARCHAR2 (4000) |          | Name of the program associated with the job                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| JOB_TYPE       | VARCHAR2 (16)   |          | Inline job action type: <ul style="list-style-type: none"> <li>• PLSQL_BLOCK</li> <li>• STORED_PROCEDURE</li> <li>• EXECUTABLE</li> <li>• CHAIN</li> </ul>                                                                                                                                                                                                                                                                                                                                   |
| JOB_ACTION     | VARCHAR2 (4000) |          | Inline job action                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| JOB_CLASS      | VARCHAR2 (128)  |          | Name of the job class associated with the job                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| SCHEDULE_OWNER | VARCHAR2 (4000) |          | Owner of the schedule that the job uses (can be a window or a window group)                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SCHEDULE_NAME  | VARCHAR2 (4000) |          | Name of the schedule that the job uses (can be a window or a window group)                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SCHEDULE_TYPE  | VARCHAR2 (12)   |          | Type of the schedule that the job uses: <ul style="list-style-type: none"> <li>• IMMEDIATE - Start date and repeat interval are NULL</li> <li>• ONCE - Repeat interval is NULL</li> <li>• PLSQL - PL/SQL expression used as schedule</li> <li>• CALENDAR - Oracle calendaring expression used as schedule</li> <li>• EVENT - Event schedule</li> <li>• NAMED - Named schedule</li> <li>• WINDOW - Window used as schedule</li> <li>• WINDOW_GROUP - Window group used as schedule</li> </ul> |

| Column          | Datatype                     | NULL | Description                                                                                                                                                                                                                                                             |
|-----------------|------------------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| START_DATE      | TIMESTAMP (6) WITH TIME ZONE |      | Original scheduled start date of the job (for an inline schedule)                                                                                                                                                                                                       |
| REPEAT_INTERVAL | VARCHAR2 (4000)              |      | Inline schedule PL/SQL expression or calendar string                                                                                                                                                                                                                    |
| END_DATE        | TIMESTAMP (6) WITH TIME ZONE |      | Date after which the job will no longer run (for an inline schedule)                                                                                                                                                                                                    |
| LAST_START_DATE | TIMESTAMP (6) WITH TIME ZONE |      | Last date on which the job ran                                                                                                                                                                                                                                          |
| ENABLED         | VARCHAR2 (5)                 |      | Indicates whether the job is enabled (TRUE) or disabled (FALSE)                                                                                                                                                                                                         |
| STATE           | VARCHAR2 (15)                |      | Current state of the job: <ul style="list-style-type: none"><li>• DISABLED</li><li>• RETRY SCHEDULED</li><li>• SCHEDULED</li><li>• RUNNING</li><li>• COMPLETED</li><li>• BROKEN</li><li>• FAILED</li><li>• REMOTE</li><li>• SUCCEEDED</li><li>• CHAIN_STALLED</li></ul> |
| COMMENTS        | VARCHAR2 (4000)              |      | Comments on the job                                                                                                                                                                                                                                                     |

## 6.381 DBA\_SCHEDULER\_JOB\_RUN\_DETAILS

DBA\_SCHEDULER\_JOB\_RUN\_DETAILS displays log run details for all Scheduler jobs in the database. Its columns are the same as those in ALL\_SCHEDULER\_JOB\_RUN\_DETAILS.



### See Also:

"ALL\_SCHEDULER\_JOB\_RUN\_DETAILS"

## 6.382 DBA\_SCHEDULER\_JOBS

DBA\_SCHEDULER\_JOBS displays information about all Scheduler jobs in the database. Its columns are the same as those in ALL\_SCHEDULER\_JOBS.



### See Also:

"ALL\_SCHEDULER\_JOBS"

## 6.383 DBA\_SCHEDULER\_NOTIFICATIONS

DBA\_SCHEDULER\_NOTIFICATIONS displays information about the E-mail notifications for all jobs in the database. Its columns are the same as those in ALL\_SCHEDULER\_NOTIFICATIONS.



**See Also:**

["ALL\\_SCHEDULER\\_NOTIFICATIONS"](#)

## 6.384 DBA\_SCHEDULER\_PROGRAM\_ARGS

DBA\_SCHEDULER\_PROGRAM\_ARGS displays information about the arguments of all Scheduler programs in the database. Its columns are the same as those in ALL\_SCHEDULER\_PROGRAM\_ARGS.



**See Also:**

["ALL\\_SCHEDULER\\_PROGRAM\\_ARGS"](#)

## 6.385 DBA\_SCHEDULER\_PROGRAMS

DBA\_SCHEDULER\_PROGRAMS displays information about all Scheduler programs in the database. Its columns are the same as those in ALL\_SCHEDULER\_PROGRAMS.



**See Also:**

["ALL\\_SCHEDULER\\_PROGRAMS"](#)

## 6.386 DBA\_SCHEDULER\_REMOTE\_DATABASES

DBA\_SCHEDULER\_REMOTE\_DATABASES displays information about all remote databases that have been registered as sources and destinations for remote database jobs. Its columns are the same as those in ALL\_SCHEDULER\_REMOTE\_DATABASES.



**See Also:**

["ALL\\_SCHEDULER\\_REMOTE\\_DATABASES"](#)

## 6.387 DBA\_SCHEDULER\_REMOTE\_JOBSTATE

DBA\_SCHEDULER\_REMOTE\_JOBSTATE displays information about the state of all jobs at remote databases. Its columns are the same as those in ALL\_SCHEDULER\_REMOTE\_JOBSTATE.



**See Also:**

["ALL\\_SCHEDULER\\_REMOTE\\_JOBSTATE"](#)

## 6.388 DBA\_SCHEDULER\_RESOURCES

DBA\_SCHEDULER\_RESOURCES displays all scheduler resource objects in the database. Its columns are the same as those in ALL\_SCHEDULER\_RESOURCES.



**See Also:**

["ALL\\_SCHEDULER\\_RESOURCES"](#)

## 6.389 DBA\_SCHEDULER\_RSC\_CONSTRAINTS

DBA\_SCHEDULER\_RSC\_CONSTRAINTS lists all Oracle Scheduler resource constraint members in the database. Its columns are the same as those in ALL\_SCHEDULER\_RSC\_CONSTRAINTS.



**See Also:**

["ALL\\_SCHEDULER\\_RSC\\_CONSTRAINTS"](#)

## 6.390 DBA\_SCHEDULER\_RUNNING\_CHAINS

DBA\_SCHEDULER\_RUNNING\_CHAINS displays information about the chain steps of all running chains in the database. Its columns are the same as those in ALL\_SCHEDULER\_RUNNING\_CHAINS.



**See Also:**

["ALL\\_SCHEDULER\\_RUNNING\\_CHAINS"](#)

## 6.391 DBA\_SCHEDULER\_RUNNING\_JOBS

DBA\_SCHEDULER\_RUNNING\_JOBS displays information about all running Scheduler jobs in the database. Its columns are the same as those in ALL\_SCHEDULER\_RUNNING\_JOBS.



**See Also:**

"ALL\_SCHEDULER\_RUNNING\_JOBS"

## 6.392 DBA\_SCHEDULER\_SCHEDULES

DBA\_SCHEDULER\_SCHEDULES displays information about all Scheduler schedules in the database. Its columns are the same as those in ALL\_SCHEDULER\_SCHEDULES.



**See Also:**

"ALL\_SCHEDULER\_SCHEDULES"

## 6.393 DBA\_SCHEDULER\_WINDOW\_DETAILS

DBA\_SCHEDULER\_WINDOW\_DETAILS displays log details for all Scheduler windows in the database. Its columns are the same as those in ALL\_SCHEDULER\_WINDOW\_DETAILS.



**See Also:**

"ALL\_SCHEDULER\_WINDOW\_DETAILS"

## 6.394 DBA\_SCHEDULER\_WINDOW\_GROUPS

DBA\_SCHEDULER\_WINDOW\_GROUPS displays information about all Scheduler window groups in the database. Its columns are the same as those in ALL\_SCHEDULER\_WINDOW\_GROUPS.



**See Also:**

"ALL\_SCHEDULER\_WINDOW\_GROUPS"

## 6.395 DBA\_SCHEDULER\_WINDOW\_LOG

DBA\_SCHEDULER\_WINDOW\_LOG displays log information for all Scheduler windows in the database. Its columns are the same as those in ALL\_SCHEDULER\_WINDOW\_LOG.



### See Also:

"ALL\_SCHEDULER\_WINDOW\_LOG"

## 6.396 DBA\_SCHEDULER\_WINDOWS

DBA\_SCHEDULER\_WINDOWS displays information about all Scheduler windows in the database. Its columns are the same as those in ALL\_SCHEDULER\_WINDOWS.



### See Also:

"ALL\_SCHEDULER\_WINDOWS"

## 6.397 DBA\_SCHEDULER\_WINGROUP\_MEMBERS

DBA\_SCHEDULER\_WINGROUP\_MEMBERS displays the members of all Scheduler window groups in the database. Its columns are the same as those in ALL\_SCHEDULER\_WINGROUP\_MEMBERS.



### See Also:

"ALL\_SCHEDULER\_WINGROUP\_MEMBERS"

## 6.398 DBA\_SCHEMA\_PRIVS

DBA\_SCHEMA\_PRIVS describes schema privileges granted to users and roles.

| Column       | Datatype       | NULL | Description                                                             |
|--------------|----------------|------|-------------------------------------------------------------------------|
| GRANTEE      | VARCHAR2 (128) |      | Grantee name, user, or role receiving the grant                         |
| PRIVILEGE    | VARCHAR2 (40)  |      | Schema privilege                                                        |
| SCHEMA       | VARCHAR2 (128) |      | Schema on which the privilege was granted                               |
| ADMIN_OPTION | VARCHAR2 (3)   |      | Indicates whether the grant was with the ADMIN option (YES) or not (NO) |

| Column    | Datatype     | NULL | Description                                                                                                                                                                                                                                               |
|-----------|--------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMMON    | VARCHAR2 (3) |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"> <li>• YES if the privilege was granted commonly (CONTAINER=ALL was used)</li> <li>• NO if the privilege was granted locally (CONTAINER=ALL was not used)</li> </ul> |
| INHERITED | VARCHAR2 (3) |      | Indicates whether the grant was inherited from another container (YES) or not (NO)                                                                                                                                                                        |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"[USER\\_SCHEMA\\_PRIVS](#)"

## 6.399 DBA\_SEC\_RELEVANT\_COLS

DBA\_SEC\_RELEVANT\_COLS describes the security relevant columns of all security policies in the database. Its columns are the same as those in ALL\_SEC\_RELEVANT\_COLS.

**See Also:**

"[ALL\\_SEC\\_RELEVANT\\_COLS](#)"

## 6.400 DBA\_SECONDARY\_OBJECTS

DBA\_SECONDARY\_OBJECTS provides information about all secondary objects that are associated with domain indexes in the database.

This view is only relevant in the context of domain indexes. Its columns are the same as those in "[ALL\\_SECONDARY\\_OBJECTS](#)".

## 6.401 DBA\_SEGMENTS

DBA\_SEGMENTS describes the storage allocated for all segments in the database.

**Related View**

USER\_SEGMENTS describes the storage allocated for the segments owned by the current user's objects. This view does not display the OWNER, HEADER\_FILE, HEADER\_BLOCK, or RELATIVE\_FNO columns.



| Column          | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128) |      | Username of the segment owner                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SEGMENT_NAME    | VARCHAR2 (128) |      | Name, if any, of the segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PARTITION_NAME  | VARCHAR2 (128) |      | Object Partition Name (Set to NULL for nonpartitioned objects)                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SEGMENT_TYPE    | VARCHAR2 (18)  |      | Type of segment: <ul style="list-style-type: none"> <li>• NESTED TABLE</li> <li>• TABLE</li> <li>• TABLE PARTITION</li> <li>• CLUSTER</li> <li>• LOBINDEX</li> <li>• INDEX</li> <li>• INDEX PARTITION</li> <li>• LOBSEGMENT</li> <li>• TABLE SUBPARTITION</li> <li>• INDEX SUBPARTITION</li> <li>• LOB PARTITION</li> <li>• LOB SUBPARTITION</li> <li>• ROLLBACK</li> <li>• TYPE2 UNDO</li> <li>• DEFERRED ROLLBACK</li> <li>• TEMPORARY</li> <li>• CACHE</li> <li>• SPACE HEADER</li> <li>• UNDEFINED</li> </ul> |
| SEGMENT_SUBTYPE | VARCHAR2 (10)  |      | Subtype of LOB segment: SECUREFILE, ASSM, MSSM, and NULL                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TABLESPACE_NAME | VARCHAR2 (30)  |      | Name of the tablespace containing the segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| HEADER_FILE     | NUMBER         |      | Absolute file number of the data file containing the segment header                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| HEADER_BLOCK    | NUMBER         |      | ID of the block containing the segment header                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| BYTES           | NUMBER         |      | Size, in bytes, of the segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| BLOCKS          | NUMBER         |      | Size, in Oracle blocks, of the segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| EXTENTS         | NUMBER         |      | Number of extents allocated to the segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| INITIAL_EXTENT  | NUMBER         |      | Size in bytes requested for the initial extent of the segment at create time. (Oracle rounds the extent size to multiples of 5 blocks if the requested size is greater than 5 blocks.)                                                                                                                                                                                                                                                                                                                            |
| NEXT_EXTENT     | NUMBER         |      | Size in bytes of the next extent to be allocated to the segment                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| MIN_EXTENTS     | NUMBER         |      | Minimum number of extents allowed in the segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| MAX_EXTENTS     | NUMBER         |      | Maximum number of extents allowed in the segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| MAX_SIZE        | NUMBER         |      | Maximum number of blocks allowed in the segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| RETENTION       | VARCHAR2 (7)   |      | Retention option for SECUREFILE segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| MINRETENTION    | NUMBER         |      | Minimum retention duration for SECUREFILE segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PCT_INCREASE    | NUMBER         |      | Percent by which to increase the size of the next extent to be allocated                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| FREELISTS       | NUMBER         |      | Number of process freelists allocated to this segment                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Column               | Datatype      | NULL | Description                                                                                                                                                                                                                                               |
|----------------------|---------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FREELIST_GROUPS      | NUMBER        |      | Number of freelist groups allocated to this segment                                                                                                                                                                                                       |
| RELATIVE_FNO         | NUMBER        |      | Relative file number of the segment header                                                                                                                                                                                                                |
| BUFFER_POOL          | VARCHAR2 (7)  |      | Buffer pool to be used for segment blocks: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• RECYCLE</li> </ul>                                                                                                                 |
| FLASH_CACHE          | VARCHAR2 (7)  |      | Database Smart Flash Cache hint to be used for segment blocks: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> Solaris and Oracle Linux functionality only.                                                   |
| CELL_FLASH_CACHE     | VARCHAR2 (7)  |      | Cell flash cache hint to be used for segment blocks: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> <b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information               |
| INMEMORY             | VARCHAR2 (8)  |      | Indicates whether the In-Memory Column Store (IM column store) is enabled (ENABLED) or disabled (DISABLED) for this segment                                                                                                                               |
| INMEMORY_PRIORITY    | VARCHAR2 (8)  |      | Indicates the priority for In-Memory Column Store (IM column store) population: <ul style="list-style-type: none"> <li>• LOW</li> <li>• MEDIUM</li> <li>• HIGH</li> <li>• CRITICAL</li> <li>• NONE</li> <li>• NULL</li> </ul>                             |
| INMEMORY_DISTRIBUTE  | VARCHAR2 (15) |      | Indicates how the IM column store is distributed in an Oracle Real Application Clusters (Oracle RAC) environment: <ul style="list-style-type: none"> <li>• AUTO</li> <li>• BY ROWID RANGE</li> <li>• BY PARTITION</li> <li>• BY SUBPARTITION</li> </ul>   |
| INMEMORY_DUPLICATE   | VARCHAR2 (13) |      | Indicates the duplicate setting for the IM column store in an Oracle RAC environment: <ul style="list-style-type: none"> <li>• NO DUPLICATE</li> <li>• DUPLICATE</li> <li>• DUPLICATE ALL</li> </ul>                                                      |
| INMEMORY_COMPRESSION | VARCHAR2 (17) |      | Indicates the compression level for the IM column store: <ul style="list-style-type: none"> <li>• NO MEMCOMPRESS</li> <li>• FOR DML</li> <li>• FOR QUERY [ LOW   HIGH ]</li> <li>• FOR CAPACITY [ LOW   HIGH ]</li> <li>• AUTO</li> <li>• NULL</li> </ul> |

| Column                   | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------|---------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CELLMEMORY <sup>11</sup> | VARCHAR2 (24) |      | <p>The value for columnar compression in the storage cell flash cache. Possible values:</p> <ul style="list-style-type: none"> <li>ENABLED: Oracle Exadata Storage will decide automatically whether to cache in columnar form</li> <li>DISABLED: Oracle Exadata Storage is prevented from caching in columnar form</li> <li>NO CACHECOMPRESS: Oracle Exadata Storage will cache in HCC format (no recompression)</li> <li>FOR QUERY: Oracle Exadata Storage will recompress and cache in INMEMORY query high format</li> <li>FOR CAPACITY: Oracle Exadata Storage will recompress and cache in INMEMORY capacity low format</li> </ul> |

<sup>11</sup> This column is intended for use with Oracle Exadata



**See Also:**

"USER\_SEGMENTS"

## 6.402 DBA\_SEGMENTS\_OLD

DBA\_SEGMENTS\_OLD lists information about storage allocated for all database segments.

| Column          | Datatype       | NULL | Description                                                                                                                                                                            |
|-----------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128) |      | Username of the segment owner                                                                                                                                                          |
| SEGMENT_NAME    | VARCHAR2 (128) |      | Name, if any, of the segment                                                                                                                                                           |
| PARTITION_NAME  | VARCHAR2 (128) |      | Name of the partition                                                                                                                                                                  |
| SEGMENT_TYPE    | VARCHAR2 (18)  |      | Type of segment: INDEX PARTITION, TABLE PARTITION, TABLE, CLUSTER, INDEX, ROLLBACK, DEFERRED ROLLBACK, TEMPORARY, CACHE, LOBSEGMENT and LOBINDEX                                       |
| TABLESPACE_NAME | VARCHAR2 (30)  |      | Name of the tablespace containing the segment                                                                                                                                          |
| HEADER_FILE     | NUMBER         |      | ID of the file containing the segment header                                                                                                                                           |
| HEADER_BLOCK    | NUMBER         |      | ID of the block containing the segment header                                                                                                                                          |
| BYTES           | NUMBER         |      | Size, in bytes, of the segment                                                                                                                                                         |
| BLOCKS          | NUMBER         |      | Size, in Oracle blocks, of the segment                                                                                                                                                 |
| EXTENTS         | NUMBER         |      | Number of extents allocated to the segment                                                                                                                                             |
| INITIAL_EXTENT  | NUMBER         |      | Size in bytes requested for the initial extent of the segment at create time. (Oracle rounds the extent size to multiples of 5 blocks if the requested size is greater than 5 blocks.) |
| NEXT_EXTENT     | NUMBER         |      | Size in bytes of the next extent to be allocated to the segment                                                                                                                        |
| MIN_EXTENTS     | NUMBER         |      | Minimum number of extents allowed in the segment                                                                                                                                       |

| Column          | Datatype     | NULL | Description                                                              |
|-----------------|--------------|------|--------------------------------------------------------------------------|
| MAX_EXTENTS     | NUMBER       |      | Maximum number of extents allowed in the segment                         |
| PCT_INCREASE    | NUMBER       |      | Percent by which to increase the size of the next extent to be allocated |
| FREELISTS       | NUMBER       |      | Number of process freelists allocated to the segment                     |
| FREELIST_GROUPS | NUMBER       |      | Number of freelist groups allocated to this segment                      |
| RELATIVE_FNO    | NUMBER       |      | Relative file number of the segment header                               |
| BUFFER_POOL     | VARCHAR2 (7) |      | Buffer pool for the object                                               |

## 6.403 DBA\_SENSITIVE\_COLUMN\_TYPES

DBA\_SENSITIVE\_COLUMN\_TYPES describes sensitive column types in the database.

| Column       | Datatype        | NULL | Description                                                                                                                                     |
|--------------|-----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME         | VARCHAR2 (128)  |      | The name of the sensitive column type                                                                                                           |
| USER_COMMENT | VARCHAR2 (4000) |      | User comment on the sensitive column type                                                                                                       |
| SOURCE_NAME  | VARCHAR2 (128)  |      | The name of the discovery source for the sensitive column type                                                                                  |
| SOURCE_TYPE  | VARCHAR2 (3)    |      | The type of the discovery source: <ul style="list-style-type: none"> <li>ADM: import from ADM</li> <li>DB: added within the database</li> </ul> |



### See Also:

*Oracle Database Security Guide* for more information about transparent sensitive data protection

## 6.404 DBA\_SENSITIVE\_DATA

DBA\_SENSITIVE\_DATA describes the sensitive columns in the database.

| Column         | Datatype        | NULL     | Description                                                        |
|----------------|-----------------|----------|--------------------------------------------------------------------|
| SENSITIVE#     | NUMBER          | NOT NULL | Dictionary ID for the sensitive data                               |
| SCHEMA_NAME    | VARCHAR2 (128)  | NOT NULL | The schema containing the sensitive data                           |
| TABLE_NAME     | VARCHAR2 (128)  | NOT NULL | The table containing the sensitive data                            |
| COLUMN_NAME    | VARCHAR2 (128)  | NOT NULL | The name of the column identified as sensitive                     |
| SENSITIVE_TYPE | VARCHAR2 (128)  |          | The sensitive column type of the data                              |
| SOURCE_NAME    | VARCHAR2 (128)  |          | The name of the discovery source for the sensitive data            |
| USER_COMMENT   | VARCHAR2 (4000) |          | User comment on the sensitive data                                 |
| TS             | TIMESTAMP (6)   |          | The time when the data was identified as sensitive in the database |

**See Also:**

*Oracle Database Security Guide* for more information about transparent sensitive data protection

## 6.405 DBA\_SEQUENCES

DBA\_SEQUENCES describes all sequences in the database. Its columns are the same as those in ALL\_SEQUENCES.

**See Also:**

"ALL\_SEQUENCES"

## 6.406 DBA\_SERVER\_REGISTRY

DBA\_SERVER\_REGISTRY displays information about all server components in the database that are loaded into the component registry.

| Column        | Datatype        | NULL     | Description                                                                                                                                                                                                                                                      |
|---------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMP_ID       | VARCHAR2 (30)   | NOT NULL | Component identifier                                                                                                                                                                                                                                             |
| COMP_NAME     | VARCHAR2 (255)  |          | Component name                                                                                                                                                                                                                                                   |
| VERSION       | VARCHAR2 (30)   |          | Component version loaded                                                                                                                                                                                                                                         |
| VERSION_FULL  | VARCHAR2 (30)   |          | Component full version                                                                                                                                                                                                                                           |
| STATUS        | VARCHAR2 (11)   |          | Component status: <ul style="list-style-type: none"> <li>• INVALID</li> <li>• VALID</li> <li>• LOADING</li> <li>• LOADED</li> <li>• UPGRADING</li> <li>• UPGRADED</li> <li>• DOWNGRADING</li> <li>• DOWNGRADED</li> <li>• REMOVING</li> <li>• REMOVED</li> </ul> |
| MODIFIED      | VARCHAR2 (20)   |          | Time when the component was last modified                                                                                                                                                                                                                        |
| CONTROL       | VARCHAR2 (128)  | NOT NULL | User that created the component entry                                                                                                                                                                                                                            |
| SCHEMA        | VARCHAR2 (128)  | NOT NULL | User that contains the objects for the component                                                                                                                                                                                                                 |
| PROCEDURE     | VARCHAR2 (61)   |          | Validation procedure                                                                                                                                                                                                                                             |
| STARTUP       | VARCHAR2 (8)    |          | Indicates whether the component requires a startup after the upgrade (REQUIRED) or not                                                                                                                                                                           |
| PARENT_ID     | VARCHAR2 (30)   |          | Parent component identifier                                                                                                                                                                                                                                      |
| OTHER_SCHEMAS | VARCHAR2 (4000) |          | A list of ancillary schema names associated with the component                                                                                                                                                                                                   |

## 6.407 DBA\_SERVICES

DBA\_SERVICES displays all services in the database. The view excludes rows marked for deletion. Its columns are the same as those in ALL\_SERVICES.



**See Also:**

["ALL\\_SERVICES"](#)

## 6.408 DBA\_SODA\_COLLECTIONS

DBA\_SODA\_COLLECTIONS describes all Simple Oracle Document Access (SODA) collections in the database.

### Related View

USER\_SODA\_COLLECTIONS describes the SODA collections owned by the current user. This view does not display the OWNER column.

| Column          | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| URI_NAME        | NVARCHAR2(255) | NOT NULL | Collection name                                                                                                                                                                                                                                                                                                                                                                                                                         |
| OWNER           | VARCHAR2(128)  | NOT NULL | Owner of the collection                                                                                                                                                                                                                                                                                                                                                                                                                 |
| OBJECT_TYPE     | VARCHAR2(10)   | NOT NULL | Indicates whether the collection is table-based (TABLE) or view-based (VIEW)                                                                                                                                                                                                                                                                                                                                                            |
| OBJECT_SCHEMA   | VARCHAR2(128)  | NOT NULL | Name of the schema that includes the table or view on which the collection is based                                                                                                                                                                                                                                                                                                                                                     |
| OBJECT_NAME     | VARCHAR2(128)  | NOT NULL | Name of the table or view on which the collection is based                                                                                                                                                                                                                                                                                                                                                                              |
| CREATED_ON      | TIMESTAMP(6)   | NOT NULL | Collection creation time                                                                                                                                                                                                                                                                                                                                                                                                                |
| CREATE_MODE     | VARCHAR2(10)   | NOT NULL | Creation mode. Possible values: <ul style="list-style-type: none"><li>DDL: A new table was created at collection creation time</li><li>MAP: The collection was created by mapping a preexisting table or view</li></ul> <b>Note:</b> For view-based collections, the value of this column is always MAP. New views are not created for view-based collections. A view-based collection is always created by mapping a preexisting view. |
| JSON_DESCRIPTOR | VARCHAR2(4000) | NOT NULL | Collection metadata, expressed in JavaScript Object Notation (JSON)                                                                                                                                                                                                                                                                                                                                                                     |



**See Also:**

["USER\\_SODA\\_COLLECTIONS"](#)

## 6.409 DBA\_SOURCE

DBA\_SOURCE describes the text source of all stored objects in the database. Its columns are the same as those in ALL\_SOURCE.



**See Also:**

["ALL\\_SOURCE"](#)

## 6.410 DBA\_SOURCE\_AE

DBA\_SOURCE\_AE describes the text source of all stored objects (across all editions) in the database. Its columns are the same as those in ALL\_SOURCE\_AE.



**See Also:**

["ALL\\_SOURCE\\_AE"](#)

## 6.411 DBA\_SQL\_ERROR\_MITIGATIONS

DBA\_SQL\_ERROR\_MITIGATIONS describes automatic error mitigations for SQL statements.

| Column         | Datatype                     | NULL | Description                                                                                                 |
|----------------|------------------------------|------|-------------------------------------------------------------------------------------------------------------|
| SQL_ID         | VARCHAR2 (13)                |      | Identifier for the relevant SQL statement                                                                   |
| SIGNATURE      | NUMBER                       |      | Unique SQL identifier generated from normalized SQL text                                                    |
| FORCE_MATCHING | VARCHAR2 (3)                 |      | Indicates whether the signature is force matching (YES) or exact matching (NO)                              |
| SQL_TEXT       | CLOB                         |      | SQL text                                                                                                    |
| INCIDENT_ID    | NUMBER                       |      | ID for the incident associated with the error mitigation                                                    |
| PROBLEM_KEY    | VARCHAR2 (64)                |      | Description of the problem                                                                                  |
| PROBLEM_TYPE   | VARCHAR2 (17)                |      | Problem type: <ul style="list-style-type: none"><li>• COMPILATION ERROR</li><li>• EXECUTION ERROR</li></ul> |
| CREATED        | TIMESTAMP (6) WITH TIME ZONE |      | Date and time at which the first automatic error mitigation was created on this SQL                         |
| START_TIME     | TIMESTAMP (6) WITH TIME ZONE |      | Start date and time of automatic error mitigation                                                           |
| END_TIME       | TIMESTAMP (6) WITH TIME ZONE |      | End date and time of automatic error mitigation                                                             |
| NOTES          | CLOB                         |      | Mitigation notes                                                                                            |

| Column             | Datatype                     | NULL | Description                                                                                              |
|--------------------|------------------------------|------|----------------------------------------------------------------------------------------------------------|
| MITIGATION_TYPE    | VARCHAR2 (14)                |      | Mitigation type: <ul style="list-style-type: none"> <li>• ALTERNATE PLAN</li> <li>• SQL PATCH</li> </ul> |
| MITIGATION_NAME    | VARCHAR2 (128)               |      | Mitigation name                                                                                          |
| MITIGATION_DETAILS | CLOB                         |      | Mitigation details                                                                                       |
| STATUS             | CHAR (7)                     |      | Mitigation status: <ul style="list-style-type: none"> <li>• SUCCESS</li> <li>• FAILURE</li> </ul>        |
| LAST_VERIFIED      | TIMESTAMP (6) WITH TIME ZONE |      | Date and time at which the auto patch was last verified                                                  |

**Note:**

This view is available starting with Oracle Database 23ai.

## 6.412 DBA\_SQL\_FIREWALL\_ALLOW\_LISTS

DBA\_SQL\_FIREWALL\_ALLOW\_LISTS displays information about SQL Firewall allow-lists.

| Column            | Datatype                     | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------|------------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USERNAME          | VARCHAR2 (128)               |          | Name of the target user                                                                                                                                                                                                                                                                                                                                                                |
| GENERATED_ON      | TIMESTAMP (6) WITH TIME ZONE | NOT NULL | Date and time of allow-list generation                                                                                                                                                                                                                                                                                                                                                 |
| STATUS            | VARCHAR2 (8)                 |          | Allow-list status (ENABLED or DISABLED)                                                                                                                                                                                                                                                                                                                                                |
| STATUS_UPDATED_ON | TIMESTAMP (6) WITH TIME ZONE | NOT NULL | Date and time of the most recent allow-list status change                                                                                                                                                                                                                                                                                                                              |
| TOP_LEVEL_ONLY    | VARCHAR2 (14)                |          | Indicates whether the allow-list should be enforced on only top-level SQL commands, that is, SQL commands issued directly from the user (Y) or on all SQL commands, including top-level SQL commands and SQL commands from PL/SQL units (N)                                                                                                                                            |
| ENFORCE           | VARCHAR2 (15)                |          | Option of the allow-list enforcement: <ul style="list-style-type: none"> <li>• ENFORCE_CONTEXT - Allowed contexts will be checked and enforced during database connection</li> <li>• ENFORCE_SQL - Allowed SQLs will be checked and enforced for every SQL statement execution</li> <li>• ENFORCE_ALL - Both allowed contexts and allowed SQLs will be checked and enforced</li> </ul> |
| BLOCK             | VARCHAR2 (14)                |          | If the allow-list is enabled, indicates whether the allow-list is enabled in blocking mode (Y) or non-blocking mode (N)                                                                                                                                                                                                                                                                |



**Note:**

This view is available starting with Oracle Database 23ai.

## 6.413 DBA\_SQL\_FIREWALL\_ALLOWED\_IP\_ADDR

DBA\_SQL\_FIREWALL\_ALLOWED\_IP\_ADDR lists the IP addresses that SQL Firewall target users are allowed to use to connect to the database.

| Column     | Datatype       | NULL     | Description               |
|------------|----------------|----------|---------------------------|
| USERNAME   | VARCHAR2 (128) |          | Name of the target user   |
| IP_ADDRESS | VARCHAR2 (128) | NOT NULL | Allowed client IP address |

**Note:**

This view is available starting with Oracle Database 23ai.

## 6.414 DBA\_SQL\_FIREWALL\_ALLOWED\_OS\_PROG

DBA\_SQL\_FIREWALL\_ALLOWED\_OS\_PROG lists the OS programs that SQL Firewall target users are allowed to use to connect to the database.

| Column     | Datatype       | NULL     | Description             |
|------------|----------------|----------|-------------------------|
| USERNAME   | VARCHAR2 (128) |          | Name of the target user |
| OS_PROGRAM | VARCHAR2 (128) | NOT NULL | Allowed OS program name |

**Note:**

This view is available starting with Oracle Database 23ai.

## 6.415 DBA\_SQL\_FIREWALL\_ALLOWED\_OS\_USER

DBA\_SQL\_FIREWALL\_ALLOWED\_OS\_USER lists the OS user names that SQL Firewall target users are allowed to use to connect to the database.

| Column   | Datatype       | NULL     | Description             |
|----------|----------------|----------|-------------------------|
| USERNAME | VARCHAR2 (128) |          | Name of the target user |
| OS_USER  | VARCHAR2 (128) | NOT NULL | Allowed OS user name    |

**Note:**

This view is available starting with Oracle Database 23ai.

## 6.416 DBA\_SQL\_FIREWALL\_ALLOWED\_SQL

DBA\_SQL\_FIREWALL\_ALLOWED\_SQL displays information about allowed SQL for SQL Firewall allow-lists.

| Column           | Datatype        | NULL     | Description                                                                                                                                                                           |
|------------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USERNAME         | VARCHAR2 (128)  |          | Name of the target user                                                                                                                                                               |
| ALLOWED_SQL_ID   | NUMBER          | NOT NULL | Unique ID of allowed SQL entry for the target user                                                                                                                                    |
| SQL_SIGNATURE    | VARCHAR2 (64)   | NOT NULL | Allowed SQL signature                                                                                                                                                                 |
| SQL_TEXT         | VARCHAR2 (4000) |          | SQL text (up to 1000 characters)<br>To view the full SQL text, query the SQL_TEXT column of the DBA_SQL_FIREWALL_SQL_LOGS view.                                                       |
| ACCESSED_OBJECTS | VARCHAR2 (4000) |          | List of accessed objects (up to 1000 characters)<br>To view the full list of accessed objects, query the ACCESSED_OBJECTS column of the DBA_SQL_FIREWALL_SQL_LOGS view.               |
| CURRENT_USER     | VARCHAR2 (128)  |          | Name of the user who invoked the SQL command                                                                                                                                          |
| TOP_LEVEL        | VARCHAR2 (9)    |          | Indicates whether the allowed SQL entry is a top-level SQL command, that is, a SQL command issued directly from the user (Y) or a SQL command from a PL/SQL unit (N)                  |
| VERSION          | NUMBER          | NOT NULL | Version number for the allow-list when the allowed SQL was added<br>You can use this value to determine whether specific allowed SQLs were added to the allow-list in the same batch. |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"DBA\_SQL\_FIREWALL\_SQL\_LOGS"

## 6.417 DBA\_SQL\_FIREWALL\_CAPTURE\_LOGS

DBA\_SQL\_FIREWALL\_CAPTURE\_LOGS displays SQL Firewall capture logs.

| Column           | Datatype        | NULL     | Description                                                                                                                                                                                       |
|------------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USERNAME         | VARCHAR2 (128)  |          | Name of the target user                                                                                                                                                                           |
| SESSION_ID       | NUMBER          | NOT NULL | SQL Firewall session ID                                                                                                                                                                           |
| COMMAND_TYPE     | VARCHAR2 (64)   |          | Type of SQL command                                                                                                                                                                               |
| SQL_SIGNATURE    | VARCHAR2 (64)   |          | SQL signature                                                                                                                                                                                     |
| SQL_TEXT         | VARCHAR2 (4000) |          | SQL text (up to 1000 characters)<br>To view the full SQL text, query the <code>SQL_TEXT</code> column of the <code>DBA_SQL_FIREWALL_SQL_LOGS</code> view.                                         |
| ACCESSED_OBJECTS | VARCHAR2 (4000) |          | List of accessed objects (up to 1000 characters)<br>To view the full list of accessed objects, query the <code>ACCESSED_OBJECTS</code> column of the <code>DBA_SQL_FIREWALL_SQL_LOGS</code> view. |
| CURRENT_USER     | VARCHAR2 (128)  |          | Name of the user who invoked the SQL command                                                                                                                                                      |
| TOP_LEVEL        | VARCHAR2 (9)    |          | Indicates whether the SQL command is a top-level SQL command, that is, a SQL command issued directly from the user (Y) or a SQL command from a PL/SQL unit (N)                                    |
| CLIENT_PROGRAM   | VARCHAR2 (84)   |          | Name of the client program                                                                                                                                                                        |
| OS_USER          | VARCHAR2 (128)  |          | Name of the OS user of the client process                                                                                                                                                         |
| IP_ADDRESS       | VARCHAR2 (48)   |          | Client IP address                                                                                                                                                                                 |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"[DBA\\_SQL\\_FIREWALL\\_SQL\\_LOGS](#)"

## 6.418 DBA\_SQL\_FIREWALL\_CAPTURES

`DBA_SQL_FIREWALL_CAPTURES` displays information about SQL Firewall captures.

| Column         | Datatype       | NULL | Description                                                                                                                                                                                                                     |
|----------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USERNAME       | VARCHAR2 (128) |      | Name of the target user                                                                                                                                                                                                         |
| TOP_LEVEL_ONLY | VARCHAR2 (14)  |      | Indicates whether SQL Firewall should capture only top-level SQL commands, that is, SQL commands issued directly from the user (Y) or all SQL commands, including top-level SQL commands and SQL commands from PL/SQL units (N) |
| STATUS         | VARCHAR2 (8)   |      | Capture status (ENABLED or DISABLED)                                                                                                                                                                                            |

| Column          | Datatype                     | NULL | Description                                         |
|-----------------|------------------------------|------|-----------------------------------------------------|
| LAST_STARTED_ON | TIMESTAMP (6) WITH TIME ZONE |      | Date and time at which the capture was last started |
| LAST_STOPPED_ON | TIMESTAMP (6) WITH TIME ZONE |      | Date and time at which the capture was last stopped |

**Note:**

This view is available starting with Oracle Database 23ai.

## 6.419 DBA\_SQL\_FIREWALL\_SESSION\_LOGS

DBA\_SQL\_FIREWALL\_SESSION\_LOGS displays SQL Firewall session logs.

| Column         | Datatype                     | NULL     | Description                                                      |
|----------------|------------------------------|----------|------------------------------------------------------------------|
| SESSION_ID     | NUMBER                       | NOT NULL | SQL Firewall session ID                                          |
| USERNAME       | VARCHAR2 (128)               |          | Name of the target user                                          |
| LOGIN_TIME     | TIMESTAMP (6) WITH TIME ZONE |          | Date and time at which the target user logged in to the database |
| IP_ADDRESS     | VARCHAR2 (48)                |          | Client IP address                                                |
| CLIENT_PROGRAM | VARCHAR2 (84)                |          | Name of the client program                                       |
| OS_USER        | VARCHAR2 (128)               |          | Name of the OS user of the client process                        |

**Note:**

This view is available starting with Oracle Database 23ai.

## 6.420 DBA\_SQL\_FIREWALL\_SQL\_LOGS

DBA\_SQL\_FIREWALL\_SQL\_LOGS displays information about SQL logs for SQL Firewall.

| Column           | Datatype      | NULL | Description                   |
|------------------|---------------|------|-------------------------------|
| COMMAND_TYPE     | VARCHAR2 (64) |      | Type of SQL command           |
| SQL_SIGNATURE    | VARCHAR2 (64) |      | SQL signature                 |
| SQL_TEXT         | CLOB          |      | SQL text                      |
| ACCESSED_OBJECTS | CLOB          |      | List of accessed objects      |
| CHARSET          | VARCHAR2 (64) |      | Character set of the SQL text |

**Note:**

This view is available starting with Oracle Database 23ai.

## 6.421 DBA\_SQL\_FIREWALL\_STATUS

DBA\_SQL\_FIREWALL\_STATUS displays the status of SQL Firewall.

| Column            | Datatype                     | NULL     | Description                                                                                                                                                        |
|-------------------|------------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS            | VARCHAR2 (8)                 |          | SQL Firewall status (ENABLED or DISABLED)                                                                                                                          |
| STATUS_UPDATED_ON | TIMESTAMP (6) WITH TIME ZONE | NOT NULL | Date and time of the most recent SQL Firewall status change                                                                                                        |
| EXCLUDE_JOBS      | VARCHAR2 (12)                |          | Indicates whether the SQL Firewall will capture or enforce allow-lists for database connections and SQL executions of Oracle scheduler job sessions (Y) or not (N) |

**Note:**

This view is available starting with Oracle Database 23ai.

## 6.422 DBA\_SQL\_FIREWALL\_VIOLATIONS

DBA\_SQL\_FIREWALL\_VIOLATIONS lists SQL Firewall violations.

| Column           | Datatype        | NULL | Description                                                                                                                                                             |
|------------------|-----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USERNAME         | VARCHAR2 (128)  |      | Name of the target user                                                                                                                                                 |
| COMMAND_TYPE     | VARCHAR2 (64)   |      | Type of SQL command                                                                                                                                                     |
| SQL_SIGNATURE    | VARCHAR2 (64)   |      | SQL signature                                                                                                                                                           |
| SQL_TEXT         | VARCHAR2 (4000) |      | SQL text (up to 1000 characters)<br>To view the full SQL text, query the SQL_TEXT column of the DBA_SQL_FIREWALL_SQL_LOGS view.                                         |
| ACCESSED_OBJECTS | VARCHAR2 (4000) |      | List of accessed objects (up to 1000 characters)<br>To view the full list of accessed objects, query the ACCESSED_OBJECTS column of the DBA_SQL_FIREWALL_SQL_LOGS view. |
| CURRENT_USER     | VARCHAR2 (128)  |      | Name of the user who invoked the SQL command                                                                                                                            |
| TOP_LEVEL        | VARCHAR2 (9)    |      | Indicates whether the SQL command is a top-level SQL command, that is, a SQL command issued directly from the user (Y) or a SQL command from a PL/SQL unit (N)          |
| IP_ADDRESS       | VARCHAR2 (48)   |      | Client IP address                                                                                                                                                       |
| CLIENT_PROGRAM   | VARCHAR2 (84)   |      | Name of the client program                                                                                                                                              |

| Column          | Datatype                     | NULL | Description                                                                                                        |
|-----------------|------------------------------|------|--------------------------------------------------------------------------------------------------------------------|
| OS_USER         | VARCHAR2 (128)               |      | Name of the OS user of the client process                                                                          |
| CAUSE           | VARCHAR2 (17)                |      | Cause of the violation: <ul style="list-style-type: none"> <li>Context violation</li> <li>SQL violation</li> </ul> |
| FIREWALL_ACTION | VARCHAR2 (7)                 |      | Indicates whether the SQL Firewall action was Allowed or Blocked                                                   |
| OCCURRED_AT     | TIMESTAMP (6) WITH TIME ZONE |      | Date and time of the violation                                                                                     |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"DBA\_SQL\_FIREWALL\_SQL\_LOGS"

## 6.423 DBA\_SQL\_MANAGEMENT\_CONFIG

DBA\_SQL\_MANAGEMENT\_CONFIG displays the configuration parameters of the SQL management base.

You must have the DBA role in order to change the configuration parameter values.

| Column          | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                  |
|-----------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PARAMETER_NAME  | VARCHAR2 (128)  | NOT NULL | Name of the configuration parameter: <ul style="list-style-type: none"> <li>AUTO_CAPTURE_ACTION</li> <li>AUTO_CAPTURE_MODULE</li> <li>AUTO_CAPTURE_PARSING_SCHEMA_NAME</li> <li>AUTO_CAPTURE_SQL_TEXT</li> <li>PLAN_RETENTION_WEEKS</li> <li>SPACE_BUDGET_PERCENT</li> </ul> |
| PARAMETER_VALUE | VARCHAR2 (4000) |          | Value of the configuration parameter                                                                                                                                                                                                                                         |
| LAST_MODIFIED   | TIMESTAMP (6)   |          | Time the parameter value was last updated                                                                                                                                                                                                                                    |
| MODIFIED_BY     | VARCHAR2 (128)  |          | User who last updated the parameter value                                                                                                                                                                                                                                    |

## 6.424 DBA\_SQL\_QUARANTINE

DBA\_SQL\_QUARANTINE displays information about SQL Quarantine configurations.

Each row in this view represents a quarantine configuration for a SQL plan.

| Column          | Datatype        | NULL     | Description                                                                                                                                                                                                 |
|-----------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SIGNATURE       | NUMBER          | NOT NULL | Unique SQL identifier generated from normalized SQL text                                                                                                                                                    |
| NAME            | VARCHAR2 (128)  | NOT NULL | Unique plan identifier in string form as a search key                                                                                                                                                       |
| SQL_TEXT        | CLOB            | NOT NULL | Un-normalized SQL text                                                                                                                                                                                      |
| PLAN_HASH_VALUE | NUMBER          |          | Unique plan identifier in numeric form as a search key                                                                                                                                                      |
| CPU_TIME        | VARCHAR2 (4000) |          | CPU time threshold (in seconds)                                                                                                                                                                             |
| IO_MEGABYTES    | VARCHAR2 (4000) |          | I/O threshold (in megabytes)                                                                                                                                                                                |
| IO_REQUESTS     | VARCHAR2 (4000) |          | Physical I/O threshold (number of physical I/O requests)                                                                                                                                                    |
| ELAPSED_TIME    | VARCHAR2 (4000) |          | Elapsed time threshold (in seconds)                                                                                                                                                                         |
| IO_LOGICAL      | VARCHAR2 (4000) |          | Logical I/O threshold (number of logical I/O requests)                                                                                                                                                      |
| CREATOR         | VARCHAR2 (128)  |          | User who created the quarantine configuration                                                                                                                                                               |
| ORIGIN          | VARCHAR2 (16)   |          | Method by which the quarantine configuration was created. The only possible value is <code>RESOURCE-MANAGER</code> , which indicates that the quarantine configuration was created by the Resource Manager. |
| DESCRIPTION     | VARCHAR2 (500)  |          | Text description                                                                                                                                                                                            |
| CREATED         | TIMESTAMP (6)   | NOT NULL | Time at which the quarantine configuration was created                                                                                                                                                      |
| LAST_EXECUTED   | TIMESTAMP (6)   |          | Time at which the quarantine configuration was last used                                                                                                                                                    |
| ENABLED         | VARCHAR2 (3)    |          | Indicates whether the quarantine configuration is enabled ( <code>YES</code> ) or disabled ( <code>NO</code> )                                                                                              |
| AUTOPURGE       | VARCHAR2 (3)    |          | Indicates whether the quarantine configuration is auto-purged ( <code>YES</code> ) or not ( <code>NO</code> )                                                                                               |



#### See Also:

*Oracle Database SQL Tuning Guide* for more information about quarantined SQL plans

## 6.425 DBA\_SQL\_PATCHES

DBA\_SQL\_PATCHES displays the set of SQL patches.

| Column        | Datatype       | NULL     | Description                                          |
|---------------|----------------|----------|------------------------------------------------------|
| NAME          | VARCHAR2 (128) | NOT NULL | Name of the SQL patch                                |
| CATEGORY      | VARCHAR2 (128) | NOT NULL | Category of the SQL patch                            |
| SIGNATURE     | NUMBER         | NOT NULL | Unique identifier generated from normalized SQL text |
| SQL_TEXT      | CLOB           | NOT NULL | Un-normalized SQL text                               |
| CREATED       | TIMESTAMP (6)  | NOT NULL | Timestamp when the SQL patch was created             |
| LAST_MODIFIED | TIMESTAMP (6)  |          | Timestamp when the SQL patch was last modified       |

| Column         | Datatype       | NULL | Description                                                                                                                   |
|----------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------|
| DESCRIPTION    | VARCHAR2 (500) |      | Text description provided for the SQL patch                                                                                   |
| ORIGIN         | VARCHAR2 (22)  |      | Origin of the patch: <ul style="list-style-type: none"> <li>AUTO-FOREGROUND-REPAIR</li> <li>PATCH</li> <li>UNKNOWN</li> </ul> |
| STATUS         | VARCHAR2 (8)   |      | Status of the SQL patch: <ul style="list-style-type: none"> <li>ENABLED</li> <li>DISABLED</li> </ul>                          |
| FORCE_MATCHING | VARCHAR2 (3)   |      | Indicates whether the signature is force matching (YES) or exact matching (NO)                                                |
| TASK_ID        | NUMBER         |      | Advisor task ID that generated the SQL patch                                                                                  |
| TASK_EXEC_NAME | VARCHAR2 (128) |      | Advisor execution name for the SQL patch                                                                                      |
| TASK_OBJ_ID    | NUMBER         |      | Advisor object ID for the SQL patch                                                                                           |
| TASK_FND_ID    | NUMBER         |      | Advisor finding ID for the SQL patch                                                                                          |
| TASK_REC_ID    | NUMBER         |      | Advisor recommendation ID for the SQL patch                                                                                   |

## 6.426 DBA\_SQL\_PLAN\_BASELINES

DBA\_SQL\_PLAN\_BASELINES displays information about the SQL plan baselines currently created for specific SQL statements.

| Column              | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SIGNATURE           | NUMBER         | NOT NULL | Unique SQL identifier generated from normalized SQL text                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SQL_HANDLE          | VARCHAR2 (30)  | NOT NULL | Unique SQL identifier in string form as a search key                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SQL_TEXT            | CLOB           | NOT NULL | Un-normalized SQL text                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| PLAN_NAME           | VARCHAR2 (128) | NOT NULL | Unique plan identifier in string form as a search key                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CREATOR             | VARCHAR2 (128) |          | User who created the plan baseline                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ORIGIN              | VARCHAR2 (29)  |          | How the plan baseline was created: <ul style="list-style-type: none"> <li>ADDM-SQLTUNE</li> <li>AUTO-CAPTURE</li> <li>AUTO-SQLTUNE</li> <li>EVOLVE-AUTO-INDEX-LOAD</li> <li>EVOLVE-CREATE-FROM-ADAPTIVE</li> <li>EVOLVE-LOAD-FROM-AWR</li> <li>EVOLVE-LOAD-FROM-CURSOR-CACHE</li> <li>EVOLVE-LOAD-FROM-STS</li> <li>FOREGROUND-CAPTURE</li> <li>MANUAL-LOAD</li> <li>MANUAL-LOAD-FROM-AWR</li> <li>MANUAL-LOAD-FROM-CURSOR-CACHE</li> <li>MANUAL-LOAD-FROM-STS</li> <li>MANUAL-SQLTUNE</li> <li>STORED-OUTLINE</li> </ul> |
| PARSING_SCHEMA_NAME | VARCHAR2 (128) |          | Name of the parsing schema                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| DESCRIPTION         | VARCHAR2 (500) |          | Text description provided for the plan baseline                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |



| Column                    | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------|---------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VERSION                   | VARCHAR2 (64) |          | Database version at the time of plan baseline creation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CREATED                   | TIMESTAMP (6) | NOT NULL | Timestamp when the plan baseline was created                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| LAST_MODIFIED             | TIMESTAMP (6) |          | Timestamp when the plan baseline was last modified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| LAST_EXECUTED             | TIMESTAMP (6) |          | Timestamp when the plan baseline was last executed<br><b>Note:</b> For performance reasons, this column is not updated immediately after each execution of the plan baseline. Therefore, the plan baseline may have been executed more recently than the value of this column indicates.                                                                                                                                                                                                                                                                                                                                                                                                            |
| LAST_VERIFIED             | TIMESTAMP (6) |          | Timestamp when the plan baseline was last verified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ENABLED                   | VARCHAR2 (3)  |          | Indicates whether the plan baseline is enabled (YES) or disabled (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| ACCEPTED                  | VARCHAR2 (3)  |          | Indicates whether the plan baseline is accepted (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| FIXED                     | VARCHAR2 (3)  |          | Indicates whether the plan baseline is fixed (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| REPRODUCED                | VARCHAR2 (3)  |          | Indicates whether the optimizer was able to reproduce the plan (YES) or not (NO). The value of this column is set to YES when a plan is initially added to the plan baseline.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| AUTOPURGE                 | VARCHAR2 (3)  |          | Indicates whether the plan baseline is auto-purged (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| ADAPTIVE                  | VARCHAR2 (3)  |          | Indicates whether a plan that is automatically captured by SQL plan management is marked adaptive or not. When a new adaptive plan is found for a SQL statement that has an existing SQL plan baseline, that new plan will be added to the SQL plan baseline as an unaccepted plan, and the ADAPTIVE column will be marked YES. When this new plan is verified (either manually or via the auto evolve task), the plan will be test executed and the final plan determined at execution will become an accepted plan if its performance is better than the existing plan baseline. At this point, the value of the ADAPTIVE column is set to NO since the plan is no longer adaptive, but resolved. |
| OPTIMIZER_COST            | NUMBER        |          | Optimizer cost at the time the plan baseline was created                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| MODULE                    | VARCHAR2 (64) |          | Application module name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ACTION                    | VARCHAR2 (64) |          | Application action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EXECUTIONS <sup>1</sup>   | NUMBER        |          | Number of executions at the time the plan baseline was created                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ELAPSED_TIME <sup>1</sup> | NUMBER        |          | Total elapsed time (in microseconds) at the time the plan baseline was created                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CPU_TIME <sup>1</sup>     | NUMBER        |          | Total CPU time (in microseconds) at the time the plan baseline was created                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| BUFFER_GETS <sup>1</sup>  | NUMBER        |          | Total buffer gets at the time the plan baseline was created                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| DISK_READS <sup>1</sup>   | NUMBER        |          | Total disk reads at the time the plan baseline was created                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Column                          | Datatype      | NULL | Description                                                                        |
|---------------------------------|---------------|------|------------------------------------------------------------------------------------|
| DIRECT_WRITES <sup>1</sup>      | NUMBER        |      | Total direct writes at the time the plan baseline was created                      |
| ROWS_PROCESSED <sup>1</sup>     | NUMBER        |      | Total rows processed at the time the plan baseline was created                     |
| FETCHES <sup>1</sup>            | NUMBER        |      | Total number of fetches at the time the plan baseline was created                  |
| END_OF_FETCH_COUNT <sup>1</sup> | NUMBER        |      | Total number of full fetches at the time the plan baseline was created             |
| FOREGROUND_LAST_VERIFIED        | TIMESTAMP (6) |      | Timestamp when the SQL plan baseline was verified by real-time SQL plan management |
| NOTES                           | CLOB          |      | Internal SQL plan baseline verification information                                |

<sup>1</sup> If the value of the ORIGIN column is equal to AUTO-CAPTURE, then data for this column is not populated.



#### See Also:

- *Oracle Database SQL Tuning Guide* for more information about SQL plan baselines
- The DBMS\_SQLTUNE package in *Oracle Database PL/SQL Packages and Types Reference*

## 6.427 DBA\_SQL\_PLAN\_DIR\_OBJECTS

DBA\_SQL\_PLAN\_DIR\_OBJECTS displays the objects created in the SQL plan directive.

| Column         | Datatype       | NULL | Description                                                               |
|----------------|----------------|------|---------------------------------------------------------------------------|
| DIRECTIVE_ID   | NUMBER         |      | The identifier of the SQL plan directive                                  |
| OWNER          | VARCHAR2 (128) |      | The username of the owner of the object in the SQL plan directive         |
| OBJECT_NAME    | VARCHAR2 (128) |      | The name of the object in the SQL plan directive                          |
| SUBOBJECT_NAME | VARCHAR2 (128) |      | The name of the subobject (for example, column) in the SQL plan directive |
| OBJECT_TYPE    | VARCHAR2 (6)   |      | The type of the subobject in the SQL plan directive                       |
| NUM_ROWS       | NUMBER         |      | The number of rows in the object when the directive is created            |
| NOTES          | XMLTYPE        |      | Other notes about the object                                              |

**See Also:**

- ["DBA\\_SQL\\_PLAN\\_DIRECTIVES"](#)
- *Oracle Database SQL Tuning Guide* for more information about SQL plan directives

## 6.428 DBA\_SQL\_PLAN\_DIRECTIVES

DBA\_SQL\_PLAN\_DIRECTIVES displays information about the SQL plan directives in the system.

| Column        | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DIRECTIVE_ID  | NUMBER        | NOT NULL | The identifier of the SQL plan directive                                                                                                                                                                                                                                                                                                                                                               |
| TYPE          | VARCHAR2 (16) |          | The type of the SQL plan directive: <ul style="list-style-type: none"><li>• DYNAMIC SAMPLING: SQL plan directive</li><li>• DYNAMIC SAMPLING RESULT: Dynamic sampling query results. This value appears only in Oracle Database 12c Release 2 (12.2.0.1) and later releases.</li><li>• UNKNOWN: Unknown</li></ul>                                                                                       |
| ENABLED       | VARCHAR2 (3)  |          | Indicates whether the SQL plan directive is enabled. Possible values: <ul style="list-style-type: none"><li>• YES: The SQL plan directive is enabled.</li><li>• NO: The SQL plan directive is not enabled.</li></ul>                                                                                                                                                                                   |
| STATE         | VARCHAR2 (10) |          | The state of the SQL plan directive. Possible values include: <ul style="list-style-type: none"><li>• SUPERSEDED: This value indicates that the corresponding column or groups have an extension or histogram, or that another SQL plan directive exists that can be used for the directive.</li><li>• USABLE: This value indicates that the SQL plan directive is usable for the optimizer.</li></ul> |
| AUTO_DROP     | VARCHAR2 (3)  |          | If YES, the SQL plan directive gets dropped when unused beyond SPD_RETENTION_WEEKS                                                                                                                                                                                                                                                                                                                     |
| REASON        | VARCHAR2 (36) |          | The reason for creating the SQL plan directive                                                                                                                                                                                                                                                                                                                                                         |
| CREATED       | TIMESTAMP (6) |          | The creation timestamp of the SQL plan directive                                                                                                                                                                                                                                                                                                                                                       |
| LAST_MODIFIED | TIMESTAMP (6) |          | The timestamp of most recent modification of the SQL plan directive                                                                                                                                                                                                                                                                                                                                    |
| LAST_USED     | TIMESTAMP (9) |          | The timestamp of most recent usage of the SQL plan directive                                                                                                                                                                                                                                                                                                                                           |
| NOTES         | XMLTYPE       |          | Extra information about the SQL plan directive                                                                                                                                                                                                                                                                                                                                                         |

**See Also:**

- ["DBA\\_SQL\\_PLAN\\_DIR\\_OBJECTS"](#)
- *Oracle Database SQL Tuning Guide* for more information about SQL plan directives

## 6.429 DBA\_SQL\_PROFILES

DBA\_SQL\_PROFILES displays information about SQL profiles currently created for specific SQL statements.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME           | VARCHAR2 (128) | NOT NULL | Name of the SQL profile                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CATEGORY       | VARCHAR2 (128) | NOT NULL | Category of the SQL profile                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SIGNATURE      | NUMBER         | NOT NULL | Unique identifier generated from normalized SQL text                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SQL_TEXT       | CLOB           | NOT NULL | Un-normalized SQL text                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CREATED        | TIMESTAMP (6)  | NOT NULL | Timestamp when the SQL profile was created                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LAST_MODIFIED  | TIMESTAMP (6)  |          | Timestamp when the SQL profile was last modified                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| DESCRIPTION    | VARCHAR2 (500) |          | Text description provided for the SQL profile                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TYPE           | VARCHAR2 (7)   |          | Type of the SQL profile (how it was created): <ul style="list-style-type: none"> <li>• MANUAL</li> <li>• AUTO</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                 |
| STATUS         | VARCHAR2 (8)   |          | Status of the SQL profile: <ul style="list-style-type: none"> <li>• ENABLED</li> <li>• DISABLED</li> <li>• VOID</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                               |
| FORCE_MATCHING | VARCHAR2 (3)   |          | If YES, this causes SQL Profiles to target all SQL statements which have the same text after normalizing all literal values to bind variables. If a combination of literal values and bind variables is used in the same SQL text, then no transformation occurs. This is analogous to the matching algorithm use by the FORCE option of the CURSOR_SHARING parameter.<br><br>If NO, literals are not transformed. This is analogous to the matching algorithm used by the EXACT option of the CURSOR_SHARING parameter. |
| TASK_ID        | NUMBER         |          | Advisor task ID that generated the SQL profile                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TASK_EXEC_NAME | VARCHAR2 (128) |          | Advisor execution name for the SQL profile                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TASK_OBJ_ID    | NUMBER         |          | Advisor object ID for the SQL profile                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TASK_FND_ID    | NUMBER         |          | Advisor finding ID for the SQL profile                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TASK_REC_ID    | NUMBER         |          | Advisor recommendation ID for the SQL profile                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TASK_CON_DBID  | NUMBER         |          | Database ID for the PDB tuning task generating the SQL profile                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

**See Also:**

The `DBMS_SQLTUNE` package in *Oracle Database PL/SQL Packages and Types Reference*

## 6.430 DBA\_SQL\_TRANSLATION\_PROFILES

`DBA_SQL_TRANSLATION_PROFILES` describes all SQL translation profiles in the database. Its columns are the same as those in `ALL_SQL_TRANSLATION_PROFILES`.

**See Also:**

[`"ALL\_SQL\_TRANSLATION\_PROFILES"`](#)

## 6.431 DBA\_SQL\_TRANSLATIONS

`DBA_SQL_TRANSLATIONS` describes all SQL translations in the database. Its columns are the same as those in `ALL_SQL_TRANSLATIONS`.

**See Also:**

[`"ALL\_SQL\_TRANSLATIONS"`](#)

## 6.432 DBA\_SQLJ\_TYPE\_ATTRS

`DBA_SQLJ_TYPE_ATTRS` describes the attributes of all SQLJ object types in the database. Its columns are the same as those in `ALL_SQLJ_TYPE_ATTRS`.

**See Also:**

[`"ALL\_SQLJ\_TYPE\_ATTRS"`](#)

## 6.433 DBA\_SQLJ\_TYPE\_METHODS

`DBA_SQLJ_TYPE_METHODS` describes the methods of all SQLJ object types in the database. Its columns are the same as those in `ALL_SQLJ_TYPE_METHODS`.

**See Also:**

[`"ALL\_SQLJ\_TYPE\_METHODS"`](#)

## 6.434 DBA\_SQLJ\_TYPES

DBA\_SQLJ\_TYPES describes all SQLJ object types in the database. Its columns are the same as those in ALL\_SQLJ\_TYPES.



**See Also:**

"ALL\_SQLJ\_TYPES"

## 6.435 DBA\_SQLSET

DBA\_SQLSET displays information about all SQL tuning sets in the database. Its columns are the same as those in ALL\_SQLSET.



**See Also:**

"ALL\_SQLSET"

## 6.436 DBA\_SQLSET\_BINDS

DBA\_SQLSET\_BINDS displays the bind values associated with all SQL tuning sets in the database. Its columns are the same as those in ALL\_SQLSET\_BINDS.



**See Also:**

"ALL\_SQLSET\_BINDS"

## 6.437 DBA\_SQLSET\_PLANS

DBA\_SQLSET\_PLANS describes captured plans in the SQL tuning sets in the database. Its columns are the same as those in ALL\_SQLSET\_PLANS.



**See Also:**

"ALL\_SQLSET\_PLANS"

## 6.438 DBA\_SQLSET\_REFERENCES

DBA\_SQLSET\_REFERENCES describes whether or not all SQL tuning sets in the database are active. A SQL tuning set cannot be dropped if it is referenced. Its columns are the same as those in ALL\_SQLSET\_REFERENCES.



**See Also:**

"ALL\_SQLSET\_REFERENCES"

## 6.439 DBA\_SQLSET\_STATEMENTS

DBA\_SQLSET\_STATEMENTS displays information about the SQL statements, along with their statistics, that form all SQL tuning sets in the database. Its columns, except for PARSING\_SCHEMA\_ID, are the same as those in ALL\_SQLSET\_STATEMENTS.

| Column                   | Datatype       | NULL     | Description                                                                                                                                                      |
|--------------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQLSET_NAME              | VARCHAR2 (128) | NOT NULL | Name of the SQL tuning set for the statement                                                                                                                     |
| SQLSET_OWNER             | VARCHAR2 (128) |          | User name of the SQL tuning set owner                                                                                                                            |
| SQLSET_ID                | NUMBER         | NOT NULL | ID of the SQL tuning set for the statement                                                                                                                       |
| CON_DBID                 | NUMBER         | NOT NULL | The database ID of the PDB                                                                                                                                       |
| SQL_ID                   | VARCHAR2 (13)  | NOT NULL | SQL identifier of the parent cursor in the library cache                                                                                                         |
| FORCE_MATCHING_SIGNATURE | NUMBER         | NOT NULL | The signature used when the CURSOR_SHARING parameter is set to FORCE                                                                                             |
| SQL_TEXT                 | CLOB           |          | Full text for the SQL statement exposed as a CLOB column.                                                                                                        |
| PARSING_SCHEMA_NAME      | VARCHAR2 (128) |          | Name of the user in whose schema the statement was parsed                                                                                                        |
| PARSING_SCHEMA_ID        | NUMBER         |          | ID of the schema in which the statement was parsed                                                                                                               |
| PLAN_HASH_VALUE          | NUMBER         | NOT NULL | Hash value for the plan corresponding to statistics in this record                                                                                               |
| BIND_DATA                | RAW (2000)     |          | Bind data                                                                                                                                                        |
| BINDS_CAPTURED           | CHAR (1)       |          | Binds captured                                                                                                                                                   |
| MODULE                   | VARCHAR2 (64)  |          | Contains the name of the module that was executing at the time that the SQL statement was first parsed, which is set by calling DBMS_APPLICATION_INFO.SET_MODULE |
| ACTION                   | VARCHAR2 (64)  |          | Contains the name of the action that was executing at the time that the SQL statement was first parsed, which is set by calling DBMS_APPLICATION_INFO.SET_ACTION |
| ELAPSED_TIME             | NUMBER         |          | Elapsed time (in microseconds) used by this cursor for parsing, executing, and fetching                                                                          |
| CPU_TIME                 | NUMBER         |          | CPU time (in microseconds) used by this cursor for parsing, executing, and fetching                                                                              |
| BUFFER_GETS              | NUMBER         |          | Number of buffer gets for this child cursor                                                                                                                      |

| Column               | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------|---------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DISK_READS           | NUMBER        |          | Number of disk reads for this child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DIRECT_WRITES        | NUMBER        |          | Number of direct writes for this child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ROWS_PROCESSED       | NUMBER        |          | Total number of rows that the parsed SQL statement returns                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| FETCHES              | NUMBER        |          | Number of fetches associated with the SQL statement                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EXECUTIONS           | NUMBER        |          | Number of executions that took place on this object since it was brought into the library cache                                                                                                                                                                                                                                                                                                                                                                                                                      |
| END_OF_FETCH_COUNT   | NUMBER        |          | Number of times this cursor was fully executed since the cursor was brought into the library cache. The value of this statistic is not incremented when the cursor is partially executed, either because it failed during the execution or because only the first few rows produced by this cursor are fetched before the cursor is closed or re-executed. By definition, the value of the <code>END_OF_FETCH_COUNT</code> column should be less than, or equal to, the value of the <code>EXECUTIONS</code> column. |
| OPTIMIZER_COST       | NUMBER        |          | Cost of this query, given by the optimizer                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| OPTIMIZER_ENV        | RAW (2000)    |          | Optimizer environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| PRIORITY             | NUMBER        |          | User-defined priority                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMMAND_TYPE         | NUMBER        |          | Oracle command type definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| FIRST_LOAD_TIME      | VARCHAR2 (19) |          | Timestamp of the parent creation time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| STAT_PERIOD          | NUMBER        |          | Period of time (in seconds) during which the statistics of the SQL statement were collected                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ACTIVE_STAT_PERIOD   | NUMBER        |          | Effective period of time (in seconds) during which the SQL statement was active                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| OTHER                | CLOB          |          | Client data, specified by the user, for this statement                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PLAN_TIMESTAMP       | DATE          |          | Timestamp for the plan corresponding to the statistics in this record                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| SQL_SEQ              | NUMBER        | NOT NULL | SQL sequence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LAST_EXEC_START_TIME | VARCHAR2 (19) |          | For SQLs captured from the cursor cache, this is the time when the most recent execution of this SQL started                                                                                                                                                                                                                                                                                                                                                                                                         |

 **See Also:**

- ["ALL\\_SQLSET\\_STATEMENTS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_APPLICATION_INFO.SET_MODULE` procedure
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_APPLICATION_INFO.SET_ACTION` procedure



## 6.440 DBA\_SQLTUNE\_BINDS

DBA\_SQLTUNE\_BINDS displays the bind values associated with all tuned SQL statements in the database.

### Related View

USER\_SQLTUNE\_BINDS displays the bind values associated with the tuned SQL statements owned by the current user.

| Column    | Datatype   | NULL     | Description                                            |
|-----------|------------|----------|--------------------------------------------------------|
| TASK_ID   | NUMBER(38) | NOT NULL | Tuning task identifier                                 |
| OBJECT_ID | NUMBER(38) | NOT NULL | Advisor framework object identifier                    |
| POSITION  | NUMBER(38) | NOT NULL | Bind position                                          |
| VALUE     | ANYDATA    |          | Bind value. This column is NULL for PL/SQL bind types. |



### See Also:

"USER\_SQLTUNE\_BINDS"

## 6.441 DBA\_SQLTUNE\_PLANS

DBA\_SQLTUNE\_PLANS displays information about the execution plans generated for all SQL statements in the database during a SQL tuning session.

### Related View

USER\_SQLTUNE\_PLANS displays information about the execution plans generated for the SQL statements owned by the current user during a SQL tuning session.

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                         |
|-----------------|---------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TASK_ID         | NUMBER(38)    | NOT NULL | Advisor task ID                                                                                                                                                                                                                                                                                                                                     |
| EXECUTION_NAME  | VARCHAR2(128) | NOT NULL | Advisor task execution                                                                                                                                                                                                                                                                                                                              |
| OBJECT_ID       | NUMBER(38)    | NOT NULL | Advisor object ID                                                                                                                                                                                                                                                                                                                                   |
| ATTRIBUTE       | VARCHAR2(34)  |          | Text string identifying the type of the execution plan: <ul style="list-style-type: none"><li>• Original - Original plan of the query</li><li>• Original with adjusted cost - Same as Original but with adjusted cost</li><li>• Using SQL profile - Plan with SQL profile applied</li><li>• Using new indices - Plan with indexes applied</li></ul> |
| STATEMENT_ID    | VARCHAR2(30)  |          | Optional statement identifier specified in the EXPLAIN PLAN statement                                                                                                                                                                                                                                                                               |
| PLAN_HASH_VALUE | NUMBER        | NOT NULL | Numerical representation of the execution plan                                                                                                                                                                                                                                                                                                      |
| PLAN_ID         | NUMBER        |          | Plan identifier                                                                                                                                                                                                                                                                                                                                     |

| Column          | Datatype        | NULL     | Description                                                                                                |
|-----------------|-----------------|----------|------------------------------------------------------------------------------------------------------------|
| TIMESTAMP       | DATE            |          | Date and time when the EXPLAIN PLAN statement was issued                                                   |
| REMARKS         | VARCHAR2 (4000) |          | Place for comments that can be added to the steps of the execution plan                                    |
| OPERATION       | VARCHAR2 (30)   |          | Name of the operation performed at this step                                                               |
| OPTIONS         | VARCHAR2 (255)  |          | Options used for the operation performed at this step                                                      |
| OBJECT_NODE     | VARCHAR2 (128)  |          | Name of the database link used to reference the object                                                     |
| OBJECT_OWNER    | VARCHAR2 (128)  |          | Owner of the object                                                                                        |
| OBJECT_NAME     | VARCHAR2 (128)  |          | Name of the object                                                                                         |
| OBJECT_ALIAS    | VARCHAR2 (261)  |          | Object alias                                                                                               |
| OBJECT_INSTANCE | NUMBER (38)     |          | Numbered position of the object name in the original SQL statement                                         |
| OBJECT_TYPE     | VARCHAR2 (30)   |          | Descriptive modifier that further describes the type of object                                             |
| OPTIMIZER       | VARCHAR2 (255)  |          | Current mode of the optimizer                                                                              |
| SEARCH_COLUMNS  | NUMBER          |          | Number of index columns with start and stop keys (that is, the number of columns with matching predicates) |
| ID              | NUMBER (38)     | NOT NULL | Identification number for this step in the execution plan                                                  |
| PARENT_ID       | NUMBER (38)     |          | ID of the next step that operates on the results of this step                                              |
| DEPTH           | NUMBER (38)     |          | Depth                                                                                                      |
| POSITION        | NUMBER (38)     |          | Order of processing for steps with the same parent ID                                                      |
| COST            | NUMBER (38)     |          | Cost of the current operation estimated by the cost-based optimizer (CBO)                                  |
| CARDINALITY     | NUMBER (38)     |          | Number of rows returned by the current operation (estimated by the CBO)                                    |
| BYTES           | NUMBER (38)     |          | Number of bytes returned by the current operation                                                          |

| Column            | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------|-----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTHER_TAG         | VARCHAR2 (255)  |      | Describes the function of the SQL text in the OTHER column. Values for OTHER_TAG are: <ul style="list-style-type: none"> <li>SERIAL - SQL is the text of a locally-executed, serial query plan. Currently, SQL is not loaded in OTHER for this case.</li> <li>SERIAL_FROM_REMOTE - SQL text shown in the OTHER column will be executed at a remote site</li> <li>PARALLEL_COMBINED_WITH_PARENT - Parent of this operation is a DFO that performs both operations in the parallel execution plan</li> <li>PARALLEL_COMBINED_WITH_CHILD - Child of this operation is a DFO that performs both operations in the parallel execution plan.</li> <li>PARALLEL_TO_SERIAL - SQL text shown in the OTHER column is the top-level of the parallel plan.</li> <li>PARALLEL_TO_PARALLEL - SQL text shown in the OTHER column is executed and output in parallel</li> <li>PARALLEL_FROM_SERIAL - Operation consumes data from a serial operation and outputs it in parallel</li> </ul> |
| PARTITION_START   | VARCHAR2 (255)  |      | Start partition of a range of accessed partitions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PARTITION_STOP    | VARCHAR2 (255)  |      | Stop partition of a range of accessed partitions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| PARTITION_ID      | NUMBER (38)     |      | Step that has computed the pair of values of the PARTITION_START and PARTITION_STOP columns                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| OTHER             | LONG            |      | Information about parallel execution servers and parallel queries                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DISTRIBUTION      | VARCHAR2 (30)   |      | Distribution method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CPU_COST          | NUMBER (38)     |      | User-defined CPU cost                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| IO_COST           | NUMBER (38)     |      | User-defined I/O cost                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TEMP_SPACE        | NUMBER (38)     |      | Temporary space usage of the operation (sort or hash-join) as estimated by the CBO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ACCESS_PREDICATES | VARCHAR2 (4000) |      | Predicates used to locate rows in an access structure. For example, start or stop predicates for an index range scan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| FILTER_PREDICATES | VARCHAR2 (4000) |      | Predicates used to filter rows before producing them                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| PROJECTION        | VARCHAR2 (4000) |      | Expressions produced by the operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TIME              | NUMBER (38)     |      | Elapsed time (in seconds) of the operation as estimated by the CBO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| QBLOCK_NAME       | VARCHAR2 (128)  |      | Name of the query block                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Column    | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------|----------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTHER_XML | CLOB     |      | <p>Provides extra information specific to an execution step of the execution plan. The content of this column is structured using XML, which allows multiple pieces of information to be stored, including the following:</p> <ul style="list-style-type: none"><li>• Name of the schema against which the query was parsed</li><li>• Release number of the Oracle Database that produced the explain plan</li><li>• Hash value associated with the execution plan</li><li>• Name (if any) of the outline or the SQL profile used to build the execution plan</li><li>• Indication of whether or not dynamic statistics were used to produce the plan</li><li>• The outline data, a set of optimizer hints that can be used to regenerate the same plan</li><li>• Additional data that describes the relationship between rows in the plan table and subplans of adaptive plans</li></ul> |

**See Also:**["USER\\_SQLTUNE\\_PLANS"](#)

## 6.442 DBA\_SQLTUNE\_RATIONALE\_PLAN

DBA\_SQLTUNE\_RATIONALE\_PLAN displays the association between rationales and operations in the execution plan of all SQL statements in the database.

### Related View

USER\_SQLTUNE\_RATIONALE\_PLAN displays the association between rationales and operations in the execution plan of the SQL statements owned by the current user.

| Column         | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                    |
|----------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TASK_ID        | NUMBER(38)    | NOT NULL | Tuning task identifier                                                                                                                                                                                                                                                                                                         |
| EXECUTION_NAME | VARCHAR2(128) | NOT NULL | The name of the task execution with which this entry (row) is associated                                                                                                                                                                                                                                                       |
| RATIONALE_ID   | NUMBER(38)    | NOT NULL | Rationale identifier                                                                                                                                                                                                                                                                                                           |
| OBJECT_ID      | NUMBER(38)    | NOT NULL | Advisor framework object identifier                                                                                                                                                                                                                                                                                            |
| OPERATION_ID   | NUMBER(38)    | NOT NULL | Operation identifier                                                                                                                                                                                                                                                                                                           |
| PLAN_ATTRIBUTE | VARCHAR2(34)  |          | <p>Type of the execution plan:</p> <ul style="list-style-type: none"><li>• Original - Original plan of the query</li><li>• Original with adjusted cost - Same as Original but with adjusted cost</li><li>• Using SQL profile - Plan with SQL profile applied</li><li>• Using new indices - Plan with indexes applied</li></ul> |

**See Also:**["USER\\_SQLTUNE\\_RATIONALE\\_PLAN"](#)

## 6.443 DBA\_SQLTUNE\_STATISTICS

DBA\_SQLTUNE\_STATISTICS displays statistics associated with all SQL statements in the database.

**Related View**

USER\_SQLTUNE\_STATISTICS displays statistics associated with the SQL statements owned by the current user.

| Column             | Datatype     | NULL     | Description                                  |
|--------------------|--------------|----------|----------------------------------------------|
| TASK_ID            | NUMBER(38)   | NOT NULL | Tuning task identifier                       |
| OBJECT_ID          | NUMBER(38)   | NOT NULL | Advisor framework object identifier          |
| PARSING_SCHEMA_ID  | NUMBER       |          | Schema under which the SQL is parsed         |
| MODULE             | VARCHAR2(64) |          | Last application module recorded for the SQL |
| ACTION             | VARCHAR2(64) |          | Last application action recorded for the SQL |
| ELAPSED_TIME       | NUMBER       |          | Elapsed time for the SQL statement           |
| CPU_TIME           | NUMBER       |          | CPU time for the SQL                         |
| BUFFER_GETS        | NUMBER       |          | Number of buffer gets                        |
| DISK_READS         | NUMBER       |          | Number of disk reads                         |
| DIRECT_WRITES      | NUMBER       |          | Number of disk writes                        |
| ROWS_PROCESSED     | NUMBER       |          | Number of rows processed by the SQL          |
| FETCHES            | NUMBER       |          | Number of fetches                            |
| EXECUTIONS         | NUMBER       |          | Number of executions                         |
| END_OF_FETCH_COUNT | NUMBER       |          | End of fetch count                           |
| OPTIMIZER_COST     | NUMBER       |          | Optimizer cost for the SQL                   |
| OPTIMIZER_ENV      | RAW(2000)    |          | Optimizer environment                        |
| COMMAND_TYPE       | NUMBER       |          | Command type                                 |

**See Also:**["USER\\_SQLTUNE\\_STATISTICS"](#)

## 6.444 DBA\_SR\_GRP\_STATUS

DBA\_SR\_GRP\_STATUS provides information on the current refresh operations for the current synchronous refresh groups in the database. It has the same columns as the DBA\_SR\_GRP\_STATUS\_ALL view.

Refresh operations are controlled using the DBMS\_SYNC\_REFRESH package.

### Related View

USER\_SR\_GRP\_STATUS provides information on the current refresh operations for the current synchronous refresh groups in the database which are owned by the current user. Its columns are the same as those in DBA\_SR\_GRP\_STATUS.

| Column                | Datatype        | NULL     | Description                                                                                                                                                                                                                   |
|-----------------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                 | VARCHAR2 (128)  | NOT NULL | Owner of the refresh operation, which is the user who launched the operation                                                                                                                                                  |
| GROUP_ID              | NUMBER          | NOT NULL | Group ID of the synchronous refresh group                                                                                                                                                                                     |
| OPERATION             | VARCHAR2 (7)    |          | The phase of the refresh operation performed: <ul style="list-style-type: none"> <li>• PREPARE</li> <li>• EXECUTE</li> </ul>                                                                                                  |
| STATUS                | VARCHAR2 (10)   |          | The status of the refresh operation: <ul style="list-style-type: none"> <li>• RUNNING</li> <li>• NOT PROCESSED</li> <li>• COMPLETE</li> <li>• ERROR-SOFT</li> <li>• ERROR-HARD</li> <li>• ABORT</li> <li>• PARTIAL</li> </ul> |
| NUM_TBLS              | NUMBER          | NOT NULL | The number of tables in the synchronous refresh group                                                                                                                                                                         |
| NUM_MVS               | NUMBER          | NOT NULL | The number of materialized views in the synchronous refresh group                                                                                                                                                             |
| BASE_TBLS_REFR_STATUS | VARCHAR2 (13)   |          | Indicates the refresh status of base tables in the synchronous refresh group. The possible values are: <ul style="list-style-type: none"> <li>• NOT PROCESSED</li> <li>• COMPLETE</li> <li>• ABORT</li> </ul>                 |
| NUM_MVS_COMPLETED     | NUMBER          |          | The number of materialized views which have completed refresh in the synchronous refresh group                                                                                                                                |
| NUM_MVS_ABORTED       | NUMBER          |          | The number of materialized views which have terminated refresh in the synchronous refresh group                                                                                                                               |
| ERROR_NUMBER          | NUMBER          |          | Error number of the run (if any)                                                                                                                                                                                              |
| ERROR_MESSAGE         | VARCHAR2 (4000) |          | Error message of the run (if any)                                                                                                                                                                                             |
| PREPARE_START_TIME    | DATE            |          | Time that the PREPARE_REFRESH phase of the run started                                                                                                                                                                        |
| PREPARE_END_TIME      | DATE            |          | Time that the PREPARE_REFRESH phase of the run ended                                                                                                                                                                          |
| EXECUTE_START_TIME    | DATE            |          | Time that the EXECUTE_REFRESH phase of the run started                                                                                                                                                                        |

| Column           | Datatype | NULL | Description                                          |
|------------------|----------|------|------------------------------------------------------|
| EXECUTE_END_TIME | DATE     |      | Time that the EXECUTE_REFRESH phase of the run ended |

**See Also:**

- "USER\_SR\_GRP\_STATUS"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_SYNC\_REFRESH package

## 6.445 DBA\_SR\_GRP\_STATUS\_ALL

DBA\_SR\_GRP\_STATUS\_ALL provides information on the refresh operations on the synchronous refresh groups in the database.

A refresh operation is also called a run, and it has two phases: PREPARE\_REFRESH and EXECUTE\_REFRESH. These phases are controlled using the DBMS\_SYNC\_REFRESH package.

Each row in this view provides information on a run of a group, identified by its GROUP\_ID. The view contains information on the status of the objects of both current and past runs of both current and defunct synchronous refresh groups. Therefore, this view can be used to examine the history of synchronous refresh operations.

The current run of a group is the most recent run of a group; a current group is a currently valid group, which is capable of being refreshed. A group becomes defunct when it is unregistered for any reason, either explicitly by the user or implicitly as a side-effect when the user registers materialized views related to the materialized views in the group.

To view the status of refresh operations for the most recent runs of only the current groups, use the DBA\_SR\_GRP\_STATUS view.

### Related View

USER\_SR\_GRP\_STATUS\_ALL provides information on the refresh operations on the synchronous refresh groups in the database which are owned by the current user. Its columns are the same as those in DBA\_SR\_GRP\_STATUS\_ALL.

| Column    | Datatype       | NULL     | Description                                                                                                               |
|-----------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------|
| OWNER     | VARCHAR2 (128) | NOT NULL | Owner of the refresh operation, which is the user who launched the operation                                              |
| GROUP_ID  | NUMBER         | NOT NULL | Group ID of the synchronous refresh group                                                                                 |
| OPERATION | VARCHAR2 (7)   |          | The phase of the refresh operation performed: <ul style="list-style-type: none"><li>• PREPARE</li><li>• EXECUTE</li></ul> |

| Column                | Datatype        | NULL     | Description                                                                                                                                                                                                                          |
|-----------------------|-----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS                | VARCHAR2 (10)   |          | <p>The status of the refresh operation:</p> <ul style="list-style-type: none"> <li>• RUNNING</li> <li>• NOT PROCESSED</li> <li>• COMPLETE</li> <li>• ERROR-SOFT</li> <li>• ERROR-HARD</li> <li>• ABORT</li> <li>• PARTIAL</li> </ul> |
| CURRENT_RUN           | VARCHAR2 (1)    |          | <p>Indicates whether the record is for the most recent refresh-operation on the group:</p> <ul style="list-style-type: none"> <li>• Y - Yes</li> <li>• N - No</li> </ul>                                                             |
| CURRENT_GROUP         | VARCHAR2 (1)    |          | <p>Indicates whether the record is for a current group:</p> <ul style="list-style-type: none"> <li>• Y - Yes</li> <li>• N - No</li> </ul>                                                                                            |
| NUM_TBLS              | NUMBER          | NOT NULL | The number of tables in the synchronous refresh group                                                                                                                                                                                |
| NUM_MVS               | NUMBER          | NOT NULL | The number of materialized views in the synchronous refresh group                                                                                                                                                                    |
| BASE_TBLS_REFR_STATUS | VARCHAR2 (13)   |          | <p>Indicates the refresh status of base tables in the synchronous refresh group. The possible values are:</p> <ul style="list-style-type: none"> <li>• NOT PROCESSED</li> <li>• COMPLETE</li> <li>• ABORT</li> </ul>                 |
| NUM_MVS_COMPLETED     | NUMBER          |          | The number of materialized views which have completed refresh in the synchronous refresh group                                                                                                                                       |
| NUM_MVS_ABORTED       | NUMBER          |          | The number of materialized views which have terminated refresh in the synchronous refresh group                                                                                                                                      |
| ERROR_NUMBER          | NUMBER          |          | Error number of the run (if any)                                                                                                                                                                                                     |
| ERROR_MESSAGE         | VARCHAR2 (4000) |          | Error message of the run (if any)                                                                                                                                                                                                    |
| PREPARE_START_TIME    | DATE            |          | Time that the PREPARE_REFRESH phase of the run started                                                                                                                                                                               |
| PREPARE_END_TIME      | DATE            |          | Time that the PREPARE_REFRESH phase of the run ended                                                                                                                                                                                 |
| EXECUTE_START_TIME    | DATE            |          | Time that the EXECUTE_REFRESH phase of the run started                                                                                                                                                                               |
| EXECUTE_END_TIME      | DATE            |          | Time that the EXECUTE_REFRESH phase of the run ended                                                                                                                                                                                 |



#### See Also:

- ["USER\\_SR\\_GRP\\_STATUS\\_ALL"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_SYNC\_REFRESH package



## 6.446 DBA\_SR\_OBJ

DBA\_SR\_OBJ provides information on the objects registered for synchronous refresh for current groups.

### Related View

USER\_SR\_OBJ provides information on the objects registered for synchronous refresh for current groups for the current user. Its columns are the same as those in DBA\_SR\_OBJ.

| Column           | Datatype       | NULL     | Description                                                                                                 |
|------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128) | NOT NULL | Owner of the synchronous refresh object                                                                     |
| NAME             | VARCHAR2 (128) | NOT NULL | Name of the synchronous refresh object                                                                      |
| TYPE             | VARCHAR2 (5)   |          | Type of synchronous refresh object: <ul style="list-style-type: none"><li>• MVIEW</li><li>• TABLE</li></ul> |
| GROUP_ID         | NUMBER         | NOT NULL | Group ID of the synchronous refresh group to which this object belongs                                      |
| STAGING_LOG_NAME | VARCHAR2 (128) |          | Name of the staging log for tables. This column has a value of NULL for materialized views.                 |



### See Also:

["USER\\_SR\\_OBJ"](#)

## 6.447 DBA\_SR\_OBJ\_ALL

DBA\_SR\_OBJ\_ALL provides information on the objects registered for synchronous refresh for current and defunct groups.

To see information on the objects registered for synchronous refresh for only the current groups, use the DBA\_SR\_OBJ view.

### Related View

USER\_SR\_OBJ\_ALL provides information on the objects registered for synchronous refresh for current and defunct groups for the current user. Its columns are the same as those in DBA\_SR\_OBJ\_ALL.

| Column   | Datatype       | NULL     | Description                                                                                                 |
|----------|----------------|----------|-------------------------------------------------------------------------------------------------------------|
| OWNER    | VARCHAR2 (128) | NOT NULL | Owner of the synchronous refresh object                                                                     |
| NAME     | VARCHAR2 (128) | NOT NULL | Name of the synchronous refresh object                                                                      |
| TYPE     | VARCHAR2 (5)   |          | Type of synchronous refresh object: <ul style="list-style-type: none"><li>• MVIEW</li><li>• TABLE</li></ul> |
| GROUP_ID | NUMBER         | NOT NULL | Group ID of the synchronous refresh group to which this object belongs                                      |

| Column           | Datatype       | NULL | Description                                                                                                                     |
|------------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------|
| CURRENT_GROUP    | VARCHAR2 (1)   |      | Indicates whether the record is for a current group: <ul style="list-style-type: none"><li>• Y - Yes</li><li>• N - No</li></ul> |
| STAGING_LOG_NAME | VARCHAR2 (128) |      | Name of the staging log for tables. This column has a value of NULL for materialized views.                                     |

**See Also:**["USER\\_SR\\_OBJ\\_ALL"](#)

## 6.448 DBA\_SR\_OBJ\_STATUS

DBA\_SR\_OBJ\_STATUS provides information on the status of objects registered for synchronous refresh for the current refresh operations for the current synchronous refresh groups in the database.

To see information on the status of objects registered for synchronous refresh, use the DBA\_SR\_OBJ\_STATUS\_ALL view.

### Related View

USER\_SR\_OBJ\_STATUS provides information on the status of objects registered for synchronous refresh for the current refresh operations for the current synchronous refresh groups in the database which are owned by the current user. Its columns are the same as those in DBA\_SR\_OBJ\_STATUS.

| Column             | Datatype        | NULL     | Description                                                                                                                                  |
|--------------------|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128)  | NOT NULL | Owner of the synchronous refresh object                                                                                                      |
| NAME               | VARCHAR2 (128)  | NOT NULL | Name of the synchronous refresh object                                                                                                       |
| TYPE               | VARCHAR2 (5)    |          | Type of synchronous refresh object: <ul style="list-style-type: none"><li>• MVIEW</li><li>• TABLE</li></ul>                                  |
| GROUP_ID           | NUMBER          | NOT NULL | Group ID of the synchronous refresh group to which this object belongs                                                                       |
| STATUS             | VARCHAR2 (13)   |          | Status of the synchronous refresh object: <ul style="list-style-type: none"><li>• NOT PROCESSED</li><li>• COMPLETE</li><li>• ABORT</li></ul> |
| ERROR_NUMBER       | NUMBER          |          | Error number of the run (if any)                                                                                                             |
| ERROR_MESSAGE      | VARCHAR2 (4000) |          | Error message of the run (if any)                                                                                                            |
| LAST_MODIFIED_TIME | DATE            |          | Last modification time of the synchronous refresh object                                                                                     |

**See Also:**["USER\\_SR\\_OBJ\\_STATUS"](#)

## 6.449 DBA\_SR\_OBJ\_STATUS\_ALL

DBA\_SR\_OBJ\_STATUS\_ALL provides information on the status of objects registered for synchronous refresh.

The view contains information on the status of the objects of both the current and past runs of both current and defunct groups. Therefore, this view can be used to examine the history of synchronous refresh operations. The current run of a group is the most recent run of a group; a current group is a currently valid group, which is capable of being refreshed. A group becomes defunct when it is unregistered for any reason, either explicitly by the user or implicitly as a side-effect when the user registers materialized views related to the materialized views in the group.

To see information on the status of refresh operations for the most recent runs of only the current groups, use the DBA\_SR\_OBJ\_STATUS view.

### Related View

USER\_SR\_OBJ\_STATUS\_ALL provides information on the status of objects registered for synchronous refresh in the database which are owned by the current user. Its columns are the same as those in DBA\_SR\_OBJ\_STATUS\_ALL.

| Column             | Datatype        | NULL     | Description                                                                                                                                                       |
|--------------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER              | VARCHAR2 (128)  | NOT NULL | Owner of the synchronous refresh object                                                                                                                           |
| NAME               | VARCHAR2 (128)  | NOT NULL | Name of the synchronous refresh object                                                                                                                            |
| TYPE               | VARCHAR2 (5)    |          | Type of synchronous refresh object: <ul style="list-style-type: none"> <li>• MVIEW</li> <li>• TABLE</li> </ul>                                                    |
| GROUP_ID           | NUMBER          | NOT NULL | Group ID of the synchronous refresh group to which this object belongs                                                                                            |
| STATUS             | VARCHAR2 (13)   |          | Status of the synchronous refresh object: <ul style="list-style-type: none"> <li>• NOT PROCESSED</li> <li>• COMPLETE</li> <li>• ABORT</li> </ul>                  |
| CURRENT_RUN        | VARCHAR2 (1)    |          | Indicates whether the record is for the most recent refresh operation on the group: <ul style="list-style-type: none"> <li>• Y - Yes</li> <li>• N - No</li> </ul> |
| CURRENT_GROUP      | VARCHAR2 (1)    |          | Indicates whether the record is for a current group: <ul style="list-style-type: none"> <li>• Y - Yes</li> <li>• N - No</li> </ul>                                |
| ERROR_NUMBER       | NUMBER          |          | Error number of the run (if any)                                                                                                                                  |
| ERROR_MESSAGE      | VARCHAR2 (4000) |          | Error message of the run (if any)                                                                                                                                 |
| LAST_MODIFIED_TIME | DATE            |          | Last modification time of the synchronous refresh object                                                                                                          |

**See Also:**

["USER\\_SR\\_OBJ\\_STATUS\\_ALL"](#)

## 6.450 DBA\_SR\_PARTN\_OPS

DBA\_SR\_PARTN\_OPS provides information on the partition operations registered on the base tables of the materialized views registered for synchronous refresh.

These rows last only as long as the registrations are active; that is, they disappear after EXECUTE\_REFRESH or ABORT\_REFRESH of the base table by the DBMS\_SYNC\_REFRESH package.

### Related View

USER\_SR\_PARTN\_OPS provides information on the partition operations registered on the base tables of the materialized views registered for synchronous refresh belonging to the current user. Its columns are the same as those in DBA\_SR\_PARTN\_OPS.

| Column               | Datatype       | NULL     | Description                                                                                                               |
|----------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------|
| OWNER                | VARCHAR2 (128) | NOT NULL | Owner of the base table registered for synchronous refresh                                                                |
| TABLE_NAME           | VARCHAR2 (128) | NOT NULL | Name of the table                                                                                                         |
| PARTITION_OP         | VARCHAR2 (128) | NOT NULL | Type of partition operation: <ul style="list-style-type: none"><li>• DROP</li><li>• EXCHANGE</li><li>• TRUNCATE</li></ul> |
| PARTITION_NAME       | VARCHAR2 (128) | NOT NULL | Name of the partition to be changed                                                                                       |
| OUTSIDE_TABLE_SCHEMA | VARCHAR2 (128) |          | Schema in which the outside table (for EXCHANGE PARTITION) was created                                                    |
| OUTSIDE_TABLE_NAME   | VARCHAR2 (128) |          | Name of the outside table (for EXCHANGE PARTITION)                                                                        |

**See Also:**

- ["USER\\_SR\\_PARTN\\_OPS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_SYNC\_REFRESH package

## 6.451 DBA\_SR\_STLOG\_EXCEPTIONS

DBA\_SR\_STLOG\_EXCEPTIONS provides information on the exceptions in the staging logs for the tables processed by DBMS\_SYNC\_REFRESH.PREPARE\_STAGING\_LOG.

### Related View

USER\_SR\_STLOG\_EXCEPTIONS provides information on the exceptions in the staging logs for the tables belonging to the current user processed by DBMS\_SYNC\_REFRESH.PREPARE\_STAGING\_LOG. Its columns are the same as those in DBA\_SR\_STLOG\_EXCEPTIONS.

| Column           | Datatype        | NULL     | Description                                                                                 |
|------------------|-----------------|----------|---------------------------------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128)  | NOT NULL | Owner of the base table registered for synchronous refresh                                  |
| TABLE_NAME       | VARCHAR2 (128)  | NOT NULL | Name of the base table registered for synchronous refresh                                   |
| STAGING_LOG_NAME | VARCHAR2 (128)  | NOT NULL | Name of the staging log for tables. This column has a value of NULL for materialized views. |
| BAD_ROWID        | ROWID           | NOT NULL | Row ID of the staging log row causing the exception for the synchronous refresh             |
| ERROR_NUMBER     | NUMBER          |          | Error number of the exception for the synchronous refresh                                   |
| ERROR_MESSAGE    | VARCHAR2 (4000) |          | Error message associated with the ERROR_NUMBER for the synchronous refresh                  |

### See Also:

- ["USER\\_SR\\_STLOG\\_EXCEPTIONS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_SYNC\_REFRESH package

## 6.452 DBA\_SR\_STLOG\_STATS

DBA\_SR\_STLOG\_STATS provides information on the statistics in the staging logs for the tables processed by DBMS\_SYNC\_REFRESH.PREPARE\_STAGING\_LOG.

These three statistics columns in the staging log are filled in PREPARE\_STAGING\_LOG:

- The number of inserts (NUM\_INSERTS)
- The number of deletes (NUM\_DELETES)
- The number of updates (NUM\_UPDATES)

After the data in the staging logs of a synchronous refresh group have been processed by PREPARE\_REFRESH and EXECUTE\_REFRESH, the statistics columns for the tables in the group are cleared and appear as NULL.

**Related View**

USER\_SR\_STLOG\_STATS provides information on the statistics in the staging logs for the tables belonging to the current user processed by DBMS\_SYNC\_REFRESH.PREPARE\_STAGING\_LOG.

| Column           | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                            |
|------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128) | NOT NULL | Owner of the base table registered for synchronous refresh                                                                                                                                                                                                                                                                                                                             |
| TABLE_NAME       | VARCHAR2 (128) | NOT NULL | Name of the table                                                                                                                                                                                                                                                                                                                                                                      |
| STAGING_LOG_NAME | VARCHAR2 (128) | NOT NULL | Name of the staging log for tables. NULL for materialized views                                                                                                                                                                                                                                                                                                                        |
| NUM_INSERTS      | NUMBER         | NOT NULL | The number of inserts in the staging log                                                                                                                                                                                                                                                                                                                                               |
| NUM_DELETES      | NUMBER         | NOT NULL | The number of deletes in the staging log                                                                                                                                                                                                                                                                                                                                               |
| NUM_UPDATES      | NUMBER         | NOT NULL | The number of updates in the staging log                                                                                                                                                                                                                                                                                                                                               |
| PSL_MODE         | VARCHAR2 (33)  |          | The mode specified by the user in running DBMS_SYNC_REFRESH.PREPARE_STAGING_LOG. Possible values: <ul style="list-style-type: none"> <li>DELETE_TRUSTED</li> <li>DELETE_TRUSTED and UPDATE_TRUSTED</li> <li>ENFORCED</li> <li>INSERT_TRUSTED</li> <li>INSERT_TRUSTED and DELETE_TRUSTED</li> <li>TRUSTED</li> <li>UPDATE_TRUSTED</li> <li>UPDATE_TRUSTED and INSERT_TRUSTED</li> </ul> |

 **See Also:**

- "USER\_SR\_STLOG\_STATS"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_SYNC\_REFRESH package

## 6.453 DBA\_SSCR\_CAPTURE

DBA\_SSCR\_CAPTURE displays session state capture statistics.

| Column          | Datatype        | NULL     | Description                               |
|-----------------|-----------------|----------|-------------------------------------------|
| DB_NAME         | VARCHAR2 (4000) |          | Database name of captured session         |
| INST_NAME       | VARCHAR2 (4000) |          | Instance name of captured session         |
| INST_ID         | NUMBER          |          | Instance ID of captured session           |
| SESSION_ID      | NUMBER          |          | Session ID of captured session            |
| SESSION_SERIAL# | NUMBER          |          | Session serial number of captured session |
| USER_NAME       | VARCHAR2 (128)  | NOT NULL | User name of captured session             |
| SCHEMA_NAME     | VARCHAR2 (128)  | NOT NULL | Schema name of captured session           |
| SEQUENCE#       | NUMBER          |          | Sequence number of captured session       |

| Column          | Datatype       | NULL | Description                       |
|-----------------|----------------|------|-----------------------------------|
| CAPTURE_MODE    | VARCHAR2 (7)   |      | Mode of capture operation         |
| CAPTURE_SCOPE   | VARCHAR2 (7)   |      | Scope of capture operation        |
| CAPTURE_FORMAT  | VARCHAR2 (9)   |      | Format of capture files           |
| CAPTURE_DIR     | VARCHAR2 (128) |      | Directory object of capture files |
| CAPTURE_LOCATOR | RAW (64)       |      | Locator of primary capture file   |
| CAPTURE_TIME    | TIMESTAMP (6)  |      | Timestamp of capture operation    |

## 6.454 DBA\_SSCR\_RESTORE

DBA\_SSCR\_RESTORE displays session state restore statistics.

| Column          | Datatype        | NULL     | Description                               |
|-----------------|-----------------|----------|-------------------------------------------|
| DB_NAME         | VARCHAR2 (4000) |          | Database name of restored session         |
| INST_NAME       | VARCHAR2 (4000) |          | Instance name of restored session         |
| INST_ID         | NUMBER          |          | Instance ID of restored session           |
| SESSION_ID      | NUMBER          |          | Session ID of restored session            |
| SESSION_SERIAL# | NUMBER          |          | Session serial number of restored session |
| USER_NAME       | VARCHAR2 (128)  | NOT NULL | User name of restored session             |
| SCHEMA_NAME     | VARCHAR2 (128)  | NOT NULL | Schema name of restored session           |
| SEQUENCE#       | NUMBER          |          | Sequence number of restore operation      |
| RESTORE_MODE    | VARCHAR2 (7)    |          | Mode of restore operation                 |
| RESTORE_SCOPE   | VARCHAR2 (7)    |          | Scope of restore operation                |
| RESTORE_FORMAT  | VARCHAR2 (9)    |          | Format of restore files                   |
| RESTORE_DIR     | VARCHAR2 (128)  |          | Directory object of restore files         |
| RESTORE_LOCATOR | RAW (64)        |          | Locator of primary restore file           |
| RESTORE_TIME    | TIMESTAMP (6)   |          | Timestamp of restore operation            |

## 6.455 DBA\_STAT\_EXTENSIONS

DBA\_STAT\_EXTENSIONS displays information about all optimizer statistics extensions in the database.



**See Also:**

"ALL\_STAT\_EXTENSIONS"

## 6.456 DBA\_STATEMENTS

DBA\_STATEMENTS Statements in stored objects accessible to sys. Its columns are the same as those in ALL\_STATEMENTS.



### See Also:

"ALL\_STATEMENTS"

## 6.457 DBA\_STMT\_AUDIT\_OPTS

DBA\_STMT\_AUDIT\_OPTS describes current system auditing options across the system and by user.



### Note:

This view is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored and are viewable with this view. See *Oracle Database Security Guide* for more information about how this desupport works.

| Column       | Datatype       | NULL     | Description                                                                                                                          |
|--------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------|
| USER_NAME    | VARCHAR2 (128) |          | User name if by user auditing; ANY CLIENT if access by a proxy on behalf of a client is being audited; NULL for system-wide auditing |
| PROXY_NAME   | VARCHAR2 (128) |          | Name of the proxy user which is performing an operation for the client; NULL if the client is performing the operation directly      |
| AUDIT_OPTION | VARCHAR2 (40)  | NOT NULL | Name of the system auditing option                                                                                                   |
| SUCCESS      | VARCHAR2 (10)  |          | Mode for WHENEVER SUCCESSFUL system auditing                                                                                         |
| FAILURE      | VARCHAR2 (10)  |          | Mode for WHENEVER NOT SUCCESSFUL system auditing                                                                                     |

## 6.458 DBA\_STORED\_SETTINGS

DBA\_STORED\_SETTINGS lists information about the persistent parameter settings for stored PL/SQL units for which the current user has execute privileges.

It also returns parameter information for all objects in the database and is accessible only to users with the SELECT\_CATALOG\_ROLE privilege. Its columns are the same as those in ALL\_STORED\_SETTINGS.





**See Also:**

"ALL\_STORED\_SETTINGS"

# 7

## Static Data Dictionary Views: DBA\_STREAMS\_ADD\_COLUMN to USER\_ZONEMAPS

This chapter contains the static data dictionary views `DBA_STREAMS_ADD_COLUMN` through `USER_ZONEMAPS`.

### 7.1 DBA\_STREAMS\_ADD\_COLUMN

`DBA_STREAMS_ADD_COLUMN` displays information about declarative rule-based transformations that add a column to a row logical change record (LCR).

| Column                       | Datatype                     | NULL | Description                                                                                                                                |
|------------------------------|------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------|
| <code>RULE_OWNER</code>      | <code>VARCHAR2 (128)</code>  |      | Owner of the rule                                                                                                                          |
| <code>RULE_NAME</code>       | <code>VARCHAR2 (128)</code>  |      | Name of the rule                                                                                                                           |
| <code>SCHEMA_NAME</code>     | <code>VARCHAR2 (128)</code>  |      | Schema of the column to be added                                                                                                           |
| <code>TABLE_NAME</code>      | <code>VARCHAR2 (128)</code>  |      | Table of the column to be added                                                                                                            |
| <code>COLUMN_NAME</code>     | <code>VARCHAR2 (4000)</code> |      | Name of the column to be added                                                                                                             |
| <code>COLUMN_VALUE</code>    | <code>ANYDATA</code>         |      | Value of the column to be added                                                                                                            |
| <code>COLUMN_TYPE</code>     | <code>VARCHAR2 (4000)</code> |      | Type of the column to be added                                                                                                             |
| <code>COLUMN_FUNCTION</code> | <code>VARCHAR2 (128)</code>  |      | Name of the default function used to add a column                                                                                          |
| <code>VALUE_TYPE</code>      | <code>VARCHAR2 (3)</code>    |      | Indicates whether to modify the old ( <code>OLD</code> ), new ( <code>NEW</code> ), or both ( <code>*</code> ) values of the LCR           |
| <code>PRECEDENCE</code>      | <code>NUMBER</code>          |      | 3 (the execution order relative to other transformations on the same <code>STEP_NUMBER</code> ; the smaller number will be executed first) |
| <code>STEP_NUMBER</code>     | <code>NUMBER</code>          |      | Order in which this transformation should be executed                                                                                      |

### 7.2 DBA\_STREAMS\_DELETE\_COLUMN

`DBA_STREAMS_DELETE_COLUMN` displays information about declarative rule-based transformations that delete a column from a row logical change record (LCR).

| Column                   | Datatype                     | NULL | Description                        |
|--------------------------|------------------------------|------|------------------------------------|
| <code>RULE_OWNER</code>  | <code>VARCHAR2 (128)</code>  |      | Owner of the rule                  |
| <code>RULE_NAME</code>   | <code>VARCHAR2 (128)</code>  |      | Name of the rule                   |
| <code>SCHEMA_NAME</code> | <code>VARCHAR2 (128)</code>  |      | Schema of the column to be deleted |
| <code>TABLE_NAME</code>  | <code>VARCHAR2 (128)</code>  |      | Table of the column to be deleted  |
| <code>COLUMN_NAME</code> | <code>VARCHAR2 (4000)</code> |      | Name of the column to delete       |

| Column      | Datatype     | NULL | Description                                                                                                                  |
|-------------|--------------|------|------------------------------------------------------------------------------------------------------------------------------|
| VALUE_TYPE  | VARCHAR2 (3) |      | Indicates whether to modify the old (OLD), new (NEW), or both (*) values of the LCR                                          |
| PRECEDENCE  | NUMBER       |      | 1 (the execution order relative to other transformations on the same STEP_NUMBER; the smaller number will be executed first) |
| STEP_NUMBER | NUMBER       |      | Order in which this transformation should be executed                                                                        |

## 7.3 DBA\_STREAMS\_GLOBAL\_RULES

DBA\_STREAMS\_GLOBAL\_RULES displays information about the global rules created for all capture processes, propagations, and apply processes in the database. Its columns are the same as those in ALL\_STREAMS\_GLOBAL\_RULES.



**See Also:**

"ALL\_STREAMS\_GLOBAL\_RULES"

## 7.4 DBA\_STREAMS\_KEEP\_COLUMNS

DBA\_STREAMS\_KEEP\_COLUMNS displays information about declarative rule-based transformations that keep a list of columns in a row logical change record (LCR).

| Column      | Datatype        | NULL | Description                                                                                                                  |
|-------------|-----------------|------|------------------------------------------------------------------------------------------------------------------------------|
| RULE_OWNER  | VARCHAR2 (128)  |      | Owner of the rule which has an associated transformation                                                                     |
| RULE_NAME   | VARCHAR2 (128)  |      | Name of the rule which has an associated transformation                                                                      |
| SCHEMA_NAME | VARCHAR2 (128)  |      | Schema of the column to be kept                                                                                              |
| TABLE_NAME  | VARCHAR2 (128)  |      | Table of the column to be kept                                                                                               |
| COLUMN_NAME | VARCHAR2 (4000) |      | Column to keep                                                                                                               |
| VALUE_TYPE  | VARCHAR2 (3)    |      | Indicates whether to keep the old (OLD), new (NEW), or both (*) value of the LCR                                             |
| PRECEDENCE  | NUMBER          |      | 0 (the execution order relative to other transformations on the same STEP_NUMBER; the smaller number will be executed first) |
| STEP_NUMBER | NUMBER          |      | Order in which this transformation should be executed                                                                        |

## 7.5 DBA\_STREAMS\_MESSAGE\_CONSUMERS

DBA\_STREAMS\_MESSAGE\_CONSUMERS displays information about all Streams messaging clients in the database. Its columns are the same as those in ALL\_STREAMS\_MESSAGE\_CONSUMERS.



**See Also:**

"ALL\_STREAMS\_MESSAGE\_CONSUMERS"

## 7.6 DBA\_STREAMS\_NEWLY\_SUPPORTED

DBA\_STREAMS\_NEWLY\_SUPPORTED displays information about all tables in the database that are newly supported by capture processes. Its columns are the same as those in ALL\_STREAMS\_NEWLY\_SUPPORTED.



**See Also:**

"ALL\_STREAMS\_NEWLY\_SUPPORTED"

## 7.7 DBA\_STREAMS\_RENAME\_COLUMN

DBA\_STREAMS\_RENAME\_COLUMN displays information about declarative rule-based transformations that rename a column in a row logical change record (LCR).

| Column           | Datatype        | NULL | Description                                                                                                                  |
|------------------|-----------------|------|------------------------------------------------------------------------------------------------------------------------------|
| RULE_OWNER       | VARCHAR2 (128)  |      | Owner of the rule                                                                                                            |
| RULE_NAME        | VARCHAR2 (128)  |      | Name of the rule                                                                                                             |
| SCHEMA_NAME      | VARCHAR2 (128)  |      | Schema of the column to be renamed                                                                                           |
| TABLE_NAME       | VARCHAR2 (128)  |      | Table of the column to be renamed                                                                                            |
| FROM_COLUMN_NAME | VARCHAR2 (4000) |      | Column to rename                                                                                                             |
| TO_COLUMN_NAME   | VARCHAR2 (4000) |      | New column name                                                                                                              |
| VALUE_TYPE       | VARCHAR2 (3)    |      | Indicates whether to modify the old (OLD), new (NEW), or both (*) values of the LCR                                          |
| PRECEDENCE       | NUMBER          |      | 2 (the execution order relative to other transformations on the same STEP_NUMBER; the smaller number will be executed first) |
| STEP_NUMBER      | NUMBER          |      | Order in which this transformation should be executed                                                                        |

## 7.8 DBA\_STREAMS\_RENAME\_SCHEMA

DBA\_STREAMS\_RENAME\_SCHEMA displays information about declarative rule-based transformations that rename a schema in a row logical change record (LCR).

| Column           | Datatype       | NULL | Description                                                                                                                  |
|------------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------|
| RULE_OWNER       | VARCHAR2 (128) |      | Owner of the rule                                                                                                            |
| RULE_NAME        | VARCHAR2 (128) |      | Name of the rule                                                                                                             |
| FROM_SCHEMA_NAME | VARCHAR2 (128) |      | Schema to be renamed                                                                                                         |
| TO_SCHEMA_NAME   | VARCHAR2 (128) |      | New schema name                                                                                                              |
| PRECEDENCE       | NUMBER         |      | 5 (the execution order relative to other transformations on the same STEP_NUMBER; the smaller number will be executed first) |
| STEP_NUMBER      | NUMBER         |      | Order in which this transformation should be executed                                                                        |

## 7.9 DBA\_STREAMS\_RENAME\_TABLE

DBA\_STREAMS\_RENAME\_TABLE displays information about declarative rule-based transformations that rename a table in a row logical change record (LCR).

| Column           | Datatype       | NULL | Description                                                                                                                  |
|------------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------|
| RULE_OWNER       | VARCHAR2 (128) |      | Owner of the rule                                                                                                            |
| RULE_NAME        | VARCHAR2 (128) |      | Name of the rule                                                                                                             |
| FROM_SCHEMA_NAME | VARCHAR2 (128) |      | Schema to be renamed                                                                                                         |
| TO_SCHEMA_NAME   | VARCHAR2 (128) |      | New schema name                                                                                                              |
| FROM_TABLE_NAME  | VARCHAR2 (128) |      | Table to be renamed                                                                                                          |
| TO_TABLE_NAME    | VARCHAR2 (128) |      | New table name                                                                                                               |
| PRECEDENCE       | NUMBER         |      | 4 (the execution order relative to other transformations on the same STEP_NUMBER; the smaller number will be executed first) |
| STEP_NUMBER      | NUMBER         |      | Order in which this transformation should be executed                                                                        |

## 7.10 DBA\_STREAMS\_SCHEMA\_RULES

DBA\_STREAMS\_SCHEMA\_RULES displays information about the schema rules created for all capture processes, propagations, and apply processes in the database. Its columns are the same as those in ALL\_STREAMS\_SCHEMA\_RULES.



**See Also:**

"ALL\_STREAMS\_SCHEMA\_RULES"

## 7.11 DBA\_STREAMS\_TABLE\_RULES

DBA\_STREAMS\_TABLE\_RULES displays information about the table rules created for all capture processes, propagations, and apply processes in the database. Its columns are the same as those in ALL\_STREAMS\_TABLE\_RULES.



### See Also:

"ALL\_STREAMS\_TABLE\_RULES"

## 7.12 DBA\_STREAMS\_TP\_COMPONENT

DBA\_STREAMS\_TP\_COMPONENT displays information about each Replication component at each database.

| Column                 | Datatype        | NULL     | Description                                                                                                                                                                              |
|------------------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPONENT_ID           | NUMBER          | NOT NULL | ID of the Replication component                                                                                                                                                          |
| COMPONENT_NAME         | VARCHAR2 (4000) |          | Name of the Replication component                                                                                                                                                        |
| COMPONENT_DB           | VARCHAR2 (128)  |          | Database where the Replication component resides                                                                                                                                         |
| COMPONENT_TYPE         | VARCHAR2 (20)   |          | Type of the Replication component: <ul style="list-style-type: none"><li>• CAPTURE</li><li>• PROPAGATION SENDER</li><li>• PROPAGATION RECEIVER</li><li>• APPLY</li><li>• QUEUE</li></ul> |
| COMPONENT_CHANGED_TIME | DATE            |          | Time that the Replication component was last changed                                                                                                                                     |

## 7.13 DBA\_STREAMS\_TP\_COMPONENT\_LINK

DBA\_STREAMS\_TP\_COMPONENT\_LINK displays information about how messages flow between Replication components.

| Column                | Datatype        | NULL     | Description                                                                                                                                                                                     |
|-----------------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SOURCE_COMPONENT_ID   | NUMBER          | NOT NULL | ID of the source Replication component                                                                                                                                                          |
| SOURCE_COMPONENT_NAME | VARCHAR2 (4000) |          | Name of the source Replication component                                                                                                                                                        |
| SOURCE_COMPONENT_DB   | VARCHAR2 (128)  |          | Database where the source Replication component resides                                                                                                                                         |
| SOURCE_COMPONENT_TYPE | VARCHAR2 (20)   |          | Type of the source Replication component: <ul style="list-style-type: none"><li>• CAPTURE</li><li>• PROPAGATION SENDER</li><li>• PROPAGATION RECEIVER</li><li>• APPLY</li><li>• QUEUE</li></ul> |

| Column                     | Datatype        | NULL     | Description                                                                                                                                                                                                |
|----------------------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DESTINATION_COMPONENT_ID   | NUMBER          | NOT NULL | ID of the destination Replication component                                                                                                                                                                |
| DESTINATION_COMPONENT_NAME | VARCHAR2 (4000) |          | Name of the destination Replication component                                                                                                                                                              |
| DESTINATION_COMPONENT_DB   | VARCHAR2 (128)  |          | Database where the destination Replication component resides                                                                                                                                               |
| DESTINATION_COMPONENT_TYPE | VARCHAR2 (20)   |          | Type of the destination Replication component: <ul style="list-style-type: none"> <li>• CAPTURE</li> <li>• PROPAGATION SENDER</li> <li>• PROPAGATION RECEIVER</li> <li>• APPLY</li> <li>• QUEUE</li> </ul> |
| PATH_ID                    | NUMBER          | NOT NULL | ID of the stream path                                                                                                                                                                                      |
| POSITION                   | NUMBER          |          | Position of the link within the stream path                                                                                                                                                                |

## 7.14 DBA\_STREAMS\_TP\_COMPONENT\_STAT

DBA\_STREAMS\_TP\_COMPONENT\_STAT displays temporary performance statistics and session statistics about each Replication component.

| Column             | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                       |
|--------------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPONENT_ID       | NUMBER          | NOT NULL | ID of the Replication component                                                                                                                                                                                                                                                                                   |
| COMPONENT_NAME     | VARCHAR2 (4000) |          | Name of the Replication component                                                                                                                                                                                                                                                                                 |
| COMPONENT_DB       | VARCHAR2 (128)  |          | Database where the Replication component resides                                                                                                                                                                                                                                                                  |
| COMPONENT_TYPE     | VARCHAR2 (20)   |          | Type of the Replication component: <ul style="list-style-type: none"> <li>• CAPTURE</li> <li>• PROPAGATION SENDER</li> <li>• PROPAGATION RECEIVER</li> <li>• APPLY</li> <li>• QUEUE</li> </ul>                                                                                                                    |
| SUB_COMPONENT_TYPE | VARCHAR2 (27)   |          | Type of the Replication subcomponent: <ul style="list-style-type: none"> <li>• LOGMINER READER</li> <li>• LOGMINER PREPARER</li> <li>• LOGMINER BUILDER</li> <li>• CAPTURE SESSION</li> <li>• PROPAGATION SENDER+RECEIVER</li> <li>• APPLY READER</li> <li>• APPLY COORDINATOR</li> <li>• APPLY SERVER</li> </ul> |
| SESSION_ID         | NUMBER          |          | ID of the Replication session for the Replication component                                                                                                                                                                                                                                                       |
| SESSION_SERIAL#    | NUMBER          |          | Serial number of the Replication session for the Replication component                                                                                                                                                                                                                                            |
| STATISTIC_TIME     | DATE            |          | Time that the statistic was taken                                                                                                                                                                                                                                                                                 |
| STATISTIC_NAME     | VARCHAR2 (64)   |          | Name of the statistic                                                                                                                                                                                                                                                                                             |
| STATISTIC_VALUE    | VARCHAR2 (4000) |          | Value of the statistic                                                                                                                                                                                                                                                                                            |
| STATISTIC_UNIT     | VARCHAR2 (64)   |          | Unit of the statistic                                                                                                                                                                                                                                                                                             |

| Column           | Datatype | NULL | Description                                 |
|------------------|----------|------|---------------------------------------------|
| ADVISOR_RUN_ID   | NUMBER   |      | Logical number (1-based) of the Advisor run |
| ADVISOR_RUN_TIME | DATE     |      | Time that the Advisor was run               |

## 7.15 DBA\_STREAMS\_TP\_DATABASE

DBA\_STREAMS\_TP\_DATABASE displays information about each database that contains Replication components.

| Column                 | Datatype       | NULL     | Description                             |
|------------------------|----------------|----------|-----------------------------------------|
| GLOBAL_NAME            | VARCHAR2 (128) | NOT NULL | Global name of the database             |
| LAST_QUERIED           | DATE           | NOT NULL | Time that the database was last queried |
| VERSION                | VARCHAR2 (128) |          | Database version of the database        |
| COMPATIBILITY          | VARCHAR2 (128) |          | Compatible setting of the database      |
| MANAGEMENT_PACK_ACCESS | VARCHAR2 (128) |          | Management pack access of the database  |

## 7.16 DBA\_STREAMS\_TP\_PATH\_BOTTLENECK

DBA\_STREAMS\_TP\_PATH\_BOTTLENECK displays temporary information about Replication components that might be slowing down the flow of messages in a stream path.

| Column                | Datatype        | NULL | Description                                                                                                                                                                                   |
|-----------------------|-----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PATH_ID               | NUMBER          |      | ID of the stream path                                                                                                                                                                         |
| COMPONENT_ID          | NUMBER          |      | ID of the bottleneck component                                                                                                                                                                |
| COMPONENT_NAME        | VARCHAR2 (4000) |      | Name of the bottleneck component                                                                                                                                                              |
| COMPONENT_DB          | VARCHAR2 (128)  |      | Database where the bottleneck component resides                                                                                                                                               |
| COMPONENT_TYPE        | VARCHAR2 (20)   |      | Type of the bottleneck component: <ul style="list-style-type: none"> <li>• CAPTURE</li> <li>• PROPAGATION SENDER</li> <li>• PROPAGATION RECEIVER</li> <li>• APPLY</li> <li>• QUEUE</li> </ul> |
| TOP_SESSION_ID        | NUMBER          |      | ID of the top session for the bottleneck component                                                                                                                                            |
| TOP_SESSION_SERIAL#   | NUMBER          |      | Serial number of the top session for the bottleneck component                                                                                                                                 |
| ACTION_NAME           | VARCHAR2 (64)   |      | Action name for the bottleneck process                                                                                                                                                        |
| BOTTLENECK_IDENTIFIED | VARCHAR2 (30)   |      | Indicates whether the bottleneck was identified (YES) or not (NO)                                                                                                                             |
| ADVISOR_RUN_ID        | NUMBER          |      | Logical number (1-based) of the Advisor run                                                                                                                                                   |
| ADVISOR_RUN_TIME      | DATE            |      | Time that the Advisor was run                                                                                                                                                                 |



| Column             | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------|-----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADVISOR_RUN_REASON | VARCHAR2 (4000) |      | Reason for the bottleneck analysis result.: <ul style="list-style-type: none"><li>• NULL - Bottleneck is identified</li><li>• PRE-11.1 DATABASE EXISTS - A pre-release 11.1 database exists in the stream path</li><li>• DIAGNOSTIC PACK REQUIRED - A database in the stream path does not have the diagnostic package installed</li><li>• NO BOTTLENECK IDENTIFIED</li></ul> |

## 7.17 DBA\_STREAMS\_TP\_PATH\_STAT

DBA\_STREAMS\_TP\_PATH\_STAT displays temporary performance statistics about each stream path that exists in the Replication topology.

| Column           | Datatype      | NULL | Description                                 |
|------------------|---------------|------|---------------------------------------------|
| PATH_ID          | NUMBER        |      | ID of the stream path                       |
| STATISTIC_TIME   | DATE          |      | Time that the statistic was taken           |
| STATISTIC_NAME   | VARCHAR2 (64) |      | Name of the statistic                       |
| STATISTIC_VALUE  | NUMBER        |      | Value of the statistic                      |
| STATISTIC_UNIT   | VARCHAR2 (64) |      | Unit of the statistic                       |
| ADVISOR_RUN_ID   | NUMBER        |      | Logical number (1-based) of the Advisor run |
| ADVISOR_RUN_TIME | DATE          |      | Time that the Advisor was run               |

## 7.18 DBA\_STREAMS\_TRANSFORM\_FUNCTION

DBA\_STREAMS\_TRANSFORM\_FUNCTION displays information about all rule-based transformation functions in the database. Its columns are the same as those in ALL\_STREAMS\_TRANSFORM\_FUNCTION.



**See Also:**

"ALL\_STREAMS\_TRANSFORM\_FUNCTION"

## 7.19 DBA\_SUBPART\_COL\_STATISTICS

DBA\_SUBPART\_COL\_STATISTICS provides column statistics and histogram information for all subpartitions in the database. Its columns are the same as those in ALL\_SUBPART\_COL\_STATISTICS.



**See Also:**

["ALL\\_SUBPART\\_COL\\_STATISTICS"](#)

## 7.20 DBA\_SUBPART\_HISTOGRAMS

DBA\_SUBPART\_HISTOGRAMS lists actual histogram data (end-points per histogram) for histograms on all table subpartitions in the database. Its columns are the same as those in ALL\_SUBPART\_HISTOGRAMS.



**See Also:**

["ALL\\_SUBPART\\_HISTOGRAMS"](#)

## 7.21 DBA\_SUBPART\_KEY\_COLUMNS

DBA\_SUBPART\_KEY\_COLUMNS lists subpartitioning key columns for all composite-partitioned tables (and local indexes on composite-partitioned tables) in the database. Its columns are the same as those in ALL\_SUBPART\_KEY\_COLUMNS.



**See Also:**

["ALL\\_SUBPART\\_KEY\\_COLUMNS"](#)

## 7.22 DBA\_SUBPARTITION\_TEMPLATES

DBA\_SUBPARTITION\_TEMPLATES describes all subpartition templates in the database. Its columns are the same as those in ALL\_SUBPARTITION\_TEMPLATES.



**See Also:**

["ALL\\_SUBPARTITION\\_TEMPLATES"](#)

## 7.23 DBA\_SUBSCR\_REGISTRATIONS

DBA\_SUBSCR\_REGISTRATIONS displays information about all subscription registrations in the database.

### Related View

USER\_SUBSCR\_REGISTRATIONS displays information about the subscription registrations owned by the current user.

| Column            | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REG_ID            | NUMBER          |          | Registration ID                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SUBSCRIPTION_NAME | VARCHAR2 (128)  | NOT NULL | Name of the subscription registration. The subscription name is of the form <i>schema.queue</i> if the registration is for a single consumer queue or <i>schema.queue:consumer_name</i> if the registration is for a multiconsumer queue.                                                                                                                                                                                                         |
| LOCATION_NAME     | VARCHAR2 (256)  | NOT NULL | Location endpoint of the registration                                                                                                                                                                                                                                                                                                                                                                                                             |
| USER#             | NUMBER          | NOT NULL | Internally generated user ID                                                                                                                                                                                                                                                                                                                                                                                                                      |
| USER_CONTEXT      | RAW (128)       |          | Context the user provided during registration of PL/SQL registrations or an internally generated context for OCI registrations                                                                                                                                                                                                                                                                                                                    |
| CONTEXT_SIZE      | NUMBER          |          | Size of the context                                                                                                                                                                                                                                                                                                                                                                                                                               |
| NAMESPACE         | VARCHAR2 (9)    |          | Namespace of the subscription registration: <ul style="list-style-type: none"> <li>• ANONYMOUS</li> <li>• AQ</li> <li>• DBCHANGE</li> </ul>                                                                                                                                                                                                                                                                                                       |
| PRESENTATION      | VARCHAR2 (7)    |          | Presentation format of notifications: <ul style="list-style-type: none"> <li>• DEFAULT - Binary</li> <li>• XML</li> </ul>                                                                                                                                                                                                                                                                                                                         |
| VERSION           | VARCHAR2 (8)    |          | Database version: <ul style="list-style-type: none"> <li>• 8.1.6</li> <li>• 10.2</li> <li>• 11.1</li> </ul>                                                                                                                                                                                                                                                                                                                                       |
| STATUS            | VARCHAR2 (8)    |          | Status of the registration: <ul style="list-style-type: none"> <li>• DB REG - Database registration</li> <li>• LDAP REG - LDAP registration</li> </ul>                                                                                                                                                                                                                                                                                            |
| ANY_CONTEXT       | ANYDATA         |          | AnyData user context                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CONTEXT_TYPE      | NUMBER          |          | Type of the user context                                                                                                                                                                                                                                                                                                                                                                                                                          |
| QOSFLAGS          | VARCHAR2 (64)   |          | Quality of service of the registration: <ul style="list-style-type: none"> <li>• RELIABLE - Reliable notifications persist across instance and database restarts</li> <li>• PAYLOAD - Payload delivery is required. It is only supported for client notification and only for RAW queues.</li> <li>• PURGE_ON_NTFN - Registration is to be purged automatically when the first notification is delivered to this registration location</li> </ul> |
| PAYLOAD_CALLBACK  | VARCHAR2 (4000) |          | Any callback registered to serialize the notification payload                                                                                                                                                                                                                                                                                                                                                                                     |

| Column                     | Datatype                     | NULL | Description                                                                                         |
|----------------------------|------------------------------|------|-----------------------------------------------------------------------------------------------------|
| TIMEOUT                    | TIMESTAMP (6)                |      | Registration timeout                                                                                |
| REG_TIME                   | TIMESTAMP (6) WITH TIME ZONE |      | Time of the registration                                                                            |
| NTFN_GROUPING_CLASS        | VARCHAR2 (4)                 |      | Notification grouping class                                                                         |
| NTFN_GROUPING_VALUE        | NUMBER                       |      | Notification grouping value                                                                         |
| NTFN_GROUPING_TYPE         | VARCHAR2 (7)                 |      | Notification grouping type: <ul style="list-style-type: none"> <li>SUMMARY</li> <li>LAST</li> </ul> |
| NTFN_GROUPING_START_TIME   | TIMESTAMP (6) WITH TIME ZONE |      | Notification grouping start time                                                                    |
| NTFN_GROUPING_REPEAT_COUNT | VARCHAR2 (40)                |      | Notification grouping repeat count, or FOREVER                                                      |



**See Also:**

"USER\_SUBSCR\_REGISTRATIONS"

## 7.24 DBA\_SUPPLEMENTAL\_LOGGING

DBA\_SUPPLEMENTAL\_LOGGING provides information about supplemental logging for a pluggable database (PDB) in a multitenant container database (CDB).

| Column       | Datatype     | NULL | Description                                                                          |
|--------------|--------------|------|--------------------------------------------------------------------------------------|
| MINIMAL      | VARCHAR2 (3) |      | Identifies whether minimal supplemental logging is on (YES or NO)                    |
| PRIMARY_KEY  | VARCHAR2 (3) |      | Identifies whether primary key supplemental logging is on (YES or NO)                |
| UNIQUE_INDEX | VARCHAR2 (3) |      | Identifies whether unique column supplemental logging is on (YES or NO)              |
| FOREIGN_KEY  | VARCHAR2 (3) |      | Identifies whether foreign key supplemental logging is on (YES or NO)                |
| ALL_COLUMN   | VARCHAR2 (3) |      | Identifies whether all column supplemental logging is on (YES or NO)                 |
| PROCEDURAL   | VARCHAR2 (3) |      | Identifies whether supplemental logging for procedural replication is on (YES or NO) |
| SUBSET_REP   | VARCHAR2 (3) |      | Indicates whether subset database replication is on (YES or NO)                      |

 **See Also:**

- *Oracle Database Utilities* for more information about supplemental logging
- "[V\\$DATABASE](#)" for information about supplemental logging in a CDB

## 7.25 DBA\_SYNC\_CAPTURE

DBA\_SYNC\_CAPTURE displays information about all synchronous capture processes in the database. Its columns are the same as those in ALL\_SYNC\_CAPTURE.

 **See Also:**

["ALL\\_SYNC\\_CAPTURE"](#)

## 7.26 DBA\_SYNC\_CAPTURE\_PREPARED\_TABS

DBA\_SYNC\_CAPTURE\_PREPARED\_TABS displays information about all tables in the database that are prepared for synchronous capture instantiation. Its columns are the same as those in ALL\_SYNC\_CAPTURE\_PREPARED\_TABS.

 **See Also:**

["ALL\\_SYNC\\_CAPTURE\\_PREPARED\\_TABS"](#)

## 7.27 DBA\_SYNC\_CAPTURE\_TABLES

DBA\_SYNC\_CAPTURE\_TABLES displays information about all tables in the database that are captured by synchronous captures. Its columns are the same as those in ALL\_SYNC\_CAPTURE\_TABLES.

 **See Also:**

["ALL\\_SYNC\\_CAPTURE\\_TABLES"](#)

## 7.28 DBA\_SYNONYMS

DBA\_SYNONYMS describes all synonyms in the database. Its columns are the same as those in ALL\_SYNONYMS.



**See Also:**

"ALL\_SYNONYMS"

## 7.29 DBA\_SYS\_PRIVS

DBA\_SYS\_PRIVS describes system privileges granted to users and roles.

| Column       | Datatype       | NULL | Description                                                                                                                                                                                                                                            |
|--------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GRANTEE      | VARCHAR2 (128) |      | Grantee name, user, or role receiving the grant                                                                                                                                                                                                        |
| PRIVILEGE    | VARCHAR2 (40)  |      | System privilege                                                                                                                                                                                                                                       |
| ADMIN_OPTION | VARCHAR2 (3)   |      | Indicates whether the grant was with the ADMIN option (YES) or not (NO)                                                                                                                                                                                |
| COMMON       | VARCHAR2 (3)   |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"><li>• YES if the privilege was granted commonly (CONTAINER=ALL was used)</li><li>• NO if the privilege was granted locally (CONTAINER=ALL was not used)</li></ul> |
| INHERITED    | VARCHAR2 (3)   |      | Indicates whether the grant was inherited from another container (YES) or not (NO)                                                                                                                                                                     |



**See Also:**

"USER\_SYS\_PRIVS"

## 7.30 DBA\_SYS\_PRIVS\_ALL

DBA\_SYS\_PRIVS\_ALL describes system privileges and schema privileges granted to users and roles.

| Column    | Datatype       | NULL | Description                                                                                           |
|-----------|----------------|------|-------------------------------------------------------------------------------------------------------|
| GRANTEE   | VARCHAR2 (128) |      | Grantee name, user, or role receiving the grant                                                       |
| PRIVILEGE | VARCHAR2 (40)  |      | Privilege                                                                                             |
| SCHEMA    | VARCHAR2 (128) |      | Schema on which the privilege was granted<br>For system privileges, the value of this column is null. |

| Column       | Datatype     | NULL | Description                                                                                                                                                                                                                                           |
|--------------|--------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADMIN_OPTION | VARCHAR2 (3) |      | Indicates whether the grant was with the ADMIN option (YES) or not (NO)                                                                                                                                                                               |
| COMMON       | VARCHAR2 (3) |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"> <li>YES if the privilege was granted commonly (CONTAINER=ALL was used)</li> <li>NO if the privilege was granted locally (CONTAINER=ALL was not used)</li> </ul> |
| INHERITED    | VARCHAR2 (3) |      | Indicates whether the grant was inherited from another container (YES) or not (NO)                                                                                                                                                                    |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"USER\_SYS\_PRIVS\_ALL"

## 7.31 DBA\_TAB\_COL\_STAT\_MODELS

DBA\_TAB\_COL\_STAT\_MODELS describes real-time statistics models for all tables in the database. Its columns are the same as those in ALL\_TAB\_COL\_STAT\_MODELS.

Real-time statistics models use machine learning algorithms to predict the number of distinct values (NDV) for table columns.

**See Also:**

"ALL\_TAB\_COL\_STAT\_MODELS"

## 7.32 DBA\_TAB\_COL\_STATISTICS

DBA\_TAB\_COL\_STATISTICS contains column statistics and histogram information extracted from DBA\_TAB\_COLUMNS. Its columns are the same as those in ALL\_TAB\_COL\_STATISTICS.

**See Also:**

- "DBA\_TAB\_COLUMNS"
- "ALL\_TAB\_COL\_STATISTICS"

## 7.33 DBA\_TAB\_COLS

DBA\_TAB\_COLS describes the columns of all tables, views, and clusters in the database.

Its columns (except for SENSITIVE\_COLUMN) are the same as those in ALL\_TAB\_COLS.

To gather statistics for this view, use the DBMS\_STATS package.

This view differs from DBA\_TAB\_COLUMNS in that system-generated hidden columns are not filtered out.

Columns marked with an asterisk (\*) in the table below remain for backward compatibility with Oracle7. This information is now in the [TAB|PART]\_COL\_STATISTICS views.

| Column          | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                             |
|-----------------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128)  | NOT NULL | Owner of the table, view, or cluster                                                                                                                                                                                                                                                                                                    |
| TABLE_NAME      | VARCHAR2 (128)  | NOT NULL | Name of the table, view, or cluster                                                                                                                                                                                                                                                                                                     |
| COLUMN_NAME     | VARCHAR2 (128)  | NOT NULL | Column name                                                                                                                                                                                                                                                                                                                             |
| DATA_TYPE       | VARCHAR2 (128)  |          | Data type of the column                                                                                                                                                                                                                                                                                                                 |
| DATA_TYPE_MOD   | VARCHAR2 (3)    |          | Data type modifier of the column                                                                                                                                                                                                                                                                                                        |
| DATA_TYPE_OWNER | VARCHAR2 (128)  |          | Owner of the data type of the column                                                                                                                                                                                                                                                                                                    |
| DATA_LENGTH     | NUMBER          | NOT NULL | Length of the column (in bytes)                                                                                                                                                                                                                                                                                                         |
| DATA_PRECISION  | NUMBER          |          | Decimal precision for NUMBER data type; binary precision for FLOAT data type; NULL for all other data types                                                                                                                                                                                                                             |
| DATA_SCALE      | NUMBER          |          | Digits to the right of the decimal point in a number                                                                                                                                                                                                                                                                                    |
| NULLABLE        | VARCHAR2 (1)    |          | Indicates whether a column allows NULLs. The value is N if there is a NOT NULL constraint on the column or if the column is part of a PRIMARY KEY.                                                                                                                                                                                      |
| COLUMN_ID       | NUMBER          |          | Sequence number of the column as created                                                                                                                                                                                                                                                                                                |
| DEFAULT_LENGTH  | NUMBER          |          | Length of the default value for the column                                                                                                                                                                                                                                                                                              |
| DATA_DEFAULT    | LONG            |          | Default value for the column                                                                                                                                                                                                                                                                                                            |
| DATA_DEFAULT_VC | VARCHAR2 (4000) |          | Default value for the column<br>This column may truncate the default value.                                                                                                                                                                                                                                                             |
| NUM_DISTINCT*   | NUMBER          |          | Number of distinct values in the column                                                                                                                                                                                                                                                                                                 |
| LOW_VALUE*      | RAW (1000)      |          | Low value in the column                                                                                                                                                                                                                                                                                                                 |
| HIGH_VALUE*     | RAW (1000)      |          | High value in the column                                                                                                                                                                                                                                                                                                                |
| DENSITY*        | NUMBER          |          | If a histogram is available on COLUMN_NAME, then this column displays the selectivity of a value that spans fewer than 2 endpoints in the histogram. It does not represent the selectivity of values that span 2 or more endpoints.<br>If a histogram is not available on COLUMN_NAME, then the value of this column is 1/NUM_DISTINCT. |
| NUM_NULLS       | NUMBER          |          | Number of NULLs in the column                                                                                                                                                                                                                                                                                                           |



| Column               | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|---------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM_BUCKETS          | NUMBER        |          | Number of buckets in the histogram for the column<br><b>Note:</b> The number of buckets in a histogram is specified in the <code>SIZE</code> parameter of the <code>ANALYZE</code> SQL statement. However, Oracle Database does not create a histogram with more buckets than the number of rows in the sample. Also, if the sample contains any values that are very repetitious, Oracle Database creates the specified number of buckets, but the value indicated by this column may be smaller because of an internal compression algorithm. |
| LAST_ANALYZED        | DATE          |          | Date on which this column was most recently analyzed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| SAMPLE_SIZE          | NUMBER        |          | Sample size used in analyzing this column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CHARACTER_SET_NAME   | VARCHAR2 (44) |          | Name of the character set: <ul style="list-style-type: none"> <li>CHAR_CS</li> <li>NCHAR_CS</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CHAR_COL_DECL_LENGTH | NUMBER        |          | Declaration length of the character type column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| GLOBAL_STATS         | VARCHAR2 (3)  |          | GLOBAL_STATS will be YES if statistics are gathered or incrementally maintained, otherwise it will be NO                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| USER_STATS           | VARCHAR2 (3)  |          | Indicates whether statistics were entered directly by the user (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| AVG_COL_LEN          | NUMBER        |          | Average length of the column (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CHAR_LENGTH          | NUMBER        |          | Displays the length of the column in characters. This value only applies to the following data types: <ul style="list-style-type: none"> <li>CHAR</li> <li>VARCHAR2</li> <li>NCHAR</li> <li>NVARCHAR2</li> </ul>                                                                                                                                                                                                                                                                                                                                |
| CHAR_USED            | VARCHAR2 (1)  |          | Indicates that the column uses BYTE length semantics (B) or CHAR length semantics (C), or whether the data type is not any of the following (NULL): <ul style="list-style-type: none"> <li>CHAR</li> <li>VARCHAR2</li> <li>NCHAR</li> <li>NVARCHAR2</li> </ul>                                                                                                                                                                                                                                                                                  |
| V80_FMT_IMAGE        | VARCHAR2 (3)  |          | Indicates whether the column data is in release 8.0 image format (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| DATA_UPGRADED        | VARCHAR2 (3)  |          | Indicates whether the column data has been upgraded to the latest type version format (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| HIDDEN_COLUMN        | VARCHAR2 (3)  |          | Indicates whether the column is a hidden column (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| VIRTUAL_COLUMN       | VARCHAR2 (3)  |          | Indicates whether the column is a virtual column (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SEGMENT_COLUMN_ID    | NUMBER        |          | Sequence number of the column in the segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| INTERNAL_COLUMN_ID   | NUMBER        | NOT NULL | Internal sequence number of the column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Column                | Datatype        | NULL | Description                                                                                                                                                                                |
|-----------------------|-----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HISTOGRAM             | VARCHAR2 (15)   |      | Indicates existence/type of histogram: <ul style="list-style-type: none"> <li>• NONE</li> <li>• FREQUENCY</li> <li>• TOP-FREQUENCY</li> <li>• HEIGHT BALANCED</li> <li>• HYBRID</li> </ul> |
| QUALIFIED_COL_NAME    | VARCHAR2 (4000) |      | Qualified column name                                                                                                                                                                      |
| USER_GENERATED        | VARCHAR2 (3)    |      | Indicates whether the column is a user-generated column (YES) or a system-generated column (NO)                                                                                            |
| DEFAULT_ON_NULL       | VARCHAR2 (3)    |      | Indicates whether the column has DEFAULT ON NULL for INSERT semantics (YES) or not (NO)                                                                                                    |
| DEFAULT_ON_NULL_UPD   | VARCHAR2 (3)    |      | Indicates whether the column has DEFAULT ON NULL for UPDATE semantics (YES) or not (NO)                                                                                                    |
| RESERVABLE_COLUMN     | VARCHAR2 (3)    |      | Indicates whether the column is a reservable column (YES) or not (NO)                                                                                                                      |
| IDENTITY_COLUMN       | VARCHAR2 (3)    |      | Indicates whether this is an identity column (YES) or not (NO)                                                                                                                             |
| SENSITIVE_COLUMN      | VARCHAR2 (3)    |      | Indicates whether this is a sensitive column (YES) or not (NO)                                                                                                                             |
| EVALUATION_EDITION    | VARCHAR2 (128)  |      | Name of the edition in which editioned objects referenced in an expression column are resolved                                                                                             |
| UNUSABLE_BEFORE       | VARCHAR2 (128)  |      | Name of the oldest edition in which the index may be used as part of a query plan                                                                                                          |
| UNUSABLE_BEGINNING    | VARCHAR2 (128)  |      | Name of the edition for which the index may not be used as part of a query plan in this edition or any of its descendants                                                                  |
| COLLATION             | VARCHAR2 (100)  |      | Collation for the column. Only applies to columns with character data types.                                                                                                               |
| COLLATED_COLUMN_ID    | NUMBER          |      | Internal sequence number of a column, for which this virtual column generates a collation key                                                                                              |
| DOMAIN_OWNER          | VARCHAR2 (128)  |      | If a data use case domain is specified for the column, the owner of the data use case domain                                                                                               |
| DOMAIN_NAME           | VARCHAR2 (128)  |      | If a data use case domain is specified for the column, the name of the data use case domain                                                                                                |
| DOMAIN_COLUMN_NAME    | VARCHAR2 (128)  |      | If a data use case domain is specified for the column, the name of the data use case domain column                                                                                         |
| DOMAIN_ASSOCIATION_ID | NUMBER          |      | If a data use case domain is specified for the column, the domain association ID                                                                                                           |

| Column        | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JSON_MODIFIER | VARCHAR2 (448) |      | <p>JSON-type modifier for the column</p> <p>A value is displayed only for columns of data type JSON.</p> <p>If one or more JSON-type modifiers are specified for the column, then the following is displayed:</p> <pre>JSON( modifier [, modifier]... )</pre> <p>Possible values for <i>modifier</i>:</p> <ul style="list-style-type: none"> <li>• ARRAY - JSON array</li> <li>• OBJECT - JSON object</li> <li>• SCALAR - JSON scalar</li> <li>• <i>data_type</i> - JSON scalar of type <i>data_type</i></li> <li>• NULL - JSON null value</li> </ul> <p>If a JSON-type modifier is not specified for the column, then the following is displayed:</p> <pre>JSON( )</pre> |
| VECTOR_INFO   | VARCHAR2 (56)  |      | <p>Indicates the number of vectors and their data type in an ONNX model</p> <p>Format: VECTOR(<i>dimension</i>,<i>element_type</i>)</p> <p>Example: VECTOR(768,float32)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |



#### See Also:

- "ALL\_TAB\_COLS"
- "DBA\_TAB\_COLUMNS"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_STATS package

## 7.34 DBA\_TAB\_COLUMNS

DBA\_TAB\_COLUMNS describes the columns of all tables, views, and clusters in the database.

Its columns (except for SENSITIVE\_COLUMN) are the same as those in ALL\_TAB\_COLUMNS.

To gather statistics for this view, use the DBMS\_STATS package.

This view filters out system-generated hidden columns. The DBA\_TAB\_COLS view does not filter out system-generated hidden columns.

Columns marked with an asterisk (\*) in the table below remain for backward compatibility with Oracle7. This information is now in the [TAB|PART]\_COL\_STATISTICS views.

| Column      | Datatype       | NULL     | Description                          |
|-------------|----------------|----------|--------------------------------------|
| OWNER       | VARCHAR2 (128) | NOT NULL | Owner of the table, view, or cluster |
| TABLE_NAME  | VARCHAR2 (128) | NOT NULL | Name of the table, view, or cluster  |
| COLUMN_NAME | VARCHAR2 (128) | NOT NULL | Column name                          |

| Column               | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DATA_TYPE            | VARCHAR2 (128)  |          | Data type of the column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| DATA_TYPE_MOD        | VARCHAR2 (3)    |          | Data type modifier of the column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| DATA_TYPE_OWNER      | VARCHAR2 (128)  |          | Owner of the data type of the column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| DATA_LENGTH          | NUMBER          | NOT NULL | Length of the column (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DATA_PRECISION       | NUMBER          |          | Decimal precision for <code>NUMBER</code> data type; binary precision for <code>FLOAT</code> data type; <code>NULL</code> for all other data types                                                                                                                                                                                                                                                                                                                                                                                              |
| DATA_SCALE           | NUMBER          |          | Digits to the right of the decimal point in a number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| NULLABLE             | VARCHAR2 (1)    |          | Indicates whether a column allows <code>NULL</code> s. The value is <code>N</code> if there is a <code>NOT NULL</code> constraint on the column or if the column is part of a <code>PRIMARY KEY</code> . The constraint should be in an <code>ENABLE VALIDATE</code> state.                                                                                                                                                                                                                                                                     |
| COLUMN_ID            | NUMBER          |          | Sequence number of the column as created                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| DEFAULT_LENGTH       | NUMBER          |          | Length of the default value for the column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| DATA_DEFAULT         | LONG            |          | Default value for the column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DATA_DEFAULT_VC      | VARCHAR2 (4000) |          | Default value for the column<br>This column may truncate the default value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| NUM_DISTINCT*        | NUMBER          |          | Number of distinct values in the column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LOW_VALUE*           | RAW (1000)      |          | Low value in the column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| HIGH_VALUE*          | RAW (1000)      |          | High value in the column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| DENSITY*             | NUMBER          |          | If a histogram is available on <code>COLUMN_NAME</code> , then this column displays the selectivity of a value that spans fewer than 2 endpoints in the histogram. It does not represent the selectivity of values that span 2 or more endpoints.<br><br>If a histogram is not available on <code>COLUMN_NAME</code> , then the value of this column is <code>1/NUM_DISTINCT</code> .                                                                                                                                                           |
| NUM_NULLS            | NUMBER          |          | Number of <code>NULL</code> s in the column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| NUM_BUCKETS          | NUMBER          |          | Number of buckets in the histogram for the column<br><b>Note:</b> The number of buckets in a histogram is specified in the <code>SIZE</code> parameter of the <code>ANALYZE SQL</code> statement. However, Oracle Database does not create a histogram with more buckets than the number of rows in the sample. Also, if the sample contains any values that are very repetitious, Oracle Database creates the specified number of buckets, but the value indicated by this column may be smaller because of an internal compression algorithm. |
| LAST_ANALYZED        | DATE            |          | Date on which this column was most recently analyzed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| SAMPLE_SIZE          | NUMBER          |          | Sample size used in analyzing this column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CHARACTER_SET_NAME   | VARCHAR2 (44)   |          | Name of the character set: <ul style="list-style-type: none"> <li>• <code>CHAR_CS</code></li> <li>• <code>NCHAR_CS</code></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                            |
| CHAR_COL_DECL_LENGTH | NUMBER          |          | Declaration length of the character type column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| GLOBAL_STATS         | VARCHAR2 (3)    |          | <code>GLOBAL_STATS</code> will be <code>YES</code> if statistics are gathered or incrementally maintained, otherwise it will be <code>NO</code>                                                                                                                                                                                                                                                                                                                                                                                                 |

| Column              | Datatype       | NULL | Description                                                                                                                                                                                                                                                            |
|---------------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USER_STATS          | VARCHAR2 (3)   |      | Indicates whether statistics were entered directly by the user (YES) or not (NO)                                                                                                                                                                                       |
| AVG_COL_LEN         | NUMBER         |      | Average length of the column (in bytes)                                                                                                                                                                                                                                |
| CHAR_LENGTH         | NUMBER         |      | Displays the length of the column in characters. This value only applies to the following data types: <ul style="list-style-type: none"> <li>• CHAR</li> <li>• VARCHAR2</li> <li>• NCHAR</li> <li>• NVARCHAR2</li> </ul>                                               |
| CHAR_USED           | VARCHAR2 (1)   |      | Indicates that the column uses BYTE length semantics (B) or CHAR length semantics (C), or whether the data type is not any of the following (NULL): <ul style="list-style-type: none"> <li>• CHAR</li> <li>• VARCHAR2</li> <li>• NCHAR</li> <li>• NVARCHAR2</li> </ul> |
| V80_FMT_IMAGE       | VARCHAR2 (3)   |      | Indicates whether the column data is in release 8.0 image format (YES) or not (NO)                                                                                                                                                                                     |
| DATA_UPGRADED       | VARCHAR2 (3)   |      | Indicates whether the column data has been upgraded to the latest type version format (YES) or not (NO)                                                                                                                                                                |
| HISTOGRAM           | VARCHAR2 (15)  |      | Indicates existence/type of histogram: <ul style="list-style-type: none"> <li>• NONE</li> <li>• FREQUENCY</li> <li>• TOP-FREQUENCY</li> <li>• HEIGHT BALANCED</li> <li>• HYBRID</li> </ul>                                                                             |
| DEFAULT_ON_NULL     | VARCHAR2 (3)   |      | Indicates whether the column has DEFAULT ON NULL for INSERT semantics (YES) or not (NO)                                                                                                                                                                                |
| DEFAULT_ON_NULL_UPD | VARCHAR2 (3)   |      | Indicates whether the column has DEFAULT ON NULL for UPDATE semantics (YES) or not (NO)                                                                                                                                                                                |
| RESERVABLE_COLUMN   | VARCHAR2 (3)   |      | Indicates whether the column is a reservable column (YES) or not (NO)                                                                                                                                                                                                  |
| IDENTITY_COLUMN     | VARCHAR2 (3)   |      | Indicates whether this is an identity column (YES) or not (NO)                                                                                                                                                                                                         |
| SENSITIVE_COLUMN    | VARCHAR2 (3)   |      | Indicates whether this is a sensitive column (YES) or not (NO)                                                                                                                                                                                                         |
| EVALUATION_EDITION  | VARCHAR2 (128) |      | Name of the edition in which editioned objects referenced in an expression column are resolved                                                                                                                                                                         |
| UNUSABLE_BEFORE     | VARCHAR2 (128) |      | Name of the oldest edition in which the index may be used as part of a query plan                                                                                                                                                                                      |
| UNUSABLE_BEGINNING  | VARCHAR2 (128) |      | Name of the edition for which the index may not be used as part of a query plan in this edition or any of its descendants                                                                                                                                              |
| COLLATION           | VARCHAR2 (100) |      | Collation for the column. Only applies to columns with character data types.                                                                                                                                                                                           |
| DOMAIN_OWNER        | VARCHAR2 (128) |      | If a data use case domain is specified for the column, the owner of the data use case domain                                                                                                                                                                           |

| Column                | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DOMAIN_NAME           | VARCHAR2 (128) |      | If a data use case domain is specified for the column, the name of the data use case domain                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DOMAIN_COLUMN_NAME    | VARCHAR2 (128) |      | If a data use case domain is specified for the column, the name of the data use case domain column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DOMAIN_ASSOCIATION_ID | NUMBER         |      | If a data use case domain is specified for the column, the domain association ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| JSON_MODIFIER         | VARCHAR2 (448) |      | <p>JSON-type modifier for the column</p> <p>A value is displayed only for columns of data type JSON.</p> <p>If one or more JSON-type modifiers are specified for the column, then the following is displayed:<br/> JSON( <i>modifier</i> [, <i>modifier</i>]... )</p> <p>Possible values for <i>modifier</i>:</p> <ul style="list-style-type: none"> <li>• ARRAY - JSON array</li> <li>• OBJECT - JSON object</li> <li>• SCALAR - JSON scalar</li> <li>• <i>data_type</i> - JSON scalar of type <i>data_type</i></li> <li>• NULL - JSON null value</li> </ul> <p>If a JSON-type modifier is not specified for the column, then the following is displayed:<br/> JSON( )</p> |
| VECTOR_INFO           | VARCHAR2 (56)  |      | <p>Indicates the number of vectors and their data type in an ONNX model</p> <p>Format: VECTOR(<i>dimension</i>,<i>element_type</i>)</p> <p>Example: VECTOR(768,float32)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

**See Also:**

- "ALL\_TAB\_COLUMNS"
- "DBA\_TAB\_COLS"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_STATS package

## 7.35 DBA\_TAB\_COMMENTS

DBA\_TAB\_COMMENTS displays comments on all tables and views in the database. Its columns are the same as those in ALL\_TAB\_COMMENTS.

**See Also:**

- "ALL\_TAB\_COMMENTS"

## 7.36 DBA\_TAB\_HISTGRM\_PENDING\_STATS

DBA\_TAB\_HISTGRM\_PENDING\_STATS describes pending statistics for tables, partitions, and subpartitions in the database. Its columns are the same as those in ALL\_TAB\_HISTGRM\_PENDING\_STATS.



**See Also:**

["ALL\\_TAB\\_HISTGRM\\_PENDING\\_STATS"](#)

## 7.37 DBA\_TAB\_HISTOGRAMS

DBA\_TAB\_HISTOGRAMS describes histograms on columns of all tables in the database. Its columns are the same as those in ALL\_TAB\_HISTOGRAMS.



**See Also:**

["ALL\\_TAB\\_HISTOGRAMS"](#)

## 7.38 DBA\_TAB\_IDENTITY\_COLS

DBA\_TAB\_IDENTITY\_COLS describes all table identity columns. Its columns are the same as those in ALL\_TAB\_IDENTITY\_COLS.



**See Also:**

["ALL\\_TAB\\_IDENTITY\\_COLS"](#)

## 7.39 DBA\_TAB\_MODIFICATIONS

DBA\_TAB\_MODIFICATIONS describes modifications to all tables in the database that have been modified since the last time statistics were gathered on the tables. Its columns are the same as those in ALL\_TAB\_MODIFICATIONS.



**See Also:**

["ALL\\_TAB\\_MODIFICATIONS"](#)

## 7.40 DBA\_TAB\_PARTITIONS

DBA\_TAB\_PARTITIONS displays partition-level partitioning information, partition storage parameters, and partition statistics generated by the DBMS\_STATS package for all partitions in the database.

Its columns are the same as those in "ALL\_TAB\_PARTITIONS".

## 7.41 DBA\_TAB\_PENDING\_STATS

DBA\_TAB\_PENDING\_STATS describes pending statistics for tables, partitions, and subpartitions in the database. Its columns are the same as those in ALL\_TAB\_PENDING\_STATS.



**See Also:**

"ALL\_TAB\_PENDING\_STATS"

## 7.42 DBA\_TAB\_PRIVS

DBA\_TAB\_PRIVS describes all object grants in the database.

### Related View

USER\_TAB\_PRIVS describes the object grants for which the current user is the object owner, grantor, or grantee.

| Column     | Datatype       | NULL | Description                                                                                                                                                                                                                                           |
|------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GRANTEE    | VARCHAR2 (128) |      | Name of the user or role to whom access was granted                                                                                                                                                                                                   |
| OWNER      | VARCHAR2 (128) |      | Owner of the object                                                                                                                                                                                                                                   |
| TABLE_NAME | VARCHAR2 (128) |      | Name of the object. The object can be any object, including tables, packages, indexes, sequences, and so on.                                                                                                                                          |
| GRANTOR    | VARCHAR2 (128) |      | Name of the user who performed the grant                                                                                                                                                                                                              |
| PRIVILEGE  | VARCHAR2 (40)  |      | Privilege on the object                                                                                                                                                                                                                               |
| GRANTABLE  | VARCHAR2 (3)   |      | Indicates whether the privilege was granted with the GRANT OPTION (YES) or not (NO)                                                                                                                                                                   |
| HIERARCHY  | VARCHAR2 (3)   |      | Indicates whether the privilege was granted with the HIERARCHY OPTION (YES) or not (NO)                                                                                                                                                               |
| COMMON     | VARCHAR2 (3)   |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"> <li>YES if the privilege was granted commonly (CONTAINER=ALL was used)</li> <li>NO if the privilege was granted locally (CONTAINER=ALL was not used)</li> </ul> |
| TYPE       | VARCHAR2 (24)  |      | Type of the object                                                                                                                                                                                                                                    |
| INHERITED  | VARCHAR2 (3)   |      | Indicates whether the grant was inherited from another container (YES) or not (NO)                                                                                                                                                                    |





**See Also:**

["USER\\_TAB\\_PRIVS"](#)

## 7.43 DBA\_TAB\_STATISTICS

DBA\_TAB\_STATISTICS displays optimizer statistics for all tables in the database. Its columns are the same as those in ALL\_TAB\_STATISTICS.



**See Also:**

["ALL\\_TAB\\_STATISTICS"](#)

## 7.44 DBA\_TAB\_STAT\_PREFS

DBA\_TAB\_STAT\_PREFS displays information about statistics preferences for all tables in the database. Its columns are the same as those in ALL\_TAB\_STAT\_PREFS.



**See Also:**

["ALL\\_TAB\\_STAT\\_PREFS"](#).

## 7.45 DBA\_TAB\_STATS\_HISTORY

DBA\_TAB\_STATS\_HISTORY provides a history of table statistics modifications for all tables in the database. Its columns are the same as those in ALL\_TAB\_STATS\_HISTORY.



**See Also:**

["ALL\\_TAB\\_STATS\\_HISTORY"](#)

## 7.46 DBA\_TAB\_SUBPARTITIONS

DBA\_TAB\_SUBPARTITIONS displays, for each table subpartition, the subpartition name, name of the table and partition to which it belongs, its storage attributes, and statistics generated by the DBMS\_STATS package.

Its columns are the same as those in ["ALL\\_TAB\\_SUBPARTITIONS"](#).

## 7.47 DBA\_TABLE\_ACCESS\_STATS

DBA\_TABLE\_ACCESS\_STATS displays the scan count for all tables and partitions in the database. Its columns are the same as those in ALL\_TABLE\_ACCESS\_STATS.

### Note:

The ALL\_TABLE\_ACCESS\_STATS and DBA\_TABLE\_ACCESS\_STATS views do not display data for Oracle-maintained schemas. You can view data for an Oracle-maintained schema by connecting to the schema and querying the USER\_TABLE\_ACCESS\_STATS view.

### See Also:

- ["ALL\\_TABLE\\_ACCESS\\_STATS"](#)
- ["USER\\_TABLE\\_ACCESS\\_STATS"](#)

## 7.48 DBA\_TABLE\_VIRTUAL\_COLUMNS

DBA\_TABLE\_VIRTUAL\_COLUMNS describes virtual columns in all tables in the database. Its columns are the same as those in ALL\_TABLE\_VIRTUAL\_COLUMNS.

### See Also:

["ALL\\_TABLE\\_VIRTUAL\\_COLUMNS"](#)

## 7.49 DBA\_TABLES

DBA\_TABLES describes all relational tables in the database. Its columns are the same as those in ALL\_TABLES.

To gather statistics for this view, use the DBMS\_STATS package.

### See Also:

["ALL\\_TABLES"](#)

## 7.50 DBA\_TABLESPACE\_GROUPS

DBA\_TABLESPACE\_GROUPS describes all tablespace groups in the database.

| Column          | Datatype      | NULL     | Description                  |
|-----------------|---------------|----------|------------------------------|
| GROUP_NAME      | VARCHAR2 (30) | NOT NULL | Name of the tablespace group |
| TABLESPACE_NAME | VARCHAR2 (30) | NOT NULL | Name of the tablespace       |

## 7.51 DBA\_TABLESPACE\_THRESHOLDS

DBA\_TABLESPACE\_THRESHOLDS describes space utilization threshold settings for all tablespaces in the database.

| Column            | Datatype       | NULL | Description                                                                                                                                                                                                           |
|-------------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABLESPACE_NAME   | VARCHAR2 (30)  |      | Tablespace name                                                                                                                                                                                                       |
| CONTENTS          | VARCHAR2 (9)   |      | Tablespace contents: <ul style="list-style-type: none"> <li>• UNDO</li> <li>• PERMANENT</li> <li>• TEMPORARY</li> </ul>                                                                                               |
| EXTENT_MANAGEMENT | VARCHAR2 (10)  |      | Indicates whether the extents in the tablespace are dictionary managed (DICTIONARY) or locally managed (LOCAL)                                                                                                        |
| THRESHOLD_TYPE    | VARCHAR2 (8)   |      | Indicates whether the threshold value is derived from a DEFAULT threshold or an EXPLICIT threshold                                                                                                                    |
| METRICS_NAME      | VARCHAR2 (64)  |      | Name of the metric for which the threshold is set                                                                                                                                                                     |
| WARNING_OPERATOR  | VARCHAR2 (12)  |      | Relational operator for warning thresholds: <ul style="list-style-type: none"> <li>• GT</li> <li>• EQ</li> <li>• LT</li> <li>• LE</li> <li>• GE</li> <li>• CONTAINS</li> <li>• NE</li> <li>• DO_NOT_CHECK</li> </ul>  |
| WARNING_VALUE     | VARCHAR2 (256) |      | Warning threshold value                                                                                                                                                                                               |
| CRITICAL_OPERATOR | VARCHAR2 (12)  |      | Relational operator for critical thresholds: <ul style="list-style-type: none"> <li>• GT</li> <li>• EQ</li> <li>• LT</li> <li>• LE</li> <li>• GE</li> <li>• CONTAINS</li> <li>• NE</li> <li>• DO_NOT_CHECK</li> </ul> |
| CRITICAL_VALUE    | VARCHAR2 (256) |      | Critical threshold value                                                                                                                                                                                              |

## 7.52 DBA\_TABLESPACE\_USAGE\_METRICS

DBA\_TABLESPACE\_USAGE\_METRICS describes tablespace usage metrics for all types of tablespaces, including permanent, temporary, and undo tablespaces.

| Column          | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|---------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABLESPACE_NAME | VARCHAR2 (30) |      | Tablespace name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| USED_SPACE      | NUMBER        |      | Total space consumed by all objects created in the tablespace, expressed as number of data blocks<br>For undo tablespaces, the value of this column includes space consumed by both expired and unexpired undo segments.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ALLOCATION_SIZE | NUMBER        |      | For smallfile tablespaces, the combined current size of all datafiles, expressed as number of data blocks<br>For bigfile tablespaces, the current size of the single datafile                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TABLESPACE_SIZE | NUMBER        |      | The maximum size of the tablespace, expressed as number of data blocks <ul style="list-style-type: none"> <li>If the tablespace contains any datafiles with autoextend enabled, then this column displays the maximum size to which the tablespace can grow. Underlying storage free space, such as Oracle ASM or file system storage, is also taken into account when computing this value.<br/>For example: <ul style="list-style-type: none"> <li>If a tablespace has a current size of 5 GB, the combined maximum size of its datafiles is 32 GB, and its underlying storage has 20 GB of free space, then this column will have a value of approximately 25 GB.</li> <li>If a tablespace has a current size of 10 GB, the combined maximum size its datafiles is 20 GB, and its underlying storage has 25 GB of free space, then this column will have a value of approximately 20 GB.</li> </ul> </li> <li>If the tablespace contains only datafiles with autoextend disabled, then this column displays the combined size of all datafiles in the tablespace.</li> </ul> |
| USED_PERCENT    | NUMBER        |      | Percentage of used space, as a function of the maximum possible tablespace size                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| BLOCK_SIZE      | NUMBER        |      | Tablespace block size (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## 7.53 DBA\_TABLESPACES

DBA\_TABLESPACES describes all tablespaces in the database.

### Related View

USER\_TABLESPACES describes the tablespaces accessible to the current user. This view does not display the PLUGGED\_IN column.

| Column          | Datatype      | NULL     | Description                                |
|-----------------|---------------|----------|--------------------------------------------|
| TABLESPACE_NAME | VARCHAR2 (30) | NOT NULL | Name of the tablespace                     |
| BLOCK_SIZE      | NUMBER        | NOT NULL | Tablespace block size (in bytes)           |
| INITIAL_EXTENT  | NUMBER        |          | Default initial extent size (in bytes)     |
| NEXT_EXTENT     | NUMBER        |          | Default incremental extent size (in bytes) |

| Column                   | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------|---------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MIN_EXTENTS              | NUMBER        | NOT NULL | Default minimum number of extents                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| MAX_EXTENTS              | NUMBER        |          | Default maximum number of extents                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| MAX_SIZE                 | NUMBER        |          | Default maximum size of segments (in Oracle blocks)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PCT_INCREASE             | NUMBER        |          | Default percent increase for extent size                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| MIN_EXTLEN               | NUMBER        |          | Minimum extent size for this tablespace (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| STATUS                   | VARCHAR2 (9)  |          | Tablespace status: <ul style="list-style-type: none"> <li>• ONLINE</li> <li>• OFFLINE</li> <li>• READ ONLY</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CONTENTS                 | VARCHAR2 (9)  |          | Tablespace contents: <ul style="list-style-type: none"> <li>• UNDO</li> <li>• LOST WRITE PROTECTION</li> <li>• PERMANENT</li> <li>• TEMPORARY</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                          |
| LOGGING                  | VARCHAR2 (9)  |          | Default logging attribute: <ul style="list-style-type: none"> <li>• LOGGING</li> <li>• NOLOGGING</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| FORCE_LOGGING            | VARCHAR2 (3)  |          | Indicates whether the tablespace is under force logging mode (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| EXTENT_MANAGEMENT        | VARCHAR2 (10) |          | Indicates whether the extents in the tablespace are dictionary managed (DICTIONARY) or locally managed (LOCAL)                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ALLOCATION_TYPE          | VARCHAR2 (9)  |          | Type of extent allocation in effect for the tablespace: <ul style="list-style-type: none"> <li>• SYSTEM</li> <li>• UNIFORM</li> <li>• USER</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                             |
| PLUGGED_IN               | VARCHAR2 (3)  |          | Indicates whether the tablespace is plugged in (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SEGMENT_SPACE_MANAGEMENT | VARCHAR2 (6)  |          | Indicates whether the free and used segment space in the tablespace is managed using free lists (MANUAL) or bitmaps (AUTO)                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| DEF_TAB_COMPRESSION      | VARCHAR2 (8)  |          | Indicates whether default table compression is enabled (ENABLED) or not (DISABLED)<br><br><b>Note:</b> Enabling default table compression indicates that all tables in the tablespace will be created with table compression enabled unless otherwise specified.                                                                                                                                                                                                                                                                                                  |
| RETENTION                | VARCHAR2 (11) |          | Undo tablespace retention: <ul style="list-style-type: none"> <li>• GUARANTEE - Tablespace is an undo tablespace with RETENTION specified as GUARANTEE<br/>A RETENTION value of GUARANTEE indicates that unexpired undo in all undo segments in the undo tablespace should be retained even if it means that forward going operations that need to generate undo in those segments fail.</li> <li>• NOGUARANTEE - Tablespace is an undo tablespace with RETENTION specified as NOGUARANTEE</li> <li>• NOT APPLY - Tablespace is not an undo tablespace</li> </ul> |

| Column                   | Datatype      | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------|---------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BIGFILE                  | VARCHAR2 (3)  |      | Indicates whether the tablespace is a bigfile tablespace (YES) or a smallfile tablespace (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| PREDICATE_EVALUATION     | VARCHAR2 (7)  |      | Indicates whether predicates are evaluated by host (HOST) or by storage (STORAGE)                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| ENCRYPTED                | VARCHAR2 (3)  |      | Indicates whether the tablespace is encrypted (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| COMPRESS_FOR             | VARCHAR2 (30) |      | <p>Default compression for what kind of operations:</p> <ul style="list-style-type: none"> <li>• BASIC</li> <li>• ADVANCED</li> <li>• QUERY LOW</li> <li>• QUERY HIGH</li> <li>• ARCHIVE LOW</li> <li>• ARCHIVE HIGH</li> <li>• NULL</li> </ul> <p>The QUERY LOW, QUERY HIGH, ARCHIVE LOW, and ARCHIVE HIGH values are associated with Hybrid Columnar Compression, a feature of the Enterprise Edition of Oracle Database that is dependent on the underlying storage system. See <i>Oracle Database Concepts</i> for more information.</p> |
| DEF_INMEMORY             | VARCHAR2 (8)  |      | Indicates whether the In-Memory Column Store (IM column store) is by default enabled (ENABLED) or disabled (DISABLED) for tables in this tablespace                                                                                                                                                                                                                                                                                                                                                                                          |
| DEF_INMEMORY_PRIORITY    | VARCHAR2 (8)  |      | <p>Indicates the default priority for In-Memory Column Store (IM column store) population for this tablespace. Possible values:</p> <ul style="list-style-type: none"> <li>• LOW</li> <li>• MEDIUM</li> <li>• HIGH</li> <li>• CRITICAL</li> <li>• NONE</li> <li>• NULL</li> </ul>                                                                                                                                                                                                                                                            |
| DEF_INMEMORY_DISTRIBUTE  | VARCHAR2 (15) |      | <p>Indicates how the IM column store is distributed by default for this tablespace in an Oracle Real Application Clusters (Oracle RAC) environment:</p> <ul style="list-style-type: none"> <li>• AUTO</li> <li>• BY ROWID RANGE</li> <li>• BY PARTITION</li> <li>• BY SUBPARTITION</li> </ul>                                                                                                                                                                                                                                                |
| DEF_INMEMORY_COMPRESSION | VARCHAR2 (17) |      | <p>Indicates the default compression level for the IM column store for this tablespace:</p> <ul style="list-style-type: none"> <li>• NO MEMCOMPRESS</li> <li>• FOR DML</li> <li>• FOR QUERY [ LOW   HIGH ]</li> <li>• FOR CAPACITY [ LOW   HIGH ]</li> <li>• NULL</li> </ul>                                                                                                                                                                                                                                                                 |
| DEF_INMEMORY_DUPLICATE   | VARCHAR2 (13) |      | <p>Indicates the duplicate setting for the IM column store in an Oracle RAC environment:</p> <ul style="list-style-type: none"> <li>• NO DUPLICATE</li> <li>• DUPLICATE</li> <li>• DUPLICATE ALL</li> </ul>                                                                                                                                                                                                                                                                                                                                  |

| Column                    | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------|-----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SHARED                    | VARCHAR2 (12)   |      | <p>Tablespace type:</p> <ul style="list-style-type: none"> <li>• SHARED: For shared tablespace</li> <li>• LOCAL_ON_LEAF: For local temporary tablespace for leaf (read-only) instances</li> <li>• LOCAL_ON_ALL: For local temporary tablespace for all instance types</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| DEF_INDEX_COMPRESSION     | VARCHAR2 (8)    |      | <p>Indicates whether default index compression is enabled (ENABLED) or not (DISABLED)</p> <p><b>Note:</b> Enabling default index compression indicates that all indexes in the tablespace will be created with index compression enabled unless otherwise specified.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| INDEX_COMPRESS_FOR        | VARCHAR2 (13)   |      | <p>Valid values are:</p> <ul style="list-style-type: none"> <li>• ADVANCED LOW</li> <li>• ADVANCED HIGH</li> <li>• NULL</li> </ul> <p>No other values are allowed.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DEF_CELLMEMORY            | VARCHAR2 (14)   |      | <p>This specifies the default value for the CELLMEMORY attribute that tables created in the tablespace will inherit unless the behavior is overridden explicitly</p> <p>This column is intended for use with Oracle Exadata.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| DEF_INMEMORY_SERVICE      | VARCHAR2 (12)   |      | <p>Indicates how the IM column store is populated on various instances by default for this tablespace. The possible values are:</p> <ul style="list-style-type: none"> <li>• DEFAULT: Data is populated on all instances specified with the PARALLEL_INSTANCE_GROUP initialization parameter. If that parameter is not set, then the data is populated on all instances. This is the default.</li> <li>• NONE: Data is not populated on any instance.</li> <li>• ALL: Data is populated on all instances, regardless of the value of the PARALLEL_INSTANCE_GROUP initialization parameter.</li> <li>• USER_DEFINED: Data is populated only on the instances on which the user-specified service is active. The service name corresponding to this is stored in the DEF_INMEMORY_SERVICE_NAME column.</li> </ul> |
| DEF_INMEMORY_SERVICE_NAME | VARCHAR2 (1000) |      | <p>Indicates the service name for the service on which the IM column store should be populated by default for this tablespace. This column has a value only when the corresponding DEF_INMEMORY_SERVICE is USER_DEFINED. In all other cases, this column is null.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Column             | Datatype     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------|--------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LOST_WRITE_PROTECT | VARCHAR2 (7) |      | <p>The lost write protection setting for the tablespace. Possible values:</p> <ul style="list-style-type: none"> <li>• <b>ENABLED</b>: Indicates that lost write data is being collected</li> <li>• <b>OFF</b>: Indicates that lost write data is not being collected</li> <li>• <b>SUSPEND</b>: Indicates that lost write data is not currently being collected, but it can be enabled at a later date. The lost write data collected when the file was <b>ENABLED</b> remains in the lost write database, but it is not being checked or updated.</li> </ul> <p>If lost write protection is enabled for a tablespace, it is enabled for all data files for that tablespace, including data files added later.</p> <p>If lost write protection is enabled for a single data file, it does not have to be enabled for another data file in the same tablespace.</p> <p>You can check the lost write protection status for a data file by querying the <code>LOST_WRITE_PROTECT</code> column in the <code>DBA_DATA_FILES</code> view.</p> |
| CHUNK_TABLESPACE   | VARCHAR2 (1) |      | Indicates whether this is a chunk tablespace (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |



#### See Also:

- ["USER\\_TABLESPACES"](#)
- ["PARALLEL\\_INSTANCE\\_GROUP"](#)
- ["DBA\\_DATA\\_FILES"](#)

## 7.54 DBA\_TEMP\_FILES

`DBA_TEMP_FILES` describes all temporary files (tempfiles) in the database.

| Column          | Datatype       | NULL     | Description                                                                                                                               |
|-----------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------|
| FILE_NAME       | VARCHAR2 (513) |          | Name of the database temp file                                                                                                            |
| FILE_ID         | NUMBER         |          | File identifier number of the database temp file                                                                                          |
| TABLESPACE_NAME | VARCHAR2 (30)  | NOT NULL | Name of the tablespace to which the file belongs                                                                                          |
| BYTES           | NUMBER         |          | Size of the file (in bytes)                                                                                                               |
| BLOCKS          | NUMBER         |          | Size of the file (in Oracle blocks)                                                                                                       |
| STATUS          | VARCHAR2 (7)   |          | <p>File status:</p> <ul style="list-style-type: none"> <li>• <b>OFFLINE</b></li> <li>• <b>ONLINE</b></li> <li>• <b>UNKNOWN</b></li> </ul> |
| RELATIVE_FNO    | NUMBER         |          | Tablespace-relative file number                                                                                                           |



| Column         | Datatype      | NULL | Description                                                                                                                                                                                                                                                                               |
|----------------|---------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AUTOEXTENSIBLE | VARCHAR2 (3)  |      | Indicates whether the file is autoextensible (YES) or not (NO)                                                                                                                                                                                                                            |
| MAXBYTES       | NUMBER        |      | maximum size of the file (in bytes)                                                                                                                                                                                                                                                       |
| MAXBLOCKS      | NUMBER        |      | Maximum size of the file (in Oracle blocks)                                                                                                                                                                                                                                               |
| INCREMENT_BY   | NUMBER        |      | Default increment for autoextension (in Oracle blocks)                                                                                                                                                                                                                                    |
| USER_BYTES     | NUMBER        |      | Size of the useful portion of the file (in bytes)                                                                                                                                                                                                                                         |
| USER_BLOCKS    | NUMBER        |      | Size of the useful portion of the file (in Oracle blocks)                                                                                                                                                                                                                                 |
| SHARED         | VARCHAR2 (12) |      | Type of tablespace this file belongs to: <ul style="list-style-type: none"> <li>• SHARED: For shared tablespace</li> <li>• LOCAL_FOR_RIM: Local temporary tablespace for RIM (read-only) instances</li> <li>• LOCAL_FOR_ALL: Local temporary tablespace for all instance types</li> </ul> |
| INST_ID        | NUMBER        |      | Instance ID of the instance to which the temp file belongs. This column has a NULL value for temp files that belong to shared tablespaces.                                                                                                                                                |

## 7.55 DBA\_TEMP\_FREE\_SPACE

DBA\_TEMP\_FREE\_SPACE displays temporary space usage information at tablespace level.

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                               |
|-----------------|---------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABLESPACE_NAME | VARCHAR2 (30) | NOT NULL | Name of the tablespace                                                                                                                                                                                                                                                                    |
| TABLESPACE_SIZE | NUMBER        |          | Total size of the tablespace, in bytes                                                                                                                                                                                                                                                    |
| ALLOCATED_SPACE | NUMBER        |          | Total allocated space, in bytes, including space that is currently allocated and used and space that is currently allocated and available for reuse                                                                                                                                       |
| FREE_SPACE      | NUMBER        |          | Total free space available, in bytes, including space that is currently allocated and available for reuse and space that is currently unallocated                                                                                                                                         |
| SHARED          | VARCHAR2 (12) |          | Type of tablespace this file belongs to: <ul style="list-style-type: none"> <li>• SHARED: For shared tablespace</li> <li>• LOCAL_FOR_RIM: Local temporary tablespace for RIM (read-only) instances</li> <li>• LOCAL_FOR_ALL: Local temporary tablespace for all instance types</li> </ul> |
| INST_ID         | NUMBER        |          | Instance ID of the instance to which the tempfile belongs                                                                                                                                                                                                                                 |

## 7.56 DBA\_THRESHOLDS

DBA\_THRESHOLDS describes all thresholds.

| Column       | Datatype      | NULL | Description  |
|--------------|---------------|------|--------------|
| METRICS_NAME | VARCHAR2 (64) |      | Metrics name |

| Column                  | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WARNING_OPERATOR        | VARCHAR2 (12)  |      | Relational operator for warning thresholds: <ul style="list-style-type: none"> <li>• GT</li> <li>• EQ</li> <li>• LT</li> <li>• LE</li> <li>• GE</li> <li>• CONTAINS</li> <li>• NE</li> <li>• DO NOT CHECK</li> <li>• DO_NOT_CHECK</li> </ul>                                                                                                                                                                                                                                                                                                          |
| WARNING_VALUE           | VARCHAR2 (256) |      | Warning threshold value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CRITICAL_OPERATOR       | VARCHAR2 (12)  |      | Relational operator for critical thresholds: <ul style="list-style-type: none"> <li>• GT</li> <li>• EQ</li> <li>• LT</li> <li>• LE</li> <li>• GE</li> <li>• CONTAINS</li> <li>• NE</li> <li>• DO NOT CHECK</li> <li>• DO_NOT_CHECK</li> </ul>                                                                                                                                                                                                                                                                                                         |
| CRITICAL_VALUE          | VARCHAR2 (256) |      | Critical threshold value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| OBSERVATION_PERIOD      | NUMBER         |      | Observation period length (in minutes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CONSECUTIVE_OCCURRENCES | NUMBER         |      | Number of occurrences before an alert is issued                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| INSTANCE_NAME           | VARCHAR2 (16)  |      | Instance name; NULL for database-wide alerts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| OBJECT_TYPE             | VARCHAR2 (64)  |      | Object type: <ul style="list-style-type: none"> <li>• SYSTEM</li> <li>• SERVICE</li> <li>• EVENT_CLASS</li> <li>• TABLESPACE</li> <li>• FILE</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                               |
| OBJECT_NAME             | VARCHAR2 (513) |      | Name of the object for which the threshold is set                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| STATUS                  | VARCHAR2 (7)   |      | Indicates whether the threshold is applicable on a valid object (VALID) or not (INVALID) <p>Thresholds for non-tablespace metrics can only be set in ROOT and apply to a CDB as a whole. Any pre-existing non-tablespace thresholds that may exist in a PDB have a status of INVALID in the DBA_THRESHOLDS view. You can remove these threshold settings using the DBMS_SERVER_ALERT.SET_THRESHOLD API.</p> <p>See <i>Oracle Database PL/SQL Packages and Types Reference</i> for more information about the DBMS_SERVER_ALERT.SET_THRESHOLD API.</p> |

## 7.57 DBA\_TRANSFORMATIONS

DBA\_TRANSFORMATIONS displays information about all transformations in the database. These transformations can be specified with Advanced Queuing operations such as enqueue,

dequeue, and subscribe to automatically integrate transformations in AQ messaging. Its columns are the same as those in `ALL_TRANSFORMATIONS`.



**See Also:**

`"ALL_TRANSFORMATIONS"`

## 7.58 DBA\_TRIGGER\_COLS

`DBA_TRIGGER_COLS` describes the use of columns in all triggers in the database. Its columns are the same as those in `ALL_TRIGGER_COLS`.



**See Also:**

`"ALL_TRIGGER_COLS"`

## 7.59 DBA\_TRIGGER\_ORDERING

`DBA_TRIGGER_ORDERING` describes all triggers in the database that have `FOLLOWS` or `PRECEDES` ordering. Its columns are the same as those in `ALL_TRIGGER_ORDERING`.



**See Also:**

`"ALL_TRIGGER_ORDERING"`

## 7.60 DBA\_TRIGGERS

`DBA_TRIGGERS` describes all triggers in the database. Its columns are the same as those in `ALL_TRIGGERS`.



**See Also:**

`"ALL_TRIGGERS"`

## 7.61 DBA\_TRIGGERS\_AE

DBA\_TRIGGERS\_AE describes all triggers (across all editions) in the database. Its columns are the same as those in ALL\_TRIGGERS\_AE.



**See Also:**

"ALL\_TRIGGERS\_AE"

## 7.62 DBA\_TS\_QUOTAS

DBA\_TS\_QUOTAS describes tablespace quotas for all users.

### Related View

USER\_TS\_QUOTAS describes tablespace quotas for the current user. This view does not display the USERNAME column.

| Column          | Datatype       | NULL     | Description                                      |
|-----------------|----------------|----------|--------------------------------------------------|
| TABLESPACE_NAME | VARCHAR2 (30)  | NOT NULL | Tablespace name                                  |
| USERNAME        | VARCHAR2 (128) | NOT NULL | User with resource rights on the tablespace      |
| BYTES           | NUMBER         |          | Number of bytes charged to the user              |
| MAX_BYTES       | NUMBER         |          | User's quota in bytes, or -1 if no limit         |
| BLOCKS          | NUMBER         |          | Number of Oracle blocks charged to the user      |
| MAX_BLOCKS      | NUMBER         |          | User's quota in Oracle blocks, or -1 if no limit |
| DROPPED         | VARCHAR2 (3)   |          | Whether the tablespace has been dropped          |



**See Also:**

"USER\_TS\_QUOTAS"

## 7.63 DBA\_TSDP\_IMPORT\_ERRORS

DBA\_TSDP\_IMPORT\_ERRORS shows information about the errors encountered during import of the Transparent Sensitive Data Protection discovery result.

This error information corresponds to the last import of the discovery result done using the DBMS\_TSDP\_MANAGE.IMPORT\_DISCOVERY\_RESULT API.

| Column      | Datatype       | NULL     | Description                                 |
|-------------|----------------|----------|---------------------------------------------|
| ERROR_CODE  | NUMBER         | NOT NULL | The ORA error code of the error encountered |
| SCHEMA_NAME | VARCHAR2 (128) |          | The schema corresponding to the error       |
| TABLE_NAME  | VARCHAR2 (128) |          | The table corresponding to the error        |

| Column         | Datatype       | NULL | Description                                   |
|----------------|----------------|------|-----------------------------------------------|
| COLUMN_NAME    | VARCHAR2 (128) |      | The column corresponding to the error         |
| SENSITIVE_TYPE | VARCHAR2 (128) |      | The sensitive type corresponding to the error |

 **See Also:**

- *Oracle Database Security Guide* for more information about using Transparent Sensitive Data Protection
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_TSDP_MANAGE.IMPORT_DISCOVERY_RESULT` procedure

## 7.64 DBA\_TSDP\_POLICY\_CONDITION

`DBA_TSDP_POLICY_CONDITION` describes the Transparent Sensitive Data Protection policy and condition mapping. It also lists the property-value pairs for the condition.

| Column      | Datatype       | NULL     | Description                                                                                                                                                          |
|-------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POLICY_NAME | VARCHAR2 (128) |          | The name of the Transparent Sensitive Data Protection policy                                                                                                         |
| SUB_POLICY  | NUMBER         | NOT NULL | The sub policy of the Transparent Sensitive Data Protection policy                                                                                                   |
| PROPERTY    | VARCHAR2 (11)  |          | The condition property. Possible values: <ul style="list-style-type: none"> <li>• DATATYPE</li> <li>• LENGTH</li> <li>• SCHEMA_NAME</li> <li>• TABLE_NAME</li> </ul> |
| VALUE       | VARCHAR2 (128) |          | The value of the condition property                                                                                                                                  |

 **See Also:**

*Oracle Database Security Guide* for more information about using Transparent Sensitive Data Protection

## 7.65 DBA\_TSDP\_POLICY\_FEATURE

`DBA_TSDP_POLICY_FEATURE` shows the Transparent Sensitive Data Protection policy security feature mapping for all the TSDP policies in the database.

At this time, only Oracle Data Redaction is supported.

| Column      | Datatype       | NULL | Description                                                  |
|-------------|----------------|------|--------------------------------------------------------------|
| POLICY_NAME | VARCHAR2 (128) |      | The name of the Transparent Sensitive Data Protection policy |

| Column           | Datatype      | NULL | Description                                                                                           |
|------------------|---------------|------|-------------------------------------------------------------------------------------------------------|
| SECURITY_FEATURE | VARCHAR2 (12) |      | The Oracle security feature with which the Transparent Sensitive Data Protection policy is associated |

**See Also:**

*Oracle Database Security Guide* for more information about using Transparent Sensitive Data Protection

## 7.66 DBA\_TSDP\_POLICY\_PARAMETER

DBA\_TSDP\_POLICY\_PARAMETER shows the parameter-value pairs for the condition of the Transparent Sensitive Data Protection policy.

| Column         | Datatype        | NULL     | Description                                                                                                                                                                                                                  |
|----------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POLICY_NAME    | VARCHAR2 (128)  |          | The name of the Transparent Sensitive Data Protection policy                                                                                                                                                                 |
| SUB_POLICY     | NUMBER          | NOT NULL | The sub policy of the Transparent Sensitive Data Protection policy                                                                                                                                                           |
| PARAMETER      | VARCHAR2 (128)  |          | The parameter for the Transparent Sensitive Data Protection sub policy                                                                                                                                                       |
| VALUE          | VARCHAR2 (4000) |          | The value of the parameter                                                                                                                                                                                                   |
| DEFAULT_OPTION | VARCHAR2 (5)    |          | Indicates whether this is the default option for the policy: <ul style="list-style-type: none"> <li>TRUE: This is the default option for the policy</li> <li>FALSE: This is not the default option for the policy</li> </ul> |

**See Also:**

*Oracle Database Security Guide* for more information about using Transparent Sensitive Data Protection

## 7.67 DBA\_TSDP\_POLICY\_PROTECTION

DBA\_TSDP\_POLICY\_PROTECTION shows the list of columns that have been protected through Transparent Sensitive Data Protection.

| Column      | Datatype       | NULL     | Description                                                           |
|-------------|----------------|----------|-----------------------------------------------------------------------|
| SCHEMA_NAME | VARCHAR2 (128) | NOT NULL | The schema containing the sensitive data                              |
| TABLE_NAME  | VARCHAR2 (128) | NOT NULL | The table containing the sensitive column                             |
| COLUMN_NAME | VARCHAR2 (128) | NOT NULL | The name of the sensitive column                                      |
| TSDP_POLICY | VARCHAR2 (128) |          | The TSDP policy name based on which the column protection was enabled |

| Column                  | Datatype       | NULL     | Description                                                                                                  |
|-------------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------|
| SECURITY_FEATURE        | VARCHAR2 (12)  |          | The security feature enabled on the sensitive column                                                         |
| SECURITY_FEATURE_POLICY | VARCHAR2 (128) | NOT NULL | Name of the underlying Oracle security feature policy                                                        |
| SUBPOLICY#              | NUMBER         | NOT NULL | The subpolicy of the Transparent Sensitive Data Protection policy based on which protection has been enabled |

**See Also:**

*Oracle Database Security Guide* for more information about using Transparent Sensitive Data Protection

## 7.68 DBA\_TSDP\_POLICY\_TYPE

DBA\_TSDP\_POLICY\_TYPE shows the Transparent Sensitive Data Protection policy to sensitive column type mapping.

| Column         | Datatype       | NULL | Description                                           |
|----------------|----------------|------|-------------------------------------------------------|
| POLICY_NAME    | VARCHAR2 (128) |      | The Transparent Sensitive Data Protection policy name |
| SENSITIVE_TYPE | VARCHAR2 (128) |      | The sensitive column type name                        |

**See Also:**

*Oracle Database Security Guide* for more information about using Transparent Sensitive Data Protection

## 7.69 DBA\_TSM\_DESTINATION

DBA\_TSM\_DESTINATION lists transparent session migration (TSM) destination session statistics.

| Column                      | Datatype                     | NULL | Description                                |
|-----------------------------|------------------------------|------|--------------------------------------------|
| SOURCE_DATABASE_NAME        | VARCHAR2 (4000)              |      | Database name of source session            |
| DESTINATION_DATABASE_NAME   | VARCHAR2 (4000)              |      | Database name of destination session       |
| DESTINATION_INSTANCE_NAME   | VARCHAR2 (4000)              |      | Instance name of destination session       |
| DESTINATION_INSTANCE_ID     | VARCHAR2 (4000)              |      | Instance ID of destination session         |
| DESTINATION_INST_START_TIME | TIMESTAMP (6) WITH TIME ZONE |      | Instance start time of destination session |
| SEQUENCE#                   | NUMBER                       |      | Migration sequence number                  |
| DESTINATION_SID             | NUMBER                       |      | Session ID of destination session          |

| Column                  | Datatype                    | NULL     | Description                                     |
|-------------------------|-----------------------------|----------|-------------------------------------------------|
| DESTINATION_SERIAL#     | NUMBER                      |          | Session serial number of destination session    |
| DESTINATION_START_TIME  | TIMESTAMP(6) WITH TIME ZONE |          | Start time for migration on destination session |
| DESTINATION_END_TIME    | TIMESTAMP(6) WITH TIME ZONE |          | End time for migration on destination session   |
| DESTINATION_USER_NAME   | VARCHAR2(128)               | NOT NULL | User associated with the destination session    |
| DESTINATION_SCHEMA_NAME | VARCHAR2(128)               | NOT NULL | Schema associated with the destination session  |
| DESTINATION_STATE       | VARCHAR2(24)                |          | Migration state of destination session          |

## 7.70 DBA\_TSM\_SOURCE

DBA\_TSM\_SOURCE lists transparent session migration (TSM) source session statistics.

| Column                     | Datatype                    | NULL     | Description                                          |
|----------------------------|-----------------------------|----------|------------------------------------------------------|
| SOURCE_DATABASE_NAME       | VARCHAR2(4000)              |          | Database name of source session                      |
| SOURCE_INSTANCE_NAME       | VARCHAR2(4000)              |          | Instance name of source session                      |
| SOURCE_INSTANCE_ID         | VARCHAR2(4000)              |          | Instance ID of source session                        |
| SOURCE_INSTANCE_START_TIME | TIMESTAMP(6) WITH TIME ZONE |          | Instance start time of source session                |
| SEQUENCE#                  | NUMBER                      |          | Migration sequence number                            |
| SOURCE_SID                 | NUMBER                      |          | Session ID of source session                         |
| SOURCE_SERIAL#             | NUMBER                      |          | Source serial number of source session               |
| SOURCE_STATE               | VARCHAR2(24)                |          | Migration state of source session                    |
| CONNECT_STRING             | VARCHAR2(4000)              |          | Connect string specified for migration               |
| SOURCE_START_TIME          | TIMESTAMP(6) WITH TIME ZONE |          | Start time for migration on source session           |
| COST                       | NUMBER                      |          | Estimate of migration cost                           |
| FAILURE_REASON             | VARCHAR2(34)                |          | Reason for migration failure, if any                 |
| SOURCE_END_TIME            | TIMESTAMP(6) WITH TIME ZONE |          | End time for migration on source session             |
| ROUNDTRIPS                 | NUMBER                      |          | Number of client/server round trips during migration |
| SOURCE_USER_NAME           | VARCHAR2(128)               | NOT NULL | User associated with the source session              |
| SOURCE_SCHEMA_NAME         | VARCHAR2(128)               | NOT NULL | Schema associated with the source session            |
| DESTINATION_DATABASE_NAME  | VARCHAR2(4000)              |          | Database name of the destination session             |

## 7.71 DBA\_TSTZ\_TAB\_COLS

DBA\_TSTZ\_TAB\_COLS displays information about the columns of all tables in the database, which have columns defined on **TIMESTAMP WITH TIME ZONE** data types or object types containing attributes of **TIMESTAMP WITH TIME ZONE** data types.

Its columns (except for **COLUMN\_NAME**, **NESTED**, **VIRTUAL\_COLUMN**, **SCALAR\_COLUMN**, and **UNUSED\_COLUMN**) are the same as those in **ALL\_TSTZ\_TAB\_COLS**.



**See Also:**

"ALL\_TSTZ\_TAB\_COLS"

## 7.72 DBA\_TSTZ\_TABLES

DBA\_TSTZ\_TABLES displays information about all tables in the database, which have columns defined on `TIMESTAMP WITH TIME ZONE` data types or object types containing attributes of `TIMESTAMP WITH TIME ZONE` data types.

Its columns are the same as those in ALL\_TSTZ\_TABLES.

**See Also:**

"ALL\_TSTZ\_TABLES"

## 7.73 DBA\_TUNE\_MVIEW

DBA\_TUNE\_MVIEW displays the result of executing the DBMS\_ADVISOR.TUNE\_MVIEW procedure.

**Related View**

USER\_TUNE\_MVIEW displays the result of executing the DBMS\_ADVISOR.TUNE\_MVIEW procedure. This view does not display the OWNER column.

| Column      | Datatype       | NULL     | Description                                                                                         |
|-------------|----------------|----------|-----------------------------------------------------------------------------------------------------|
| OWNER       | VARCHAR2 (128) |          | Owner of the task                                                                                   |
| TASK_NAME   | VARCHAR2 (128) |          | Name of the task                                                                                    |
| ACTION_ID   | NUMBER         | NOT NULL | Identifier of the action                                                                            |
| SCRIPT_TYPE | VARCHAR2 (14)  |          | Type of the script: <ul style="list-style-type: none"><li>• IMPLEMENTATION</li><li>• UNDO</li></ul> |
| STATEMENT   | CLOB           |          | Action statement                                                                                    |

**See Also:**

- "USER\_TUNE\_MVIEW"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_ADVISOR.TUNE\_MVIEW procedure

## 7.74 DBA\_TXEVENTQ\_MIGRATION\_STATUS

DBA\_TXEVENTQ\_MIGRATION\_STATUS provides information about all migrations from AQ classic queues to Transactional Event Queues (TxEventQs).

Its columns (except for SUFFIX) are the same as those in ALL\_TXEVENTQ\_MIGRATION\_STATUS.

| Column               | Datatype                        | NULL     | Description                                                                                                                 |
|----------------------|---------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------|
| SOURCE_SCHEMA_NAME   | VARCHAR2 (128)                  | NOT NULL | Source schema name                                                                                                          |
| SOURCE_QUEUE_NAME    | VARCHAR2 (128)                  | NOT NULL | Source AQ classic queue name                                                                                                |
| SOURCE_QUEUE_TABLE   | VARCHAR2 (128)                  |          | Source AQ classic queue table name                                                                                          |
| TARGET_SCHEMA_NAME   | VARCHAR2 (128)                  | NOT NULL | Target schema name                                                                                                          |
| TARGET_QUEUE_NAME    | VARCHAR2 (128)                  | NOT NULL | Target TxEventQ name                                                                                                        |
| EVENT_STATUS         | NUMBER                          |          | Migration event status                                                                                                      |
| EVENT                | VARCHAR2 (128)                  |          | Migration event                                                                                                             |
| EVENT_TIMESTAMP      | TIMESTAMP (6)<br>WITH TIME ZONE |          | Date and time at which the migration event occurred                                                                         |
| EVENT_ERROR_COMMENTS | VARCHAR2 (1024)                 |          | Migration event error comments, if any                                                                                      |
| SUFFIX               | VARCHAR2 (2)                    |          | Temporary TxEventQ name suffix, if any<br>This suffix is supplied by the user to avoid name conflicts during the migration. |



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

"ALL\_TXEVENTQ\_MIGRATION\_STATUS"

## 7.75 DBA\_TYPE\_ATTRS

DBA\_TYPE\_ATTRS describes the attributes of all object types in the database. Its columns (except for CHAR\_USED) are the same as those in ALL\_TYPE\_ATTRS.



### See Also:

"ALL\_TYPE\_ATTRS"

## 7.76 DBA\_TYPE\_METHODS

DBA\_TYPE\_METHODS describes the methods of all object types in the database. Its columns are the same as those in ALL\_TYPE\_METHODS.



**See Also:**

["ALL\\_TYPE\\_METHODS"](#)

## 7.77 DBA\_TYPE\_VERSIONS

DBA\_TYPE\_VERSIONS describes the versions of all object types in the database. Its columns are the same as those in ALL\_TYPE\_VERSIONS.



**See Also:**

["ALL\\_TYPE\\_VERSIONS"](#)

## 7.78 DBA\_TYPES

DBA\_TYPES describes all object types in the database. Its columns are the same as those in ALL\_TYPES.



**See Also:**

["ALL\\_TYPES"](#)

## 7.79 DBA\_UMF\_LINK

DBA\_UMF\_LINK displays information about the registered database links in the Remote Management Framework (RMF).

This view returns no rows if you are querying on an RMF source node. It returns all the registered database links in the topology if you are querying on a target node.

| Column        | Datatype       | NULL     | Description                        |
|---------------|----------------|----------|------------------------------------|
| TOPOLOGY_NAME | VARCHAR2 (128) | NOT NULL | Topology name for the link         |
| FROM_NODE_ID  | NUMBER         | NOT NULL | Node ID of the local node          |
| TO_NODE_ID    | NUMBER         | NOT NULL | Node ID of the remote node         |
| LINK_NAME     | VARCHAR2 (128) | NOT NULL | Fully qualified database link name |

**See Also:**

*Oracle Database Performance Tuning Guide* for information about configuring the Remote Management Framework (RMF) architecture

## 7.80 DBA\_UMF\_REGISTRATION

DBA\_UMF\_REGISTRATION displays information about the registered nodes in the Remote Management Framework (RMF).

This view returns no rows if you are querying on an RMF source node. It returns all the registered nodes in the topology if you are querying on a target node.

| Column              | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                          |
|---------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TOPOLOGY_NAME       | VARCHAR2 (128) | NOT NULL | Topology name for the node                                                                                                                                                                                                                                                           |
| NODE_NAME           | VARCHAR2 (128) | NOT NULL | Unique node name in the topology                                                                                                                                                                                                                                                     |
| NODE_ID             | NUMBER         | NOT NULL | Unique node ID in the topology                                                                                                                                                                                                                                                       |
| NODE_TYPE           | NUMBER         | NOT NULL | Node type. Possible value: <ul style="list-style-type: none"> <li>0: RDBMS node</li> </ul>                                                                                                                                                                                           |
| AS_SOURCE           | VARCHAR2 (5)   |          | Indicates whether the node is a source node. Possible values: <ul style="list-style-type: none"> <li>TRUE: The node is a source node, and it can provide remote services</li> <li>FALSE: The node is not a source node, and it cannot provide remote services</li> </ul>             |
| AS_CANDIDATE_TARGET | VARCHAR2 (5)   |          | Node is a candidate target. Possible values: <ul style="list-style-type: none"> <li>TRUE: Node can be promoted to target role</li> <li>FALSE: Node cannot be promoted to target role</li> </ul>                                                                                      |
| STATE               | VARCHAR2 (20)  |          | Current state of the node. Possible values: <ul style="list-style-type: none"> <li>OK: Node is registered</li> <li>REGISTRATION_PENDING: Node registration has started, but has not been completed</li> <li>SYNC_FAILED: Unable to synchronize the topology with the node</li> </ul> |

**See Also:**

*Oracle Database Performance Tuning Guide* for information about configuring the Remote Management Framework (RMF) architecture

## 7.81 DBA\_UMF\_SERVICE

DBA\_UMF\_SERVICE displays information about the registered services in the Remote Management Framework (RMF).

This view returns no rows if you are querying on an RMF source node. It returns all the registered services in the topology if you are querying on a target node

| Column        | Datatype       | NULL     | Description                                                                                                                                     |
|---------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| TOPOLOGY_NAME | VARCHAR2 (128) | NOT NULL | Topology name for the service                                                                                                                   |
| NODE_ID       | NUMBER         | NOT NULL | Node ID of the node providing the service                                                                                                       |
| SERVICE_ID    | VARCHAR2 (7)   |          | Service Identifier. Possible values: <ul style="list-style-type: none"><li>• 1: Automatic Workload Repository</li><li>• 2: SQL Tuning</li></ul> |

**See Also:**

*Oracle Database Performance Tuning Guide* for information about configuring the Remote Management Framework (RMF) architecture

## 7.82 DBA\_UMF\_TOPOLOGY

DBA\_UMF\_TOPOLOGY displays information about the registered topologies in the Remote Management Framework (RMF).

This view returns no rows if you are querying on an RMF source node. It returns one row per registered topology if you are querying on a target node.

| Column           | Datatype       | NULL     | Description                                                                                                                                                                       |
|------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TOPOLOGY_NAME    | VARCHAR2 (128) | NOT NULL | Unique topology name                                                                                                                                                              |
| TARGET_ID        | NUMBER         |          | Node ID of the target node                                                                                                                                                        |
| TOPOLOGY_VERSION | NUMBER         | NOT NULL | Topology version number                                                                                                                                                           |
| TOPOLOGY_STATE   | VARCHAR2 (8)   |          | Possible values: <ul style="list-style-type: none"><li>• ACTIVE: Topology can be used for RMF operations</li><li>• INACTIVE: Topology cannot be used for RMF operations</li></ul> |

**See Also:**

*Oracle Database Performance Tuning Guide* for information about configuring the Remote Management Framework (RMF) architecture

## 7.83 DBA\_UNDO\_EXTENTS

DBA\_UNDO\_EXTENTS describes the extents comprising the segments in all undo tablespaces in the database.



### Note:

The status of the undo space distribution reported by DBA\_UNDO\_EXTENTS is correct for the undo tablespace that is active on the instance on which DBA\_UNDO\_EXTENTS is queried. However, due to the use of in-memory information that is different on each instance, there can be a discrepancy in the status of the undo space distribution of undo tablespaces active on other instances when queried from one instance. This does not affect undo functionality and is only a reporting discrepancy for other instances' undo tablespace space distribution status. As a best practice, query the space distribution for an undo tablespace from the instance on which it is active.

| Column          | Datatype      | NULL     | Description                                                                                                                                    |
|-----------------|---------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | CHAR(3)       |          | Owner of the undo tablespace                                                                                                                   |
| SEGMENT_NAME    | VARCHAR2(128) | NOT NULL | Name of the undo segment                                                                                                                       |
| TABLESPACE_NAME | VARCHAR2(128) | NOT NULL | Name of the undo tablespace                                                                                                                    |
| EXTENT_ID       | NUMBER        |          | ID of the extent                                                                                                                               |
| FILE_ID         | NUMBER        | NOT NULL | Absolute file number of the data file containing the extent                                                                                    |
| BLOCK_ID        | NUMBER        |          | Start block number of the extent                                                                                                               |
| BYTES           | NUMBER        |          | Size of the extent (in bytes)                                                                                                                  |
| BLOCKS          | NUMBER        |          | Size of the extent (in blocks)                                                                                                                 |
| RELATIVE_FNO    | NUMBER        |          | Relative number of the file containing the segment header                                                                                      |
| COMMIT_JTIME    | NUMBER        |          | Commit time of the undo in the extent expressed as Julian time. This column is deprecated, but retained for backward compatibility reasons.    |
| COMMIT_WTIME    | VARCHAR2(20)  |          | Commit time of the undo in the extent expressed as Wallclock time. This column is deprecated, but retained for backward compatibility reasons. |
| STATUS          | VARCHAR2(9)   |          | Transaction Status of the undo in the extent: <ul style="list-style-type: none"><li>• ACTIVE</li><li>• EXPIRED</li><li>• UNEXPIRED</li></ul>   |

## 7.84 DBA\_UNUSED\_COL\_TABS

DBA\_UNUSED\_COL\_TABS describes all tables in the database containing unused columns. Its columns are the same as those in ALL\_UNUSED\_COL\_TABS.



### See Also:

"ALL\_UNUSED\_COL\_TABS"

## 7.85 DBA\_UNUSED\_GRANTS

DBA\_UNUSED\_GRANTS shows all the grants that are not used during the privilege capture.

| Column       | Datatype       | NULL | Description                                                               |
|--------------|----------------|------|---------------------------------------------------------------------------|
| CAPTURE      | VARCHAR2 (128) |      | Name of the privilege analysis policy                                     |
| RUN_NAME     | VARCHAR2 (128) |      | Name of the run of the privilege analysis policy                          |
| GRANTEE      | VARCHAR2 (128) |      | Name of the user who is granted with the privilege or role                |
| ROLENAM      | VARCHAR2 (128) |      | Name of the role that is granted to the grantee                           |
| SYS_PRIV     | VARCHAR2 (40)  |      | Name of the system privilege that is granted to the grantee               |
| SCH_PRIV     | VARCHAR2 (40)  |      | Name of the schema privilege that is granted to the grantee               |
| OBJ_PRIV     | VARCHAR2 (40)  |      | Name of the object privilege that is granted to the grantee               |
| USER_PRIV    | VARCHAR2 (25)  |      | Name of the user privilege that is granted to the grantee                 |
| OBJECT_OWNER | VARCHAR2 (128) |      | Name of the owner of the object for which the object privilege is granted |
| OBJECT_NAME  | VARCHAR2 (128) |      | Name of the object for which the object privilege is granted              |
| OBJECT_TYPE  | VARCHAR2 (23)  |      | Type of the object for which the object privilege is granted              |
| COLUMN_NAME  | VARCHAR2 (128) |      | Name of the column in the table for which the object privilege is granted |
| OPTION\$     | NUMBER         |      | Whether the grant option of the privilege is granted                      |



### See Also:

*Oracle Database Security Guide* for more information about privilege analysis

## 7.86 DBA\_UNUSED\_OBJPRIVS

DBA\_UNUSED\_OBJPRIVS lists the object privileges (without privilege grant paths) that are not used for the privilege analysis policies reported by the DBMS\_PRIVILEGE\_CAPTURE.GENERATE\_RESULT procedure.

This view provides access to analyzed privilege records in SYS tables.

You must have the CAPTURE\_ADMIN role to access this view.

| Column       | Datatype       | NULL     | Description                                                                                                                                                                                                                                                      |
|--------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAPTURE      | VARCHAR2 (128) | NOT NULL | Name of the privilege analysis policy                                                                                                                                                                                                                            |
| USERNAME     | VARCHAR2 (128) |          | Name of the user whose privileges are reported                                                                                                                                                                                                                   |
| ROLENAME     | VARCHAR2 (128) |          | Name of the role whose unused privileges are reported (for ROLE type privilege analysis or ROLE AND CONTEXT privilege analysis)                                                                                                                                  |
| OBJ_PRIV     | VARCHAR2 (40)  |          | Unused object privilege                                                                                                                                                                                                                                          |
| OBJECT_OWNER | VARCHAR2 (128) |          | Object owner                                                                                                                                                                                                                                                     |
| OBJECT_NAME  | VARCHAR2 (128) |          | Name of the object that USERNAME has OBJ_PRIV on                                                                                                                                                                                                                 |
| OBJECT_TYPE  | VARCHAR2 (23)  |          | Type of the object USERNAME has OBJ_PRIV on                                                                                                                                                                                                                      |
| COLUMN_NAME  | VARCHAR2 (128) |          | Name of the column that USERNAME has OBJ_PRIV on                                                                                                                                                                                                                 |
| GRANT_OPTION | NUMBER         |          | Indicates whether the privilege is granted with the GRANT option: <ul style="list-style-type: none"><li>0 - Indicates that the privilege is granted without the GRANT option</li><li>1 - Indicates that the privilege is granted with the GRANT option</li></ul> |
| RUN_NAME     | VARCHAR2 (128) |          | The name of the run during which the privilege was reported                                                                                                                                                                                                      |



### See Also:

- ["DBA\\_UNUSED\\_OBJPRIVS\\_PATH"](#) for privilege grant path information for unused object privileges
- *Oracle Database Security Guide* for more information about privilege analysis
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_PRIVILEGE\_CAPTURE.GENERATE\_RESULT procedure

## 7.87 DBA\_UNUSED\_OBJPRIVS\_PATH

DBA\_UNUSED\_OBJPRIVS\_PATH lists the object privileges that are not used for the privilege analysis policies reported by the DBMS\_PRIVILEGE\_CAPTURE.GENERATE\_RESULT procedure.

This view provides access to analyzed privilege records in SYS tables.

You must have the CAPTURE\_ADMIN role to access this view.



| Column       | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                |
|--------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAPTURE      | VARCHAR2 (128) | NOT NULL | Name of the privilege analysis policy                                                                                                                                                                                                                                                                      |
| USERNAME     | VARCHAR2 (128) |          | Name of the user whose privileges are reported                                                                                                                                                                                                                                                             |
| ROLENAME     | VARCHAR2 (128) |          | Name of the role whose unused privileges are reported (for <code>ROLE</code> type privilege analysis or <code>ROLE AND CONTEXT</code> privilege analysis)                                                                                                                                                  |
| OBJ_PRIV     | VARCHAR2 (40)  |          | Unused object privilege                                                                                                                                                                                                                                                                                    |
| OBJECT_OWNER | VARCHAR2 (128) |          | Object owner                                                                                                                                                                                                                                                                                               |
| OBJECT_NAME  | VARCHAR2 (128) |          | Name of the object that <code>USERNAME</code> has <code>OBJ_PRIV</code> on                                                                                                                                                                                                                                 |
| OBJECT_TYPE  | VARCHAR2 (23)  |          | Type of the object that <code>USERNAME</code> has <code>OBJ_PRIV</code> on                                                                                                                                                                                                                                 |
| COLUMN_NAME  | VARCHAR2 (128) |          | Name of the column that <code>USERNAME</code> has <code>OBJ_PRIV</code> on                                                                                                                                                                                                                                 |
| GRANT_OPTION | NUMBER         |          | Indicates whether the privilege is granted with the <code>GRANT</code> option: <ul style="list-style-type: none"> <li>0 - Indicates that the privilege is granted without the <code>GRANT</code> option</li> <li>1 - Indicates that the privilege is granted with the <code>GRANT</code> option</li> </ul> |
| PATH         | GRANT_PATH     |          | Object privilege grant paths                                                                                                                                                                                                                                                                               |
| RUN_NAME     | VARCHAR2 (128) |          | The name of the run during which the privilege was reported                                                                                                                                                                                                                                                |



#### See Also:

- ["DBA\\_USED\\_OBJPRIVS\\_PATH"](#)
- ["DBA\\_UNUSED\\_OBJPRIVS"](#)
- *Oracle Database Security Guide* for more information about privilege analysis
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure

## 7.88 DBA\_UNUSED\_PRIVS

`DBA_UNUSED_PRIVS` lists the privileges that are not used for the privilege analysis policies reported by the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure.

This view provides access to analyzed privilege records in `SYS` tables.

You must have the `CAPTURE_ADMIN` role to access this view.

| Column   | Datatype       | NULL     | Description                                           |
|----------|----------------|----------|-------------------------------------------------------|
| CAPTURE  | VARCHAR2 (128) | NOT NULL | Name of the privilege analysis policy                 |
| USERNAME | VARCHAR2 (128) |          | Name of the user whose unused privileges are reported |

| Column       | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ROLENAME     | VARCHAR2 (128) |      | Name of the role whose unused privileges are reported (for <code>ROLE</code> type privilege analysis or <code>ROLE</code> AND <code>CONTEXT</code> privilege analysis)                                                                                                                                                                                                                                |
| SYS_PRIV     | VARCHAR2 (40)  |      | Unused system privilege                                                                                                                                                                                                                                                                                                                                                                               |
| SCH_PRIV     | VARCHAR2 (40)  |      | Unused schema privilege                                                                                                                                                                                                                                                                                                                                                                               |
| OBJ_PRIV     | VARCHAR2 (40)  |      | Unused object privilege                                                                                                                                                                                                                                                                                                                                                                               |
| USER_PRIV    | VARCHAR2 (25)  |      | Unused user privilege                                                                                                                                                                                                                                                                                                                                                                                 |
| OBJECT_OWNER | VARCHAR2 (128) |      | Object owner                                                                                                                                                                                                                                                                                                                                                                                          |
| OBJECT_NAME  | VARCHAR2 (128) |      | Name of the object that <code>USERNAME</code> has <code>OBJ_PRIV</code> or <code>USER_PRIV</code> on                                                                                                                                                                                                                                                                                                  |
| OBJECT_TYPE  | VARCHAR2 (23)  |      | Type of the object that <code>OBJ_PRIV</code> has accessed or <code>USER</code> if <code>USER_PRIV</code> was used                                                                                                                                                                                                                                                                                    |
| COLUMN_NAME  | VARCHAR2 (128) |      | Name of the column that <code>OBJ_PRIV</code> has access on                                                                                                                                                                                                                                                                                                                                           |
| OPTION\$     | NUMBER         |      | Indicates whether the privilege is granted with the <code>GRANT</code> option or the <code>ADMIN</code> option: <ul style="list-style-type: none"> <li>0 - Indicates that the privilege is granted without the <code>GRANT</code> option or <code>ADMIN</code> option</li> <li>1 - Indicates that the privilege is granted with the <code>GRANT</code> option or <code>ADMIN</code> option</li> </ul> |
| PATH         | GRANT_PATH     |      | Privilege grant paths                                                                                                                                                                                                                                                                                                                                                                                 |
| RUN_NAME     | VARCHAR2 (128) |      | The name of the run during which the privilege was reported                                                                                                                                                                                                                                                                                                                                           |

#### See Also:

- ["DBA\\_USED\\_PRIVS"](#)
- *Oracle Database Security Guide* for more information about privilege analysis
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure

## 7.89 DBA\_UNUSED\_SCHEMA\_PRIVS

`DBA_UNUSED_SCHEMA_PRIVS` lists the schema privileges (without privilege grant paths) that are not used for the privilege analysis policies reported by the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure.

This view provides access to analyzed privilege records in `SYS` tables.

You must have the `CAPTURE_ADMIN` role to access this view.

| Column   | Datatype       | NULL     | Description                                    |
|----------|----------------|----------|------------------------------------------------|
| CAPTURE  | VARCHAR2 (128) | NOT NULL | Name of a privilege analysis policy            |
| USERNAME | VARCHAR2 (128) |          | Name of the user whose privileges are reported |

| Column       | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                    |
|--------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ROLENAME     | VARCHAR2 (128) |      | Name of the role whose unused privileges are reported (for <code>ROLE</code> type privilege analysis or <code>ROLE AND CONTEXT</code> privilege analysis)                                                                                                                                                      |
| SCH_PRIV     | VARCHAR2 (40)  |      | Unused schema privilege                                                                                                                                                                                                                                                                                        |
| SCHEMA       | VARCHAR2 (128) |      | Schema on which the privilege was granted                                                                                                                                                                                                                                                                      |
| ADMIN_OPTION | NUMBER         |      | Indicates whether the privilege was granted with the <code>ADMIN</code> option: <ul style="list-style-type: none"><li>• 0 - Indicates that the privilege was granted without the <code>ADMIN</code> option</li><li>• 1 - Indicates that the privilege was granted with the <code>ADMIN</code> option</li></ul> |
| RUN_NAME     | VARCHAR2 (128) |      | The name of the run during which the privilege was reported                                                                                                                                                                                                                                                    |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- "[DBA\\_UNUSED\\_SCHEMA\\_PRIVS\\_PATH](#)" for privilege grant path information for unused schema privileges
- *Oracle Database Security Guide* for more information about privilege analysis
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure

## 7.90 DBA\_UNUSED\_SCHEMA\_PRIVS\_PATH

`DBA_UNUSED_SCHEMA_PRIVS_PATH` lists the schema privileges that are not used for the privilege analysis policies reported by the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure.

This view provides access to analyzed privilege records in `SYS` tables.

You must have the `CAPTURE_ADMIN` role to access this view.

| Column   | Datatype       | NULL     | Description                                                                                                                                               |
|----------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAPTURE  | VARCHAR2 (128) | NOT NULL | Name of a privilege analysis policy                                                                                                                       |
| USERNAME | VARCHAR2 (128) |          | Name of the user whose privileges are reported                                                                                                            |
| ROLENAME | VARCHAR2 (128) |          | Name of the role whose unused privileges are reported (for <code>ROLE</code> type privilege analysis or <code>ROLE AND CONTEXT</code> privilege analysis) |
| SCH_PRIV | VARCHAR2 (40)  |          | Unused schema privilege                                                                                                                                   |
| SCHEMA   | VARCHAR2 (128) |          | Schema on which the privilege was granted                                                                                                                 |

| Column       | Datatype       | NULL | Description                                                                                                                                                                                                                                                      |
|--------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADMIN_OPTION | NUMBER         |      | Indicates whether the privilege is granted with the ADMIN option: <ul style="list-style-type: none"><li>0 - Indicates that the privilege is granted without the ADMIN option</li><li>1 - Indicates that the privilege is granted with the ADMIN option</li></ul> |
| PATH         | GRANT_PATH     |      | Schema privilege grant paths                                                                                                                                                                                                                                     |
| RUN_NAME     | VARCHAR2 (128) |      | The name of the run during which the privilege was reported                                                                                                                                                                                                      |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_USED\\_SCHEMA\\_PRIVS\\_PATH"](#)
- ["DBA\\_UNUSED\\_SCHEMA\\_PRIVS"](#)
- *Oracle Database Security Guide* for more information about privilege analysis
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure

## 7.91 DBA\_UNUSED\_SYSPRIVS

DBA\_UNUSED\_SYSPRIVS lists the system privileges (without privilege grant paths) that are not used for the privilege analysis policies reported by the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure.

This view provides access to analyzed privilege records in SYS tables.

You must have the `CAPTURE_ADMIN` role to access this view.

| Column   | Datatype       | NULL     | Description                                                                                                                                               |
|----------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAPTURE  | VARCHAR2 (128) | NOT NULL | Name of a privilege analysis policy                                                                                                                       |
| USERNAME | VARCHAR2 (128) |          | Name of the user whose privileges are reported                                                                                                            |
| ROLENAME | VARCHAR2 (128) |          | Name of the role whose unused privileges are reported (for <code>ROLE</code> type privilege analysis or <code>ROLE AND CONTEXT</code> privilege analysis) |
| SYS_PRIV | VARCHAR2 (40)  |          | Unused system privilege                                                                                                                                   |

| Column       | Datatype       | NULL | Description                                                                                                                                                                                                                                                         |
|--------------|----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADMIN_OPTION | NUMBER         |      | Indicates whether the privilege is granted with the ADMIN option: <ul style="list-style-type: none"> <li>0 - Indicates that the privilege is granted without the ADMIN option</li> <li>1 - Indicates that the privilege is granted with the ADMIN option</li> </ul> |
| RUN_NAME     | VARCHAR2 (128) |      | The name of the run during which the privilege was reported                                                                                                                                                                                                         |

#### See Also:

- ["DBA\\_UNUSED\\_SYSPRIVS\\_PATH"](#) for privilege grant path information for unused system privileges
- *Oracle Database Security Guide* for more information about privilege analysis
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure

## 7.92 DBA\_UNUSED\_SYSPRIVS\_PATH

DBA\_UNUSED\_SYSPRIVS\_PATH lists the system privileges that are not used for the privilege analysis policies reported by the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure.

This view provides access to analyzed privilege records in SYS tables.

You must have the `CAPTURE_ADMIN` role to access this view.

| Column       | Datatype       | NULL     | Description                                                                                                                                                                                                                                                         |
|--------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAPTURE      | VARCHAR2 (128) | NOT NULL | Name of a privilege analysis policy                                                                                                                                                                                                                                 |
| USERNAME     | VARCHAR2 (128) |          | Name of the user whose privileges are reported                                                                                                                                                                                                                      |
| ROLENAME     | VARCHAR2 (128) |          | Name of the role whose unused privileges are reported (for <code>ROLE</code> type privilege analysis or <code>ROLE AND CONTEXT</code> privilege analysis)                                                                                                           |
| SYS_PRIV     | VARCHAR2 (40)  |          | Unused system privilege                                                                                                                                                                                                                                             |
| ADMIN_OPTION | NUMBER         |          | Indicates whether the privilege is granted with the ADMIN option: <ul style="list-style-type: none"> <li>0 - Indicates that the privilege is granted without the ADMIN option</li> <li>1 - Indicates that the privilege is granted with the ADMIN option</li> </ul> |
| PATH         | GRANT_PATH     |          | System privilege grant paths                                                                                                                                                                                                                                        |
| RUN_NAME     | VARCHAR2 (128) |          | The name of the run during which the privilege was reported                                                                                                                                                                                                         |

 **See Also:**

- ["DBA\\_USED\\_SYSPRIVS\\_PATH"](#)
- ["DBA\\_UNUSED\\_SYSPRIVS"](#)
- *Oracle Database Security Guide* for more information about privilege analysis
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure

## 7.93 DBA\_UNUSED\_USERPRIVS

`DBA_UNUSED_USERPRIVS` lists the user privileges (without privilege grant paths) that are not used for the privilege analysis policies reported by the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure.

This view provides access to analyzed privilege records in `SYS` tables.

You must have the `CAPTURE_ADMIN` role to access this view.

| Column       | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                 |
|--------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAPTURE      | VARCHAR2 (128) | NOT NULL | Name of a privilege analysis policy                                                                                                                                                                                                                                                                         |
| USERNAME     | VARCHAR2 (128) |          | Name of the user whose privileges are reported                                                                                                                                                                                                                                                              |
| ROLENAME     | VARCHAR2 (128) |          | Name of the role whose unused privileges are reported (for <code>ROLE</code> type privilege analysis or <code>ROLE AND CONTEXT</code> privilege analysis)                                                                                                                                                   |
| USER_PRIV    | VARCHAR2 (25)  |          | Unused user privilege                                                                                                                                                                                                                                                                                       |
| ONUSER       | VARCHAR2 (128) |          | The user whose user privileges the grantee can exercise                                                                                                                                                                                                                                                     |
| GRANT_OPTION | NUMBER         |          | Indicates whether the privilege is granted with the <code>GRANT</code> option: <ul style="list-style-type: none"><li>• 0 - Indicates that the privilege is granted without the <code>GRANT</code> option</li><li>• 1 - Indicates that the privilege is granted with the <code>GRANT</code> option</li></ul> |
| RUN_NAME     | VARCHAR2 (128) |          | The name of the run during which the privilege was reported                                                                                                                                                                                                                                                 |

 **See Also:**

- *Oracle Database Security Guide* for more information about privilege analysis
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure

## 7.94 DBA\_UNUSED\_USERPRIVS\_PATH

DBA\_UNUSED\_USERPRIVS\_PATH lists the user privileges that are not used for the privilege analysis policies reported by the DBMS\_PRIVILEGE\_CAPTURE.GENERATE\_RESULT procedure.

This view provides access to analyzed privilege records in SYS tables.

You must have the CAPTURE\_ADMIN role to access this view.

| Column       | Datatype       | NULL     | Description                                                                                                                                                                                                                                                      |
|--------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAPTURE      | VARCHAR2 (128) | NOT NULL | Name of a privilege analysis policy                                                                                                                                                                                                                              |
| USERNAME     | VARCHAR2 (128) |          | Name of the user whose privileges are reported                                                                                                                                                                                                                   |
| ROLENAME     | VARCHAR2 (128) |          | Name of the role whose unused privileges are reported (for ROLE type privilege analysis or ROLE AND CONTEXT privilege analysis)                                                                                                                                  |
| USER_PRIV    | VARCHAR2 (25)  |          | Unused user privilege                                                                                                                                                                                                                                            |
| ONUSER       | VARCHAR2 (128) |          | The user whose user privileges the grantee can exercise                                                                                                                                                                                                          |
| GRANT_OPTION | NUMBER         |          | Indicates whether the privilege is granted with the GRANT option: <ul style="list-style-type: none"><li>0 - Indicates that the privilege is granted without the GRANT option</li><li>1 - Indicates that the privilege is granted with the GRANT option</li></ul> |
| PATH         | GRANT_PATH     |          | User privilege grant paths                                                                                                                                                                                                                                       |
| RUN_NAME     | VARCHAR2 (128) |          | The name of the run during which the privilege was reported                                                                                                                                                                                                      |

### See Also:

- *Oracle Database Security Guide* for more information about privilege analysis
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_PRIVILEGE\_CAPTURE.GENERATE\_RESULT procedure

## 7.95 DBA\_UPDATABLE\_COLUMNS

DBA\_UPDATABLE\_COLUMNS describes all columns in a join view that can be updated by the database administrator, subject to appropriate privileges. Its columns are the same as those in ALL\_UPDATABLE\_COLUMNS.

### See Also:

- ["ALL\\_UPDATABLE\\_COLUMNS"](#)
- *Oracle Database Concepts* for information on updatable join views

## 7.96 DBA\_USED\_OBJPRIVS

DBA\_USED\_OBJPRIVS lists the object privileges (without privilege grant paths) that are used for the privilege analysis policies reported by the DBMS\_PRIVILEGE\_CAPTURE.GENERATE\_RESULT procedure.

This view provides access to analyzed privilege records in SYS tables.

You must have the CAPTURE\_ADMIN role to access this view.

| Column       | Datatype       | NULL     | Description                                                                                                                                                                                            |
|--------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAPTURE      | VARCHAR2 (128) | NOT NULL | Name of the privilege analysis policy                                                                                                                                                                  |
| SEQUENCE     | NUMBER         | NOT NULL | The sequence number of the privilege analysis run during which the privilege was reported                                                                                                              |
| OS_USER      | VARCHAR2 (128) |          | Operating system login username                                                                                                                                                                        |
| USERHOST     | VARCHAR2 (128) |          | Client host machine name                                                                                                                                                                               |
| MODULE       | VARCHAR2 (64)  |          | Module name                                                                                                                                                                                            |
| USERNAME     | VARCHAR2 (128) | NOT NULL | Name of the user whose privilege was reported                                                                                                                                                          |
| USED_ROLE    | VARCHAR2 (128) |          | Used role                                                                                                                                                                                              |
| OBJ_PRIV     | VARCHAR2 (40)  |          | Used object privilege                                                                                                                                                                                  |
| OBJECT_OWNER | VARCHAR2 (128) |          | Object owner                                                                                                                                                                                           |
| OBJECT_NAME  | VARCHAR2 (128) |          | Name of the object that OBJ_PRIV was used to access                                                                                                                                                    |
| OBJECT_TYPE  | VARCHAR2 (23)  |          | Type of the object that OBJ_PRIV was used to access                                                                                                                                                    |
| COLUMN_NAME  | VARCHAR2 (128) |          | Name of the column that OBJ_PRIV was used to access                                                                                                                                                    |
| GRANT_OPTION | NUMBER         |          | Indicates whether the GRANT option was used: <ul style="list-style-type: none"><li>• 0 - Indicates that the GRANT option was not used</li><li>• 1 - Indicates that the GRANT option was used</li></ul> |
| RUN_NAME     | VARCHAR2 (128) |          | The name of the run during which the privilege was reported                                                                                                                                            |

### See Also:

- ["DBA\\_USED\\_OBJPRIVS\\_PATH"](#) for privilege grant path information for used object privileges
- *Oracle Database Security Guide* for more information about privilege analysis
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_PRIVILEGE\_CAPTURE.GENERATE\_RESULT procedure

## 7.97 DBA\_USED\_OBJPRIVS\_PATH

DBA\_USED\_OBJPRIVS\_PATH lists the object privileges that are used for the privilege analysis policies reported by the DBMS\_PRIVILEGE\_CAPTURE.GENERATE\_RESULT procedure.

This view provides access to analyzed privilege records in SYS tables.



You must have the `CAPTURE_ADMIN` role to access this view.

| Column       | Datatype       | NULL     | Description                                                                                                                                                                                                                                  |
|--------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAPTURE      | VARCHAR2 (128) | NOT NULL | Name of the privilege analysis policy                                                                                                                                                                                                        |
| SEQUENCE     | NUMBER         | NOT NULL | The sequence number of the privilege analysis run during which the privilege was reported                                                                                                                                                    |
| OS_USER      | VARCHAR2 (128) |          | Operating system login username                                                                                                                                                                                                              |
| USERHOST     | VARCHAR2 (128) |          | Client host machine name                                                                                                                                                                                                                     |
| MODULE       | VARCHAR2 (64)  |          | Module name                                                                                                                                                                                                                                  |
| USERNAME     | VARCHAR2 (128) | NOT NULL | Name of the user whose privilege was reported                                                                                                                                                                                                |
| USED_ROLE    | VARCHAR2 (128) |          | Used role                                                                                                                                                                                                                                    |
| OBJ_PRIV     | VARCHAR2 (40)  |          | Used object privilege                                                                                                                                                                                                                        |
| OBJECT_OWNER | VARCHAR2 (128) |          | Object owner                                                                                                                                                                                                                                 |
| OBJECT_NAME  | VARCHAR2 (128) |          | Name of the object that <code>OBJ_PRIV</code> is used to access                                                                                                                                                                              |
| OBJECT_TYPE  | VARCHAR2 (23)  |          | Type of the object that <code>OBJ_PRIV</code> is used to access                                                                                                                                                                              |
| COLUMN_NAME  | VARCHAR2 (128) |          | Name of the column that <code>OBJ_PRIV</code> is used to access                                                                                                                                                                              |
| GRANT_OPTION | NUMBER         |          | Indicates whether the <code>GRANT</code> option was used: <ul style="list-style-type: none"> <li>0 - Indicates that the <code>GRANT</code> option was not used</li> <li>1 - Indicates that the <code>GRANT</code> option was used</li> </ul> |
| PATH         | GRANT_PATH     |          | Object privilege grant paths                                                                                                                                                                                                                 |
| RUN_NAME     | VARCHAR2 (128) |          | The name of the run during which the privilege was reported                                                                                                                                                                                  |



#### See Also:

- ["DBA\\_UNUSED\\_OBJPRIVS\\_PATH"](#)
- ["DBA\\_USED\\_OBJPRIVS"](#)
- *Oracle Database Security Guide* for more information about privilege analysis
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure

## 7.98 DBA\_USED\_PRIVS

`DBA_USED_PRIVS` lists the privileges that are used for the privilege analysis policies reported by the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure.

This view provides access to analyzed privilege records in `SYS` tables.

You must have the `CAPTURE_ADMIN` role to access this view.

| Column   | Datatype       | NULL     | Description                                                                               |
|----------|----------------|----------|-------------------------------------------------------------------------------------------|
| CAPTURE  | VARCHAR2 (128) | NOT NULL | Name of a privilege analysis policy                                                       |
| SEQUENCE | NUMBER         | NOT NULL | The sequence number of the privilege analysis run during which the privilege was reported |

| Column       | Datatype       | NULL     | Description                                                                                                                                                                                                                                               |
|--------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OS_USER      | VARCHAR2 (128) |          | Operating system login username                                                                                                                                                                                                                           |
| USERHOST     | VARCHAR2 (128) |          | Client host machine name                                                                                                                                                                                                                                  |
| MODULE       | VARCHAR2 (64)  |          | Module name                                                                                                                                                                                                                                               |
| USERNAME     | VARCHAR2 (128) | NOT NULL | Name of the user whose privilege was reported                                                                                                                                                                                                             |
| USED_ROLE    | VARCHAR2 (128) |          | Used role                                                                                                                                                                                                                                                 |
| SYS_PRIV     | VARCHAR2 (40)  |          | Used system privilege                                                                                                                                                                                                                                     |
| SCH_PRIV     | VARCHAR2 (40)  |          | Used schema privilege                                                                                                                                                                                                                                     |
| OBJ_PRIV     | VARCHAR2 (40)  |          | Used object privilege                                                                                                                                                                                                                                     |
| USER_PRIV    | VARCHAR2 (25)  |          | Used user privilege                                                                                                                                                                                                                                       |
| OBJECT_OWNER | VARCHAR2 (128) |          | Object owner                                                                                                                                                                                                                                              |
| OBJECT_NAME  | VARCHAR2 (128) |          | Name of the object or user that OBJ_PRIV or USER_PRIV is used to access                                                                                                                                                                                   |
| OBJECT_TYPE  | VARCHAR2 (23)  |          | Type of the object or user that OBJ_PRIV or USER_PRIV is used to access                                                                                                                                                                                   |
| COLUMN_NAME  | VARCHAR2 (128) |          | Name of the column that OBJ_PRIV is used to access                                                                                                                                                                                                        |
| OPTIONS      | NUMBER         |          | Indicates whether the GRANT option or the ADMIN option was used: <ul style="list-style-type: none"> <li>0 - Indicates that the GRANT option or ADMIN option was not used</li> <li>1 - Indicates that the GRANT option or ADMIN option was used</li> </ul> |
| PATH         | GRANT_PATH     |          | Used privilege grant paths                                                                                                                                                                                                                                |
| RUN_NAME     | VARCHAR2 (128) |          | The name of the run during which the privilege was reported                                                                                                                                                                                               |

#### See Also:

- ["DBA\\_UNUSED\\_PRIVS"](#)
- *Oracle Database Security Guide* for more information about privilege analysis
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_PRIVILEGE\_CAPTURE.GENERATE\_RESULT procedure

## 7.99 DBA\_USED\_PUBPRIVS

DBA\_USED\_PUBPRIVS lists the privileges that are used from the PUBLIC role for the privilege analysis policies reported by the DBMS\_PRIVILEGE\_CAPTURE.GENERATE\_RESULT procedure.

This view provides access to analyzed privilege records in SYS tables.

You must have the CAPTURE\_ADMIN role to access this view.

| Column  | Datatype       | NULL     | Description                         |
|---------|----------------|----------|-------------------------------------|
| CAPTURE | VARCHAR2 (128) | NOT NULL | Name of a privilege analysis policy |

| Column       | Datatype       | NULL     | Description                                                                                                                                                                                                                                               |
|--------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SEQUENCE     | NUMBER         | NOT NULL | The sequence number of the privilege analysis run during which the privilege was reported                                                                                                                                                                 |
| OS_USER      | VARCHAR2 (128) |          | Operating system login username                                                                                                                                                                                                                           |
| USERHOST     | VARCHAR2 (128) |          | Client host machine name                                                                                                                                                                                                                                  |
| MODULE       | VARCHAR2 (64)  |          | Module name                                                                                                                                                                                                                                               |
| USERNAME     | VARCHAR2 (128) | NOT NULL | Name of the user who used the privilege from the PUBLIC role                                                                                                                                                                                              |
| SYS_PRIV     | VARCHAR2 (40)  |          | Used system privilege                                                                                                                                                                                                                                     |
| SCH_PRIV     | VARCHAR2 (40)  |          | Used schema privilege                                                                                                                                                                                                                                     |
| OBJ_PRIV     | VARCHAR2 (40)  |          | Used object privilege                                                                                                                                                                                                                                     |
| OBJECT_OWNER | VARCHAR2 (128) |          | Object owner                                                                                                                                                                                                                                              |
| OBJECT_NAME  | VARCHAR2 (128) |          | Name of the object that OBJ_PRIV is used to access                                                                                                                                                                                                        |
| OBJECT_TYPE  | VARCHAR2 (23)  |          | Type of the object that OBJ_PRIV is used to access                                                                                                                                                                                                        |
| OPTION\$     | NUMBER         |          | Indicates whether the GRANT option or the ADMIN option was used: <ul style="list-style-type: none"> <li>0 - Indicates that the GRANT option or ADMIN option was not used</li> <li>1 - Indicates that the GRANT option or ADMIN option was used</li> </ul> |
| RUN_NAME     | VARCHAR2 (128) |          | The name of the run during which the privilege was reported                                                                                                                                                                                               |



#### See Also:

- *Oracle Database Security Guide* for more information about privilege analysis
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_PRIVILEGE\_CAPTURE.GENERATE\_RESULT procedure

## 7.100 DBA\_USED\_SCHEMA\_PRIVS

DBA\_USED\_SCHEMA\_PRIVS lists the schema privileges (without privilege grant paths) that are used for the privilege analysis policies reported by the DBMS\_PRIVILEGE\_CAPTURE.GENERATE\_RESULT procedure.

This view provides access to analyzed privilege records in SYS tables.

You must have the CAPTURE\_ADMIN role to access this view.

| Column   | Datatype       | NULL     | Description                                                                           |
|----------|----------------|----------|---------------------------------------------------------------------------------------|
| CAPTURE  | VARCHAR2 (128) | NOT NULL | Name of a privilege analysis policy                                                   |
| SEQUENCE | NUMBER         | NOT NULL | The sequence number of the privilege analysis run during which the privilege was used |
| OS_USER  | VARCHAR2 (128) |          | Operating system login username                                                       |

| Column       | Datatype       | NULL     | Description                                                                                                                                                                                           |
|--------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USERHOST     | VARCHAR2 (128) |          | Client host machine name                                                                                                                                                                              |
| MODULE       | VARCHAR2 (64)  |          | Module name                                                                                                                                                                                           |
| USERNAME     | VARCHAR2 (128) | NOT NULL | Name of the user whose privilege was reported                                                                                                                                                         |
| USED_ROLE    | VARCHAR2 (128) |          | Used role                                                                                                                                                                                             |
| SCH_PRIV     | VARCHAR2 (40)  |          | Used schema privilege                                                                                                                                                                                 |
| SCHEMA       | VARCHAR2 (128) |          | Schema on which the privilege was granted                                                                                                                                                             |
| ADMIN_OPTION | NUMBER         |          | Indicates whether the ADMIN option was used: <ul style="list-style-type: none"> <li>0 - Indicates that the ADMIN option was not used</li> <li>1 - Indicates that the ADMIN option was used</li> </ul> |
| RUN_NAME     | VARCHAR2 (128) |          | The name of the run during which the privilege was reported                                                                                                                                           |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_USED\\_SCHEMA\\_PRIVS\\_PATH"](#) for privilege grant path information for used schema privileges
- *Oracle Database Security Guide* for more information about privilege analysis
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure

## 7.101 DBA\_USED\_SCHEMA\_PRIVS\_PATH

DBA\_USED\_SCHEMA\_PRIVS\_PATH lists the schema privileges that are used for the privilege analysis policies reported by the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure.

This view provides access to analyzed privilege records in SYS tables.

You must have the `CAPTURE_ADMIN` role to access this view.

| Column   | Datatype       | NULL     | Description                                                                               |
|----------|----------------|----------|-------------------------------------------------------------------------------------------|
| CAPTURE  | VARCHAR2 (128) | NOT NULL | Name of a privilege analysis policy                                                       |
| SEQUENCE | NUMBER         | NOT NULL | The sequence number of the privilege analysis run during which the privilege was reported |
| OS_USER  | VARCHAR2 (128) |          | Operating system login username                                                           |
| USERHOST | VARCHAR2 (128) |          | Client host machine name                                                                  |
| MODULE   | VARCHAR2 (64)  |          | Module name                                                                               |
| USERNAME | VARCHAR2 (128) | NOT NULL | Name of the user whose privilege was reported                                             |

| Column       | Datatype       | NULL | Description                                                                                                                                                                                            |
|--------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USED_ROLE    | VARCHAR2 (128) |      | Used role                                                                                                                                                                                              |
| SCH_PRIV     | VARCHAR2 (40)  |      | Used schema privilege                                                                                                                                                                                  |
| SCHEMA       | VARCHAR2 (128) |      | Schema on which the privilege was granted                                                                                                                                                              |
| ADMIN_OPTION | NUMBER         |      | Indicates whether the ADMIN option was used: <ul style="list-style-type: none"><li>• 0 - Indicates that the ADMIN option was not used</li><li>• 1 - Indicates that the ADMIN option was used</li></ul> |
| PATH         | GRANT_PATH     |      | Schema privilege grant paths                                                                                                                                                                           |
| RUN_NAME     | VARCHAR2 (128) |      | The name of the run during which the privilege was reported                                                                                                                                            |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_UNUSED\\_SCHEMA\\_PRIVS\\_PATH"](#)
- ["DBA\\_USED\\_SCHEMA\\_PRIVS"](#)
- *Oracle Database Security Guide* for more information about privilege analysis
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure

## 7.102 DBA\_USED\_SYSPRIVS

DBA\_USED\_SYSPRIVS lists the system privileges (without privilege grant paths) that are used for the privilege analysis policies reported by the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure.

This view provides access to analyzed privilege records in `SYS` tables.

You must have the `CAPTURE_ADMIN` role to access this view.

| Column    | Datatype       | NULL     | Description                                                                           |
|-----------|----------------|----------|---------------------------------------------------------------------------------------|
| CAPTURE   | VARCHAR2 (128) | NOT NULL | Name of a privilege analysis policy                                                   |
| SEQUENCE  | NUMBER         | NOT NULL | The sequence number of the privilege analysis run during which the privilege was used |
| OS_USER   | VARCHAR2 (128) |          | Operating system login username                                                       |
| USERHOST  | VARCHAR2 (128) |          | Client host machine name                                                              |
| MODULE    | VARCHAR2 (64)  |          | Module name                                                                           |
| USERNAME  | VARCHAR2 (128) | NOT NULL | Name of the user whose privilege was reported                                         |
| USED_ROLE | VARCHAR2 (128) |          | Used role                                                                             |

| Column       | Datatype       | NULL | Description                                                                                                                                                                                           |
|--------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SYS_PRIV     | VARCHAR2 (40)  |      | Used system privilege                                                                                                                                                                                 |
| ADMIN_OPTION | NUMBER         |      | Indicates whether the ADMIN option was used: <ul style="list-style-type: none"> <li>0 - Indicates that the ADMIN option was not used</li> <li>1 - Indicates that the ADMIN option was used</li> </ul> |
| RUN_NAME     | VARCHAR2 (128) |      | The name of the run during which the privilege was reported                                                                                                                                           |

#### See Also:

- ["DBA\\_USED\\_SYSPRIVS\\_PATH"](#) for privilege grant path information for used system privileges
- *Oracle Database Security Guide* for more information about privilege analysis
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure

## 7.103 DBA\_USED\_SYSPRIVS\_PATH

DBA\_USED\_SYSPRIVS\_PATH lists the system privileges that are used for the privilege analysis policies reported by the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure.

This view provides access to analyzed privilege records in SYS tables.

You must have the `CAPTURE_ADMIN` role to access this view.

| Column       | Datatype       | NULL     | Description                                                                                                                                                                                           |
|--------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAPTURE      | VARCHAR2 (128) | NOT NULL | Name of a privilege analysis policy                                                                                                                                                                   |
| SEQUENCE     | NUMBER         | NOT NULL | The sequence number of the privilege analysis run during which the privilege was reported                                                                                                             |
| OS_USER      | VARCHAR2 (128) |          | Operating system login username                                                                                                                                                                       |
| USERHOST     | VARCHAR2 (128) |          | Client host machine name                                                                                                                                                                              |
| MODULE       | VARCHAR2 (64)  |          | Module name                                                                                                                                                                                           |
| USERNAME     | VARCHAR2 (128) | NOT NULL | Name of the user whose privilege was reported                                                                                                                                                         |
| USED_ROLE    | VARCHAR2 (128) |          | Used role                                                                                                                                                                                             |
| SYS_PRIV     | VARCHAR2 (40)  |          | Used system privilege                                                                                                                                                                                 |
| ADMIN_OPTION | NUMBER         |          | Indicates whether the ADMIN option was used: <ul style="list-style-type: none"> <li>0 - Indicates that the ADMIN option was not used</li> <li>1 - Indicates that the ADMIN option was used</li> </ul> |
| PATH         | GRANT_PATH     |          | System privilege grant paths                                                                                                                                                                          |
| RUN_NAME     | VARCHAR2 (128) |          | The name of the run during which the privilege was reported                                                                                                                                           |

 **See Also:**

- ["DBA\\_UNUSED\\_SYSPRIVS\\_PATH"](#)
- ["DBA\\_USED\\_SYSPRIVS"](#)
- *Oracle Database Security Guide* for more information about privilege analysis
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure

## 7.104 DBA\_USED\_USERPRIVS

`DBA_USED_USERPRIVS` lists the user privileges (without privilege grant paths) that are used for the privilege analysis policies reported by the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure.

This view provides access to analyzed privilege records in `SYS` tables.

You must have the `CAPTURE_ADMIN` role to access this view.

| Column       | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                 |
|--------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAPTURE      | VARCHAR2 (128) | NOT NULL | Name of a privilege analysis policy                                                                                                                                                                                                                                                                         |
| SEQUENCE     | NUMBER         | NOT NULL | The sequence number of the privilege analysis run during which the privilege was reported                                                                                                                                                                                                                   |
| OS_USER      | VARCHAR2 (128) |          | Operating system login username                                                                                                                                                                                                                                                                             |
| USERHOST     | VARCHAR2 (128) |          | Client host machine name                                                                                                                                                                                                                                                                                    |
| MODULE       | VARCHAR2 (64)  |          | Module name                                                                                                                                                                                                                                                                                                 |
| USERNAME     | VARCHAR2 (128) | NOT NULL | Name of the user whose privilege was reported                                                                                                                                                                                                                                                               |
| USED_ROLE    | VARCHAR2 (128) |          | Used role                                                                                                                                                                                                                                                                                                   |
| USER_PRIV    | VARCHAR2 (25)  |          | Used user privilege                                                                                                                                                                                                                                                                                         |
| ONUSER       | VARCHAR2 (128) |          | The user whose user privileges the grantee can exercise                                                                                                                                                                                                                                                     |
| GRANT_OPTION | NUMBER         |          | Indicates whether the privilege is granted with the <code>GRANT</code> option: <ul style="list-style-type: none"><li>• 0 - Indicates that the privilege is granted without the <code>GRANT</code> option</li><li>• 1 - Indicates that the privilege is granted with the <code>GRANT</code> option</li></ul> |
| RUN_NAME     | VARCHAR2 (128) |          | The name of the run during which the privilege was reported                                                                                                                                                                                                                                                 |

 **See Also:**

- *Oracle Database Security Guide* for more information about privilege analysis
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_PRIVILEGE_CAPTURE.GENERATE_RESULT` procedure

## 7.105 DBA\_USED\_USERPRIVS\_PATH

DBA\_USED\_USERPRIVS\_PATH lists the user privileges that are used for the privilege analysis policies reported by the DBMS\_PRIVILEGE\_CAPTURE.GENERATE\_RESULT procedure.

This view provides access to analyzed privilege records in SYS tables.

You must have the CAPTURE\_ADMIN role to access this view.

| Column       | Datatype       | NULL     | Description                                                                                                                                                                                                                                                      |
|--------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAPTURE      | VARCHAR2 (128) | NOT NULL | Name of a privilege analysis policy                                                                                                                                                                                                                              |
| SEQUENCE     | NUMBER         | NOT NULL | The sequence number of the privilege analysis run during which the privilege was reported                                                                                                                                                                        |
| OS_USER      | VARCHAR2 (128) |          | Operating system login username                                                                                                                                                                                                                                  |
| USERHOST     | VARCHAR2 (128) |          | Client host machine name                                                                                                                                                                                                                                         |
| MODULE       | VARCHAR2 (64)  |          | Module name                                                                                                                                                                                                                                                      |
| USERNAME     | VARCHAR2 (128) | NOT NULL | Name of the user whose privilege was reported                                                                                                                                                                                                                    |
| USED_ROLE    | VARCHAR2 (128) |          | Used role                                                                                                                                                                                                                                                        |
| USER_PRIV    | VARCHAR2 (25)  |          | Used user privilege                                                                                                                                                                                                                                              |
| ONUSER       | VARCHAR2 (128) |          | The user whose user privileges the grantee can exercise                                                                                                                                                                                                          |
| GRANT_OPTION | NUMBER         |          | Indicates whether the privilege is granted with the GRANT option: <ul style="list-style-type: none"><li>0 - Indicates that the privilege is granted without the GRANT option</li><li>1 - Indicates that the privilege is granted with the GRANT option</li></ul> |
| PATH         | GRANT_PATH     |          | User privilege grant paths                                                                                                                                                                                                                                       |
| RUN_NAME     | VARCHAR2 (128) |          | The name of the run during which the privilege was reported                                                                                                                                                                                                      |

### See Also:

- *Oracle Database Security Guide* for more information about privilege analysis
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_PRIVILEGE\_CAPTURE.GENERATE\_RESULT procedure

## 7.106 DBA\_USERS

DBA\_USERS describes all users of the database.

### Related View

USER\_USERS describes the current user. This view does not display the PASSWORD, PROFILE, PASSWORD\_VERSIONS, EDITIONS\_ENABLED, AUTHENTICATION\_TYPE, and LAST\_LOGIN columns.



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| Column   | Datatype        | NULL     | Description                                                          |
|----------|-----------------|----------|----------------------------------------------------------------------|
| USERNAME | VARCHAR2 (128)  | NOT NULL | Name of the user                                                     |
| USER_ID  | NUMBER          | NOT NULL | ID number of the user                                                |
| PASSWORD | VARCHAR2 (4000) |          | This column is deprecated in favor of the AUTHENTICATION_TYPE column |

| Column         | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACCOUNT_STATUS | VARCHAR2 (32) | NOT NULL | <p>Account status:</p> <ul style="list-style-type: none"> <li>• OPEN<br/>The account is open.</li> <li>• EXPIRED<br/>The password for the account is expired, either because the PASSWORD_LIFE_TIME limit was reached or because the password was expired by the ALTER USER ... PASSWORD EXPIRE command. The user can log in with the expired password, then change the password.</li> <li>• EXPIRED (GRACE)<br/>The password for the account is expired because the PASSWORD_LIFE_TIME limit was reached, but the password change grace period (PASSWORD_GRACE_TIME) has not yet elapsed. The user can log in with the expired password, but will receive an ORA-28002 warning as a reminder that the password must soon be changed. If the PASSWORD_GRACE_TIME elapses, the user can log in with the expired password, then change the password.</li> <li>• LOCKED<br/>The account is locked, either by the ALTER USER ... ACCOUNT LOCK command, or because the number of consecutive failed login attempts exceeded the FAILED_LOGIN_ATTEMPTS limit and the value of PASSWORD_LOCK_TIME is UNLIMITED. The account can be unlocked by the ALTER USER ... ACCOUNT UNLOCK command.</li> <li>• LOCKED (TIMED)<br/>The account is locked because the number of consecutive failed login attempts exceeded the FAILED_LOGIN_ATTEMPTS limit and the PASSWORD_LOCK_TIME has not yet elapsed. The account can be unlocked either by the ALTER USER ... ACCOUNT UNLOCK command or by waiting until the PASSWORD_LOCK_TIME has elapsed.</li> <li>• EXPIRED &amp; LOCKED<br/>The password for the account is expired, as described for the EXPIRED account status, and the account is locked as described for the LOCKED account status. The account can first be unlocked as described for the LOCKED account status, then the password can be changed as described for the EXPIRED account status.</li> <li>• EXPIRED (GRACE) &amp; LOCKED<br/>The password for the account is expired, as described for the EXPIRED (GRACE) account status, and the account is locked as described for the LOCKED account status. The account can first be unlocked as described for the LOCKED account status, then the password can be changed as described for the EXPIRED (GRACE) account status.</li> <li>• EXPIRED &amp; LOCKED (TIMED)<br/>The password for the account is expired, as described for the EXPIRED account status, and the</li> </ul> |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------|----------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |          |      | <p>account is locked as described for the <code>LOCKED (TIMED)</code> account status. The account can first be unlocked as described for the <code>LOCKED (TIMED)</code> account status, then the password can be changed as described for the <code>EXPIRED</code> account status.</p> <ul style="list-style-type: none"> <li>• <code>EXPIRED (GRACE) &amp; LOCKED (TIMED)</code><br/> The password for the account is expired, as described for the <code>EXPIRED (GRACE)</code> account status, and the account is locked as described for the <code>LOCKED (TIMED)</code> account status. The account can first be unlocked as described for the <code>LOCKED (TIMED)</code> account status, then the password can be changed as described for the <code>EXPIRED (GRACE)</code> account status.</li> <li>• <code>OPEN &amp; IN ROLLOVER</code><br/> The account is in the password rollover period. The user can log in with either the earlier password or the new password. However, at the time the user logs in, the server recalculates whether the account is still in its password rollover period. If the password rollover period has elapsed, then the login will succeed only if the new password was specified, and the account status will change to <code>OPEN</code>.</li> <li>• <code>EXPIRED &amp; IN ROLLOVER</code><br/> The account is in the password rollover period and the password is expired as described for the <code>EXPIRED</code> account status. The user can log in with either the earlier password or the new password. However, at the time the user logs in, the server recalculates whether the account is still in its password rollover period. If the password rollover period has elapsed, then the login will succeed only if the new password was specified, and the account status will change to <code>EXPIRED</code>. After logging in, the user will be prompted to change the password.</li> <li>• <code>LOCKED &amp; IN ROLLOVER</code><br/> The account is in the password rollover period and is also locked as described for the <code>LOCKED</code> account status. The account can be unlocked as described for the <code>LOCKED</code> account status, after which the user can log in as described for the <code>OPEN &amp; IN ROLLOVER</code> account status.</li> <li>• <code>EXPIRED &amp; LOCKED &amp; IN ROLLOVER</code><br/> The account is in the password rollover period, its password is expired as described for the <code>EXPIRED</code> account status, and the account is locked as described for the <code>LOCKED</code> account status. The account can be unlocked as described for the <code>LOCKED</code> account status, after which the user can log in as described for the <code>EXPIRED &amp; IN ROLLOVER</code> account status.</li> <li>• <code>LOCKED (TIMED) &amp; IN ROLLOVER</code><br/> The account is in the password rollover period and is also locked as described for the</li> </ul> |

| Column                      | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             |                 |          | <p>LOCKED (TIMED) account status. The account can be unlocked as described for the LOCKED (TIMED) account status, after which the user can log in with either the earlier password or the new password. However, at the time the user logs in, the server recalculates whether the account is still in its password rollover period. If the password rollover period has elapsed, then the login will succeed only if the new password was specified.</p> <ul style="list-style-type: none"> <li>EXPIRED &amp; LOCKED (TIMED) &amp; IN ROL</li> </ul> <p>The account is in the password rollover period, its password is expired as described for the EXPIRED account status, and the account is locked as described for the LOCKED (TIMED) account status. The account can be unlocked as described for the LOCKED (TIMED) account status, after which the user can log in as described for the EXPIRED &amp; IN ROLLOVER account status.</p> |
| LOCK_DATE                   | DATE            |          | Date the account was locked if account status was LOCKED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| EXPIRY_DATE                 | DATE            |          | Date of expiration of the account                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| DEFAULT_TABLESPACE          | VARCHAR2 (30)   | NOT NULL | Default tablespace for data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TEMPORARY_TABLESPACE        | VARCHAR2 (30)   | NOT NULL | Name of the default tablespace for temporary tables or the name of a tablespace group                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| LOCAL_TEMP_TABLESPACE       | VARCHAR2 (30)   |          | Default local temporary tablespace for the user                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CREATED                     | DATE            | NOT NULL | User creation date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| PROFILE                     | VARCHAR2 (128)  | NOT NULL | User resource profile name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| INITIAL_RSRC_CONSUMER_GROUP | VARCHAR2 (128)  |          | Initial resource consumer group for the user                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| EXTERNAL_NAME               | VARCHAR2 (4000) |          | User external name. For centrally managed users, if the database user mapping is an exclusive mapping, then this will be the directory service DN for the user. If this database user is a shared schema, it will be the DN of a group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PASSWORD_VERSIONS           | VARCHAR2 (12)   |          | <p>Shows the list of versions of the password hashes (also known as "verifiers") existing for the account. The values for this column can include:</p> <ul style="list-style-type: none"> <li>11G: If a SHA-1 hash exists</li> <li>12C: If a de-optimized PBKDF2-based hash exists</li> <li>HTTP: If an MD5 hash (for HTTP Digest authentication) exists</li> </ul> <p>For more information about the 12C verifier, see <i>Oracle Database Concepts</i>.</p> <p>Note that any combination of these verifiers can exist for any given account.</p>                                                                                                                                                                                                                                                                                                                                                                                              |
| EDITIONS_ENABLED            | VARCHAR2 (1)    |          | Indicates whether editions have been enabled for the corresponding user (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Column              | Datatype                     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------|------------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AUTHENTICATION_TYPE | VARCHAR2 (8)                 |      | <p>Indicates the authentication mechanism for the user:</p> <ul style="list-style-type: none"> <li>NONE - The user has not been configured for an authentication method</li> <li>EXTERNAL - CREATE USER <i>user1</i> IDENTIFIED EXTERNALLY;</li> <li>GLOBAL - CREATE USER <i>user2</i> IDENTIFIED GLOBALLY;</li> <li>PASSWORD - CREATE USER <i>user3</i> IDENTIFIED BY <i>password</i>;</li> </ul>                                                                                                                                                   |
| PROXY_ONLY_CONNECT  | VARCHAR2 (1)                 |      | <p>Indicates whether a user can connect directly (N) or whether the account can only be proxied (Y) by users who have proxy privileges for this account (that is, by users who have been granted the "connect through" privilege for this account).</p> <p><b>Note:</b> Setting PROXY_ONLY_CONNECT for users is deprecated in this release, and may be desupported in a future release. Oracle recommends that you instead use schema-only accounts. For more information about schema-only accounts, see <i>Oracle Database Security Guide</i>.</p> |
| COMMON              | VARCHAR2 (3)                 |      | <p>Indicates whether a given user is common. Possible values</p> <ul style="list-style-type: none"> <li>YES if a user is common</li> <li>NO if a user is local (not common)</li> </ul>                                                                                                                                                                                                                                                                                                                                                               |
| LAST_LOGIN          | TIMESTAMP (9) WITH TIME ZONE |      | <p>The time of the last user login</p> <p>This column is not populated when a user connects to the database with administrative privileges, that is, AS { SYSASM   SYSBACKUP   SYSDBA   SYSDG   SYSOPER   SYSRAC   SYSKM }.</p>                                                                                                                                                                                                                                                                                                                      |
| ORACLE_MAINTAINED   | VARCHAR2 (1)                 |      | <p>Denotes whether the user was created, and is maintained, by Oracle-supplied scripts (such as catalog.sql or catproc.sql). A user for which this column has the value Y must not be changed in any way except by running an Oracle-supplied script.</p>                                                                                                                                                                                                                                                                                            |
| INHERITED           | VARCHAR2 (3)                 |      | <p>Indicates whether the user definition was inherited from another container (YES) or not (NO)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DEFAULT_COLLATION   | VARCHAR2 (100)               |      | <p>Default collation for the user's schema</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| IMPLICIT            | VARCHAR2 (3)                 |      | <p>Indicates whether this user is a common user created by an implicit application (YES) or not (NO)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ALL_SHARD           | VARCHAR2 (3)                 |      | <p>In a sharded database, the value in this column indicates whether the user was created with shard DDL enabled. The possible values are:</p> <ul style="list-style-type: none"> <li>YES: The user was created with shard DDL enabled. The user exists on all shards and the shard catalog.</li> <li>NO: The user was created without shard DDL enabled. The user exists only in the database in which the user was created.</li> </ul> <p>In a non-sharded database, the value in this column is always NO.</p>                                    |

| Column                      | Datatype     | NULL | Description                                                                                                                                                                                                                               |
|-----------------------------|--------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EXTERNAL_SHARD              | VARCHAR2 (3) |      | In a federated sharded database, the value in this column indicates whether the user is an external shard user (YES) or not (NO).<br><br>In other types of databases, the value in this column is always NO.                              |
| PASSWORD_CHANGE_DATE        | DATE         |      | Date on which the user's password was last set<br><br>This column is populated only when the value of the AUTHENTICATION_TYPE column is PASSWORD. Otherwise, this column is null.                                                         |
| MANDATORY_PROFILE_VIOLATION | VARCHAR2 (3) |      | If the value in this column is YES, then the user account password violates the mandatory profile password complexity requirements and must be changed before the grace period expires.<br><br>Otherwise, the value in this column is NO. |
| PROTECTED                   | VARCHAR2 (3) |      | Indicates whether the user is a protected user (YES) or not (NO)<br><br>A protected user can be managed only by another protected user or a common user.                                                                                  |
| READ_ONLY                   | VARCHAR2 (3) |      | Indicates whether write privileges for the user are disabled (YES) or enabled (NO)                                                                                                                                                        |
| DICTIONARY_PROTECTED        | VARCHAR2 (3) |      | Indicates whether the user's schema is dictionary protected (YES) or not (NO)<br><br><b>See Also:</b> <i>Oracle Database Security Guide</i> for more information about dictionary-protected schemas                                       |

**See Also:**

- "USER\_USERS"
- *Oracle Globally Distributed Database Guide* for more information about sharded database management

## 7.107 DBA\_USERS\_WITH\_DEFPWD

DBA\_USERS\_WITH\_DEFPWD displays all users in the database that are still using their default passwords.

| Column   | Datatype        | NULL     | Description                             |
|----------|-----------------|----------|-----------------------------------------|
| USERNAME | VARCHAR2 (128)  | NOT NULL | Name of the user                        |
| PRODUCT  | VARCHAR2 (4000) |          | Name of the product the user belongs to |

**Note:**

In a CDB, when `DBA_USERS_WITH_DEFPWD` is queried from a PDB, information about local users who are using their default passwords is displayed. To display information about common users, query `DBA_USERS_WITH_DEFPWD` from the root.

**See Also:**

*Oracle Multitenant Administrator's Guide* for an introduction to local and common users in a CDB

## 7.108 DBA\_USTATS

`DBA_USTATS` describes the user-defined statistics collected on all tables and indexes in the database. Its columns are the same as those in `ALL_USTATS`.

**See Also:**

["ALL\\_USTATS"](#)

## 7.109 DBA\_VARRAYS

`DBA_VARRAYS` describes all varrays in the database. Its columns are the same as those in `ALL_VARRAYS`.

**See Also:**

["ALL\\_VARRAYS"](#)

## 7.110 DBA\_VIEWS

`DBA_VIEWS` describes all views in the database. Its columns are the same as those in `ALL_VIEWS`.

**See Also:**

["ALL\\_VIEWS"](#)

## 7.111 DBA\_VIEWS\_AE

DBA\_VIEWS\_AE describes all views (across all editions) in the database. Its columns are the same as those in ALL\_VIEWS\_AE.



**See Also:**

"ALL\_VIEWS\_AE"

## 7.112 DBA\_WAITERS

DBA\_WAITERS shows all the sessions that are waiting for a lock. In an Oracle RAC environment, this only applies if the waiter is on the same instance.

| Column          | Datatype      | NULL | Description                                       |
|-----------------|---------------|------|---------------------------------------------------|
| WAITING_SESSION | NUMBER        |      | The waiting session                               |
| WAITING_CON_ID  | NUMBER        |      | The container ID (CON_ID) of the waiting session  |
| HOLDING_SESSION | NUMBER        |      | The holding session                               |
| HOLDING_CON_ID  | NUMBER        |      | The container ID (CON_ID) of the holding session. |
| LOCK_TYPE       | VARCHAR2 (26) |      | The lock type                                     |
| MODE_HELD       | VARCHAR2 (40) |      | The mode held                                     |
| MODE_REQUESTED  | VARCHAR2 (40) |      | The mode requested                                |
| LOCK_ID1        | NUMBER        |      | Lock ID 1                                         |
| LOCK_ID2        | NUMBER        |      | Lock ID 2                                         |

## 7.113 DBA\_WALLET\_ACES

DBA\_WALLET\_ACES describes access control entries defined in wallet access control lists.

### Related View

USER\_WALLET\_ACES describes the status of access control entries for the current user to access wallets through PL/SQL network utility packages. This view does not display the ACE\_ORDER, START\_DATE, END\_DATE, GRANT\_TYPE, INVERTED\_PRINCIPAL, PRINCIPAL, or PRINCIPAL\_TYPE columns.

| Column             | Datatype        | NULL     | Description                                                               |
|--------------------|-----------------|----------|---------------------------------------------------------------------------|
| WALLET_PATH        | VARCHAR2 (1000) | NOT NULL | Wallet path                                                               |
| ACE_ORDER          | NUMBER          | NOT NULL | Order number of the access control entry                                  |
| START_DATE         | TIMESTAMP (6)   |          | Start date of the access control entry                                    |
| END_DATE           | TIMESTAMP (6)   |          | End date of the access control entry                                      |
| GRANT_TYPE         | VARCHAR2 (5)    |          | Indicates whether the access control entry grants or denies the privilege |
| INVERTED_PRINCIPAL | VARCHAR2 (3)    |          | Indicates whether the principal is inverted or not                        |



| Column         | Datatype       | NULL | Description                           |
|----------------|----------------|------|---------------------------------------|
| PRINCIPAL      | VARCHAR2 (128) |      | Principal the privilege is applied to |
| PRINCIPAL_TYPE | VARCHAR2 (16)  |      | Type of the principal                 |
| PRIVILEGE      | VARCHAR2 (128) |      | Privilege                             |



**See Also:**

"USER\_WALLET\_ACES"

## 7.114 DBA\_WALLET\_ACLS

DBA\_WALLET\_ACLS displays the access control lists assigned to restrict access to wallets through PL/SQL network utility packages.

| Column      | Datatype        | NULL     | Description                          |
|-------------|-----------------|----------|--------------------------------------|
| WALLET_PATH | VARCHAR2 (1000) | NOT NULL | Wallet path                          |
| ACL         | VARCHAR2 (4000) |          | Path of the access control list      |
| ACLID       | RAW (8)         |          | Object ID of the access control list |
| ACL_OWNER   | VARCHAR2 (128)  |          | Owner of the access control list     |

## 7.115 DBA\_WARNING\_SETTINGS

DBA\_WARNING\_SETTINGS displays information about the warning parameter settings for all objects in the database. Its columns are the same as those in ALL\_WARNING\_SETTINGS.



**See Also:**

"ALL\_WARNING\_SETTINGS"

## 7.116 DBA\_WI\_CAPTURE\_FILES

Each row in DBA\_WI\_CAPTURE\_FILES represents a capture file that belongs to the workload analyzed in the current Workload Intelligence job.

| Column    | Datatype        | NULL     | Description                                                                       |
|-----------|-----------------|----------|-----------------------------------------------------------------------------------|
| JOB_ID    | NUMBER          | NOT NULL | The identifier of the job in the workload to which the given capture file belongs |
| FILE_ID   | NUMBER          | NOT NULL | The identifier of the current capture file                                        |
| FILE_PATH | VARCHAR2 (4000) | NOT NULL | The path of the current capture file                                              |

## 7.117 DBA\_WI\_JOBS

Each row in `DBA_WI_JOBS` describes a Workload Intelligence job, that is, a task that applies the algorithms of Workload Intelligence on a given capture directory.

| Column            | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                   |
|-------------------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JOB_ID            | NUMBER          | NOT NULL | The job identifier                                                                                                                                                                                                                                                                            |
| JOB_NAME          | VARCHAR2 (128)  | NOT NULL | A name that uniquely identifies the given job                                                                                                                                                                                                                                                 |
| CAPTURE_DIRECTORY | VARCHAR2 (4000) | NOT NULL | Path to the capture directory on which the given job has been applied                                                                                                                                                                                                                         |
| MODEL_ORDER       | NUMBER          |          | The order of the markov model that describes the workload associated with the current job. If <code>NULL</code> , the corresponding order has not been calculated yet.                                                                                                                        |
| THRESHOLD         | NUMBER          |          | A number in the range [0, 1] that represents the threshold that the user has given as an input parameter to the current job of Workload Intelligence for the identification of significant patterns. If <code>NULL</code> , the process of pattern identification has not been initiated yet. |

## 7.118 DBA\_WI\_OBJECTS

Each row in `DBA_WI_OBJECTS` represents a database object (table) that is accessed by the given template in the given Workload Intelligence job.

| Column      | Datatype     | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                          |
|-------------|--------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JOB_ID      | NUMBER       | NOT NULL | The identifier of the job in the workload of which the given object has been accessed                                                                                                                                                                                                                                                                                                |
| TEMPLATE_ID | NUMBER       | NOT NULL | The identifier of the template in the given job by which the current object has been accessed                                                                                                                                                                                                                                                                                        |
| OBJECT_ID   | NUMBER       | NOT NULL | The identifier of the current object                                                                                                                                                                                                                                                                                                                                                 |
| ACCESS_TYPE | VARCHAR2 (2) | NOT NULL | Possible values: <ul style="list-style-type: none"> <li>R - Indicates that the current object has been accessed for reading by the given template</li> <li>W - Indicates that the current object has been accessed for writing by the given template</li> <li>RW - Indicates that the current object has been accessed for both reading and writing by the given template</li> </ul> |

## 7.119 DBA\_WI\_PATTERN\_ITEMS

Each row in `DBA_WI_PATTERN_ITEMS` represents a template that participates in a significant pattern that has been found by the given Workload Intelligence job.

| Column | Datatype | NULL     | Description                                                                           |
|--------|----------|----------|---------------------------------------------------------------------------------------|
| JOB_ID | NUMBER   | NOT NULL | The identifier of the job in the workload of which the current pattern has been found |

| Column           | Datatype | NULL     | Description                                                                                                                                |
|------------------|----------|----------|--------------------------------------------------------------------------------------------------------------------------------------------|
| PATTERN_ID       | NUMBER   | NOT NULL | The identifier of the pattern to which the current item (template) belongs                                                                 |
| SEQUENCE_NUMBER  | NUMBER   | NOT NULL | Number that indicates the position of the current item in the given pattern                                                                |
| TEMPLATE_ID      | NUMBER   | NOT NULL | The identifier of the template that participates in the given position of the current pattern                                              |
| IS_FIRST_IN_LOOP | CHAR(1)  | NOT NULL | A flag that indicates whether or not the current item marks the beginning of a loop in the given pattern. The possible values are Y and N. |
| IS_LAST_IN_LOOP  | CHAR(1)  | NOT NULL | A flag that indicates whether or not the current item marks the end of a loop in the given pattern. The possible values are Y and N.       |

## 7.120 DBA\_WI\_PATTERNS

Each row in `DBA_WI_PATTERNS` represents a pattern that has been identified by Workload Intelligence as significant in the workload associated with the given job. Such a pattern consists of one or more templates.

These templates that comprise the given pattern are described in the related view `DBA_WI_PATTERN_ITEMS`.

| Column               | Datatype | NULL     | Description                                                                                                       |
|----------------------|----------|----------|-------------------------------------------------------------------------------------------------------------------|
| JOB_ID               | NUMBER   | NOT NULL | The identifier of the job in the workload of which the current pattern has been found                             |
| PATTERN_ID           | NUMBER   | NOT NULL | The identifier of the current pattern                                                                             |
| LENGTH               | NUMBER   | NOT NULL | The length of the pattern, that is, the number of items (templates) it consists of                                |
| NUMBER_OF_EXECUTIONS | NUMBER   | NOT NULL | The number of times the current pattern has been executed in the given workload                                   |
| DB_TIME              | NUMBER   | NOT NULL | The total time consumed in the database server by all the executions of the current pattern in the given workload |



**See Also:**

["DBA\\_WI\\_PATTERN\\_ITEMS"](#)

## 7.121 DBA\_WI\_STATEMENTS

Each row in `DBA_WI_STATEMENTS` describes a statement (SQL or PL/SQL) that is part of the template with identifier `TEMPLATE_ID`, which has been found in the workload that is related to the Workload Intelligence job whose identifier is equal to `JOB_ID`.

A template may consist of multiple statements, for example, if it represents a transaction. In this case, there is one row in this view for every one of these statements. These statements

are ordered, based on the order defined by the corresponding transaction. Column `SEQUENCE_NUMBER` is used to describe this order.

| Column          | Datatype | NULL     | Description                                                                                                                                                                                                                                                                                            |
|-----------------|----------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JOB_ID          | NUMBER   | NOT NULL | The identifier of the job in the workload of which the given statement has been found                                                                                                                                                                                                                  |
| TEMPLATE_ID     | NUMBER   | NOT NULL | The identifier of the template in the given job to which the current statement belongs                                                                                                                                                                                                                 |
| SEQUENCE_NUMBER | NUMBER   | NOT NULL | A number that indicates the order of the current statement in the given template                                                                                                                                                                                                                       |
| SQL_TEXT        | CLOB     | NOT NULL | The SQL text associated with the current statement. Note that although multiple SQL statements can be classified to the same template, only one row is stored that represents them all. This row corresponds to the first instance of the given template that is found during parsing of the workload. |

## 7.122 DBA\_WI\_TEMPLATE\_EXECUTIONS

Each row in `DBA_WI_TEMPLATE_EXECUTIONS` represents an execution of a template in a capture that belongs to the workload that is associated with the current Workload Intelligence job.

| Column          | Datatype | NULL     | Description                                                                                            |
|-----------------|----------|----------|--------------------------------------------------------------------------------------------------------|
| JOB_ID          | NUMBER   | NOT NULL | The identifier of the job in the workload of which the current execution of the given template belongs |
| CAPTURE_FILE_ID | NUMBER   | NOT NULL | The identifier of the capture file in which the current execution of the given template was found      |
| SEQUENCE_NUMBER | NUMBER   | NOT NULL | A number that indicates the order of the current execution in the given capture file                   |
| TEMPLATE_ID     | NUMBER   | NOT NULL | The identifier of the template that was executed in the execution represented by the current row       |
| DB_TIME         | NUMBER   | NOT NULL | The time that the current execution consumed on the database server                                    |

## 7.123 DBA\_WI\_TEMPLATES

Each row in `DBA_WI_TEMPLATES` describes a template that has been found in the workload that is related to the Workload Intelligence job whose identifier is equal to `JOB_ID`.

A template can represent either a simple query, or an entire transaction. Two queries in the given workload belong to the same template, if they exhibit trivial differences, for example, if they contain different literal values, different bind variable names, different comments, or different white spaces.

| Column      | Datatype | NULL     | Description                                                                          |
|-------------|----------|----------|--------------------------------------------------------------------------------------|
| JOB_ID      | NUMBER   | NOT NULL | The identifier of the job in the workload of which the given template has been found |
| TEMPLATE_ID | NUMBER   | NOT NULL | The identifier of a template in a given job                                          |

| Column         | Datatype | NULL     | Description                                                                                                                                                                                                                                                               |
|----------------|----------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IS_TRANSACTION | CHAR(1)  | NOT NULL | Flag that indicates whether the given template represents a transaction: <ul style="list-style-type: none"> <li>Y - indicates that the given template represents a transaction</li> <li>N - indicates that the given template does not represent a transaction</li> </ul> |

## 7.124 DBA\_WORKLOAD\_ACTIVE\_USER\_MAP

DBA\_WORKLOAD\_ACTIVE\_USER\_MAP contains the mappings that are going to be valid for the next replay or are valid for the current replay.

| Column          | Datatype       | NULL     | Description                                                           |
|-----------------|----------------|----------|-----------------------------------------------------------------------|
| SCHEDULE_CAP_ID | NUMBER         |          | The ID of a capture in the schedule                                   |
| CAPTURE_USER    | VARCHAR2(4000) | NOT NULL | The user name during the time of the workload capture                 |
| REPLAY_USER     | VARCHAR2(4000) |          | The user name to which captured user should be remapped during replay |

## 7.125 DBA\_WORKLOAD\_CAPTURE\_SQLTEXT

DBA\_WORKLOAD\_CAPTURE\_SQLTEXT displays all the SQL statements that have been recorded in a workload capture. For those SQL statements whose length exceeds 1000 characters, the full statements can be loaded to the DBA\_WORKLOAD\_LONG\_SQLTEXT view using the DBMS\_WORKLOAD\_REPLAY.LOAD\_LONG\_SQLTEXT procedure.

| Column            | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                          |
|-------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAPTURE_ID        | NUMBER(38)     | NOT NULL | Internal key for the workload capture                                                                                                                                                                                                                                                                                |
| SQL_ID            | VARCHAR2(13)   | NOT NULL | SQL identifier of the parent cursor in the library cache                                                                                                                                                                                                                                                             |
| SQL_TYPE          | VARCHAR2(64)   |          | Type of the SQL statement, which can include values such as INSERT, SELECT, and CREATE INDEX                                                                                                                                                                                                                         |
| SQL_TEXT          | VARCHAR2(1000) |          | First thousand characters of the SQL text for the current cursor                                                                                                                                                                                                                                                     |
| SQL_LENGTH        | NUMBER(38)     |          | The length of the SQL statement                                                                                                                                                                                                                                                                                      |
| SQL_TEXT_COMPLETE | CHAR(1)        |          | Indicates whether the SQL_TEXT column includes the full text of the SQL statement. Possible values: <ul style="list-style-type: none"> <li>Y: The column SQL_TEXT includes the full text of the SQL statement</li> <li>N: The column SQL_TEXT contains only the first thousand characters of the SQL text</li> </ul> |

**See Also:**

- ["DBA\\_WORKLOAD\\_LONG\\_SQLTEXT"](#)
- ["DBA\\_RAT\\_CAPTURE\\_SCHEMA\\_INFO"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for information about the DBMS\_WORKLOAD\_REPLAY package

## 7.126 DBA\_WORKLOAD\_CAPTURES

DBA\_WORKLOAD\_CAPTURES displays all the workload captures that have been performed in the current database.

It also lists captures on which DBMS\_WORKLOAD\_CAPTURE.GET\_CAPTURE\_INFO() or DBMS\_WORKLOAD\_REPLAY.GET\_REPLAY\_INFO() have been called. Each row contains information about one workload capture.

| Column        | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                |
|---------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ID            | NUMBER         | NOT NULL | Internal key for the workload capture                                                                                                                                                                                                                                                      |
| NAME          | VARCHAR2 (128) | NOT NULL | Name for the workload capture                                                                                                                                                                                                                                                              |
| DBID          | NUMBER         | NOT NULL | ID of the database in which the workload was captured                                                                                                                                                                                                                                      |
| DBNAME        | VARCHAR2 (128) | NOT NULL | Name of the database in which the workload was captured                                                                                                                                                                                                                                    |
| DBVERSION     | VARCHAR2 (17)  | NOT NULL | Version of the database in which the workload was captured                                                                                                                                                                                                                                 |
| PARALLEL      | VARCHAR2 (3)   |          | Indicates whether the database in which the workload was captured is an Oracle RAC database (YES) or a single instance database (NO)                                                                                                                                                       |
| DIRECTORY     | VARCHAR2 (128) | NOT NULL | Name of the directory object for workload capture                                                                                                                                                                                                                                          |
| STATUS        | VARCHAR2 (40)  | NOT NULL | Current status of the workload capture: <ul style="list-style-type: none"> <li>• IN PROGRESS - Workload capture is in progress</li> <li>• COMPLETED - Workload capture has completed successfully</li> <li>• FAILED - Workload capture was terminated due to errors encountered</li> </ul> |
| START_TIME    | DATE           | NOT NULL | Datetime when the capture began                                                                                                                                                                                                                                                            |
| END_TIME      | DATE           |          | Datetime when the capture completed or failed; NULL if the capture is still in progress                                                                                                                                                                                                    |
| DURATION_SECS | NUMBER         |          | Duration of the workload capture (in seconds)                                                                                                                                                                                                                                              |
| START_SCN     | NUMBER         | NOT NULL | Start SCN value for this capture                                                                                                                                                                                                                                                           |
| END_SCN       | NUMBER         |          | End SCN value for this capture; NULL if the capture is still in progress                                                                                                                                                                                                                   |

| Column                  | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                             |
|-------------------------|---------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DEFAULT_ACTION          | VARCHAR2 (30) | NOT NULL | Mode in which to apply workload capture filters: <ul style="list-style-type: none"> <li>INCLUDE - All the capture filters are treated as EXCLUSION filters, determining the workload that will not be captured.</li> <li>EXCLUDE - All the capture filters are treated as INCLUSION FILTERS, determining the workload that will be captured.</li> </ul> |
| FILTERS_USED            | NUMBER        |          | Number of filters that were used for this capture                                                                                                                                                                                                                                                                                                       |
| CAPTURE_SIZE            | NUMBER        |          | Total size of workload capture                                                                                                                                                                                                                                                                                                                          |
| DBTIME                  | NUMBER        |          | Total amount of database time (in microseconds) that has been recorded in this workload capture                                                                                                                                                                                                                                                         |
| DBTIME_TOTAL            | NUMBER        |          | Total amount of database time (in microseconds) across the entire database during the workload capture, including the part of the workload that was not captured.                                                                                                                                                                                       |
| USER_CALLS              | NUMBER        |          | Total number of user calls that have been recorded in this workload capture                                                                                                                                                                                                                                                                             |
| USER_CALLS_TOTAL        | NUMBER        |          | Total number of user calls across the entire database during the workload capture, including the part of the workload that was not captured.                                                                                                                                                                                                            |
| USER_CALLS_UNREPLAYABLE | NUMBER        |          | Total number of user calls that will not be replayed in a subsequent replay of this workload capture                                                                                                                                                                                                                                                    |
| PLSQL_SUBCALL_SIZE      | NUMBER        |          | Total size of workload capture for SQL executed from PL/SQL                                                                                                                                                                                                                                                                                             |
| PLSQL_CALLS             | NUMBER        |          | Total number of PL/SQL calls recorded in the workload capture                                                                                                                                                                                                                                                                                           |
| PLSQL_SUBCALLS          | NUMBER        |          | Total number of calls recorded in the workload capture for SQL executed from PL/SQL                                                                                                                                                                                                                                                                     |
| PLSQL_DBTIME            | NUMBER        |          | Total amount of database time (in microseconds) from PL/SQL calls that have been recorded in the workload capture                                                                                                                                                                                                                                       |
| TRANSACTIONS            | NUMBER        |          | Total number of transactions that have been recorded in this workload capture                                                                                                                                                                                                                                                                           |
| TRANSACTIONS_TOTAL      | NUMBER        |          | Total number of transactions across the entire database during the workload capture, including the part of the workload that was not captured.                                                                                                                                                                                                          |
| CONNECTS                | NUMBER        |          | Total number of session connects that have been recorded in this workload capture                                                                                                                                                                                                                                                                       |
| CONNECTS_TOTAL          | NUMBER        |          | Total number of session connects across the entire database during the workload capture, including the part of the workload that was not captured                                                                                                                                                                                                       |
| ERRORS                  | NUMBER        |          | Total number of errors that have been recorded in this workload capture                                                                                                                                                                                                                                                                                 |
| AWR_DBID                | NUMBER        |          | Database ID of the AWR snapshots that correspond to this workload capture. For captures that were performed in the current database, this value is equal to the current database's DBID. For captures that were performed in other databases, this value will either be NULL or will be populated by<br>DBMS_WORKLOAD_CAPTURE.IMPORT_AWR().             |

| Column                 | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------|-----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AWR_BEGIN_SNAP         | NUMBER          |          | Begin snapshot ID of the AWR snapshots that correspond to this workload capture                                                                                                                                                                                                                                                                                                      |
| AWR_END_SNAP           | NUMBER          |          | End snapshot ID of the AWR snapshots that correspond to this workload capture                                                                                                                                                                                                                                                                                                        |
| AWR_EXPORTED           | VARCHAR2 (12)   |          | Indicates whether the AWR snapshots that correspond to this workload capture have been exported using <code>DBMS_WORKLOAD_CAPTURE.EXPORT_AWR()</code> (YES) or not (NO), or whether AWR snapshots cannot be exported because the capture is still in progress, has run to completion successfully, or was done in a different database from which it was not exported (NOT POSSIBLE) |
| ERROR_CODE             | NUMBER          |          | Error code for this workload capture                                                                                                                                                                                                                                                                                                                                                 |
| ERROR_MESSAGE          | VARCHAR2 (512)  |          | Error message for this workload capture                                                                                                                                                                                                                                                                                                                                              |
| DIR_PATH               | VARCHAR2 (4000) | NOT NULL | Full directory path for the workload capture directory object                                                                                                                                                                                                                                                                                                                        |
| DIR_PATH_SHARED        | VARCHAR2 (10)   | NOT NULL | Indicates whether the workload capture directory is shared by all the instances of the recording database (applicable only for Oracle RAC databases)                                                                                                                                                                                                                                 |
| LAST_PROCESSED_VERSION | VARCHAR2 (128)  |          | Database version in which this capture was preprocessed using <code>DBMS_WORKLOAD_REPLAY.PROCESS_CAPTURE()</code> last; NULL if the capture has never been preprocessed                                                                                                                                                                                                              |
| SQLSET_OWNER           | VARCHAR2 (128)  |          | User name of the SQL tuning set owner                                                                                                                                                                                                                                                                                                                                                |
| SQLSET_NAME            | VARCHAR2 (128)  |          | Name of the SQL tuning set for this workload capture                                                                                                                                                                                                                                                                                                                                 |
| PLSQL_MODE             | VARCHAR2 (12)   |          | Capture options for PL/SQL calls. Possible values: <ul style="list-style-type: none"> <li>• TOP_LEVEL: Top-level PL/SQL only</li> <li>• EXTENDED: Both top-level PL/SQL and SQL executed from PL/SQL</li> </ul>                                                                                                                                                                      |
| ENCRYPTION             | VARCHAR2 (128)  |          | Indicates the encryption standard used for the given capture: <ul style="list-style-type: none"> <li>• NULL - Capture files are not encrypted</li> <li>• AES128 – Capture files are encrypted using AES128</li> <li>• AES192 – Capture files are encrypted using AES192</li> <li>• AES256 – Capture files are encrypted using AES256</li> </ul>                                      |
| ENCRYPTION_VERIFIER    | RAW (512)       |          | Data used internally for creating an encrypted capture                                                                                                                                                                                                                                                                                                                               |
| PATCH_NAME             | VARCHAR2 (128)  |          | Database workload capture and replay patch name<br>This column is populated only for backports to Oracle Database 12c Release 1 (12.1) and earlier releases.                                                                                                                                                                                                                         |
| STORAGE_TYPE           | NUMBER (38)     |          | Describes where the captured workload is stored                                                                                                                                                                                                                                                                                                                                      |



 **See Also:**

- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_WORKLOAD\_CAPTURE package
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_WORKLOAD\_REPLAY package

## 7.127 DBA\_WORKLOAD\_CONNECTION\_MAP

DBA\_WORKLOAD\_CONNECTION\_MAP displays the connection mapping information for workload replay. Each row defines one connection mapping for a particular workload replay.

| Column          | Datatype        | NULL     | Description                                                                         |
|-----------------|-----------------|----------|-------------------------------------------------------------------------------------|
| REPLAY_ID       | NUMBER          | NOT NULL | ID of the replay (corresponds to DBA_WORKLOAD_REPLAYS.ID)                           |
| CONN_ID         | NUMBER          | NOT NULL | Key (ID) of the connection mapping table                                            |
| SCHEDULE_CAP_ID | NUMBER          |          | Schedule capture ID (corresponds to DBA_WORKLOAD_SCHEDULE_CAPTURES.SCHEDULE_CAP_ID) |
| CAPTURE_CONN    | VARCHAR2 (4000) | NOT NULL | Connection string that was used during capture                                      |
| REPLAY_CONN     | VARCHAR2 (4000) |          | Connection string that should be used during replay                                 |

## 7.128 DBA\_WORKLOAD\_DIV\_SUMMARY

DBA\_WORKLOAD\_DIV\_SUMMARY displays a summary of the replay divergence information in the DBA\_WORKLOAD\_REPLAY\_DIVERGENCE view. DBA\_WORKLOAD\_REPLAY\_DIVERGENCE may have duplicate entries, while DBA\_WORKLOAD\_DIV\_SUMMARY keeps only one entry and tracks the number of occurrences of each duplicate entry.

Starting with Oracle Database 12.2.0.1, the replay report is generated from DBA\_WORKLOAD\_DIV\_SUMMARY instead of from DBA\_WORKLOAD\_REPLAY\_DIVERGENCE, which results in faster generation of the replay report.

| Column                   | Datatype     | NULL     | Description                                                                                                                     |
|--------------------------|--------------|----------|---------------------------------------------------------------------------------------------------------------------------------|
| REPLAY_ID                | NUMBER       | NOT NULL | ID (key) for the workload replay                                                                                                |
| DIVERGENCE_TYPE          | NUMBER       | NOT NULL | Reserved for future use                                                                                                         |
| IS_QUERY_DATA_DIVERGENCE | VARCHAR2 (1) |          | Indicates whether the data divergence is from the number of rows fetched by SELECT queries (Y) or not (N)                       |
| IS_DML_DATA_DIVERGENCE   | VARCHAR2 (1) |          | Indicates whether the divergence is from the number of rows affected by INSERT, UPDATE, or DELETE SQL statements (Y) or not (N) |
| IS_ERROR_DIVERGENCE      | VARCHAR2 (1) |          | Indicates whether the divergence is from errors seen during capture or replay (Y) or not (N)                                    |
| IS_THREAD_FAILURE        | VARCHAR2 (1) |          | Indicates whether the divergence is from sessions that failed during replay (Y) or not (N)                                      |

| Column                 | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IS_DATA_MASKED         | VARCHAR2 (1)    |          | Indicates whether the SQL call contains masked bind data (Y) or not (N).<br><br>If data masking technology is used at the replay database, the workload capture files need to be masked. Otherwise, SQL statements generated from capture files that contain sensitive bind data will not match the database. When the replay client sends masked bind data to the server, it turns on the IS_DATA_MASKED flag for the current SQL call. |
| IS_CLIENT_FAILURE      | VARCHAR2 (1)    |          | Indicates whether the workload replay client failed during replay (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                         |
| STREAM_ID              | NUMBER          | NOT NULL | Stream ID of the session that reported the divergence                                                                                                                                                                                                                                                                                                                                                                                    |
| SQL_ID                 | VARCHAR2 (13)   |          | SQL ID of the SQL that reported the divergence                                                                                                                                                                                                                                                                                                                                                                                           |
| EXPECTED_ERROR#        | NUMBER          |          | Error number that was seen during capture (0 if the capture ran successfully)                                                                                                                                                                                                                                                                                                                                                            |
| EXPECTED_ERROR_MESSAGE | VARCHAR2 (4000) |          | Text of the error message whose number appears in the EXPECTED_ERROR# column                                                                                                                                                                                                                                                                                                                                                             |
| OBSERVED_ERROR#        | NUMBER          |          | Actual error number seen during replay (0 if the replay ran successfully, 15566 (corresponding to ORA-15566) if the captured call could not be replayed)                                                                                                                                                                                                                                                                                 |
| OBSERVED_ERROR_MESSAGE | VARCHAR2 (4000) |          | Text of the error message whose number appears in the OBSERVED_ERROR# column                                                                                                                                                                                                                                                                                                                                                             |
| SERVICE                | VARCHAR2 (64)   |          | Service name of the session that reported the divergence                                                                                                                                                                                                                                                                                                                                                                                 |
| MODULE                 | VARCHAR2 (64)   |          | Module name of the session that reported the divergence                                                                                                                                                                                                                                                                                                                                                                                  |
| INSTANCE_NUMBER        | NUMBER          |          | The number of the instance that reported the divergence                                                                                                                                                                                                                                                                                                                                                                                  |
| WRC_ID                 | NUMBER          |          | The identifier of the workload replay client                                                                                                                                                                                                                                                                                                                                                                                             |
| OCCURRENCES            | NUMBER          |          | Number of times the divergence occurred during replay                                                                                                                                                                                                                                                                                                                                                                                    |

### Example

The following query prints the top 3 SQL statements that got error divergence during replay. This query shows the captured error number and the actual error number seen during replay.

```
SQL> SELECT * FROM
 (SELECT occurrences, sql_id, expected_error#, observed_error#
 FROM dba_workload_div_summary
 WHERE replay_id = 123
 AND is_error_divergence = 'Y'
 ORDER BY occurrences DESC)
 WHERE ROWNUM <= 3;
```

| OCCURRENCES | SQL_ID        | EXPECTED_ERROR# | OBSERVED_ERROR# |
|-------------|---------------|-----------------|-----------------|
| 8           | 0xrm2wjdv17m  | 0               | 1               |
| 4           | 8bzwdnnznspjd | 1422            | 0               |
| 3           | 6d8rwrac8dsk7 | 1               | 1400            |

```
SQL>
```

**See Also:**["DBA\\_WORKLOAD\\_REPLAY\\_DIVERGENCE"](#)

## 7.129 DBA\_WORKLOAD\_FILTERS

DBA\_WORKLOAD\_FILTERS displays all the workload filters that have been defined in the current database.

In Oracle Database 11g, only workload filters of type `CAPTURE` are supported. Starting with Oracle Database 11gR2, filters of type `REPLAY` are supported.

| Column    | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------|-----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE      | VARCHAR2 (30)   |      | Type of the workload filter ( <code>CAPTURE</code> or <code>REPLAY</code> )                                                                                                                                                                                                                                                                                                                                                                                  |
| ID        | VARCHAR2 (40)   |      | Sequence number of the workload filter                                                                                                                                                                                                                                                                                                                                                                                                                       |
| STATUS    | VARCHAR2 (6)    |      | Status of the workload filter: <ul style="list-style-type: none"> <li><code>NEW</code> - This filter will be used by the next subsequent operation such as the next workload capture.</li> <li><code>IN USE</code> - This filter is currently being used by an operation that is in progress such as an active workload capture.</li> <li><code>USED</code> - This filter was used in the past by some operation such as a past workload capture.</li> </ul> |
| SET_NAME  | VARCHAR2 (1000) |      | Name of the filter set to which the filter belongs                                                                                                                                                                                                                                                                                                                                                                                                           |
| NAME      | VARCHAR2 (128)  |      | Name of the workload filter                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ATTRIBUTE | VARCHAR2 (128)  |      | Name of the attribute on which the filter is defined                                                                                                                                                                                                                                                                                                                                                                                                         |
| VALUE     | VARCHAR2 (4000) |      | Value of the attribute on which the filter is defined. Wildcards such as % and _ are supported if the attribute is of string type.                                                                                                                                                                                                                                                                                                                           |

## 7.130 DBA\_WORKLOAD\_GROUP\_ASSIGNMENTS

DBA\_WORKLOAD\_GROUP\_ASSIGNMENTS displays all the workload capture groups and their assigned instances. A workload capture group is a subset of the captured workload. Each group accesses its own set of recorded database objects.

| Column            | Datatype    | NULL     | Description                                                                                                                                              |
|-------------------|-------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| REPLAY_DIR_NUMBER | NUMBER (38) | NOT NULL | The value that is associated with the subdirectory under the replay directory. See <code>REPLAY_DIR_NUMBER</code> in <code>DBA_WORKLOAD_REPLAYS</code> . |
| GROUP_ID          | NUMBER (38) | NOT NULL | The identifier of a workload capture group                                                                                                               |
| INSTANCE_NUMBER   | NUMBER (38) | NOT NULL | The instance a given group is assigned to                                                                                                                |

**See Also:**["DBA\\_WORKLOAD\\_REPLAYS"](#)

## 7.131 DBA\_WORKLOAD\_LONG\_SQLTEXT

DBA\_WORKLOAD\_LONG\_SQLTEXT displays the captured SQL statements that are longer than 1000 characters. You can load SQL statements longer than 1000 characters to the DBA\_WORKLOAD\_LONG\_SQLTEXT view using the DBMS\_WORKLOAD\_REPLAY.LOAD\_LONG\_SQLTEXT procedure.

| Column       | Datatype     | NULL     | Description                                              |
|--------------|--------------|----------|----------------------------------------------------------|
| CAPTURE_ID   | NUMBER(38)   | NOT NULL | Internal key for the workload capture                    |
| SQL_ID       | VARCHAR2(13) | NOT NULL | SQL identifier of the parent cursor in the library cache |
| SQL_FULLTEXT | CLOB         |          | Full text for the SQL statement exposed as a CLOB column |

**See Also:**

- ["DBA\\_WORKLOAD\\_CAPTURE\\_SQLTEXT"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for information about the DBMS\_WORKLOAD\_REPLAY package

## 7.132 DBA\_WORKLOAD\_REPLAY\_CLIENTS

DBA\_WORKLOAD\_REPLAY\_CLIENTS displays all workload replay clients and their assigned instances.

| Column          | Datatype   | NULL     | Description                                                                                            |
|-----------------|------------|----------|--------------------------------------------------------------------------------------------------------|
| WRC_ID          | NUMBER(38) | NOT NULL | The identifier of a workload replay client                                                             |
| SCHEDULE_CAP_ID | NUMBER(38) | NOT NULL | A unique identifier for a workload capture added to a replay schedule. 0 for a non-consolidated replay |
| INSTANCE_NUMBER | NUMBER(38) | NOT NULL | The instance that the replay client connects to                                                        |

## 7.133 DBA\_WORKLOAD\_REPLAY\_DIVERGENCE

DBA\_WORKLOAD\_REPLAY\_DIVERGENCE displays information about data/error divergence for a user call that has been replayed.

DBA\_WORKLOAD\_DIV\_SUMMARY displays a summary of the replay divergence information in the DBA\_WORKLOAD\_REPLAY\_DIVERGENCE view. DBA\_WORKLOAD\_REPLAY\_DIVERGENCE may have duplicate entries, while DBA\_WORKLOAD\_DIV\_SUMMARY keeps only one entry and tracks the number of occurrences of each duplicate entry.

| Column                   | Datatype                     | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------|------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REPLAY_ID                | NUMBER                       | NOT NULL | ID (key) for the workload replay                                                                                                                                                                                                                                                                                                                                                                                                            |
| TIMESTAMP                | TIMESTAMP (6) WITH TIME ZONE |          | Time that the divergence occurred                                                                                                                                                                                                                                                                                                                                                                                                           |
| DIVERGENCE_TYPE          | NUMBER                       | NOT NULL | Reserved for future use                                                                                                                                                                                                                                                                                                                                                                                                                     |
| IS_QUERY_DATA_DIVERGENCE | VARCHAR2 (1)                 |          | Indicates whether the data divergence is from the number of rows fetched by <b>SELECT</b> queries (Y) or not (N)                                                                                                                                                                                                                                                                                                                            |
| IS_DML_DATA_DIVERGENCE   | VARCHAR2 (1)                 |          | Indicates whether the divergence is from the number of rows affected by <b>INSERT</b> , <b>UPDATE</b> , or <b>DELETE</b> SQL statements (Y) or not (N)                                                                                                                                                                                                                                                                                      |
| IS_ERROR_DIVERGENCE      | VARCHAR2 (1)                 |          | Indicates whether the divergence is from errors seen during capture or replay (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                |
| IS_THREAD_FAILURE        | VARCHAR2 (1)                 |          | Indicates whether the divergence is from sessions that failed during replay (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                  |
| IS_DATA_MASKED           | VARCHAR2 (1)                 |          | Indicates whether the SQL call contains masked bind data (Y) or not (N).<br>If data masking technology is used at the replay database, the workload capture files need to be masked. Otherwise, SQL statements generated from capture files that contain sensitive bind data will not match the database. When the replay client sends masked bind data to the server, it turns on the <b>IS_DATA_MASKED</b> flag for the current SQL call. |
| IS_CLIENT_FAILURE        | VARCHAR2 (1)                 |          | Indicates whether the workload replay client failed during replay (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                            |
| EXPECTED_ROW_COUNT       | NUMBER                       |          | Number of rows fetched for <b>SELECT</b> queries or rows affected for <b>INSERT</b> , <b>UPDATE</b> , or <b>DELETE</b> SQL statements during capture                                                                                                                                                                                                                                                                                        |
| OBSERVED_ROW_COUNT       | NUMBER                       |          | Actual number of rows fetched for <b>SELECT</b> queries or rows affected for <b>INSERT</b> , <b>UPDATE</b> , or <b>DELETE</b> SQL statements during replay                                                                                                                                                                                                                                                                                  |
| EXPECTED_ERROR#          | NUMBER                       |          | Error number that was seen during capture (0 if the capture ran successfully)                                                                                                                                                                                                                                                                                                                                                               |
| EXPECTED_ERROR_MESSAGE   | VARCHAR2 (4000)              |          | Text of the error message whose number appears in the <b>EXPECTED_ERROR#</b> column                                                                                                                                                                                                                                                                                                                                                         |
| OBSERVED_ERROR#          | NUMBER                       |          | Actual error number seen during replay (0 if the replay ran successfully, 15566 (corresponding to ORA-15566) if the captured call could not be replayed)                                                                                                                                                                                                                                                                                    |
| OBSERVED_ERROR_MESSAGE   | VARCHAR2 (4000)              |          | Text of the error message whose number appears in the <b>OBSERVED_ERROR#</b> column                                                                                                                                                                                                                                                                                                                                                         |
| STREAM_ID                | NUMBER                       | NOT NULL | Stream ID of the session that reported the divergence                                                                                                                                                                                                                                                                                                                                                                                       |
| CALL_COUNTER             | NUMBER                       | NOT NULL | Call counter of the user call that reported the divergence                                                                                                                                                                                                                                                                                                                                                                                  |
| CAPTURE_STREAM_ID        | NUMBER                       |          | Internal ID of the capture file whose replay produced the divergence                                                                                                                                                                                                                                                                                                                                                                        |
| SQL_ID                   | VARCHAR2 (13)                |          | SQL ID of the SQL that reported the divergence                                                                                                                                                                                                                                                                                                                                                                                              |
| SESSION_ID               | NUMBER                       | NOT NULL | Session ID of the session that reported the divergence                                                                                                                                                                                                                                                                                                                                                                                      |

| Column          | Datatype      | NULL     | Description                                                                |
|-----------------|---------------|----------|----------------------------------------------------------------------------|
| SESSION_SERIAL# | NUMBER        | NOT NULL | Captured session serial number of the session that reported the divergence |
| SERVICE         | VARCHAR2 (64) |          | Service name of the session that reported the divergence                   |
| MODULE          | VARCHAR2 (64) |          | Module name of the session that reported the divergence                    |
| ACTION          | VARCHAR2 (64) |          | Action name of the session that reported the divergence                    |
| INSTANCE_NUMBER | NUMBER        |          | The number of the instance that reported the divergence                    |
| WRC_ID          | NUMBER        |          | The identifier of the workload replay client                               |

**See Also:**

["DBA\\_WORKLOAD\\_DIV\\_SUMMARY"](#)

## 7.134 DBA\_WORKLOAD\_REPLAY\_SCHEDULES

DBA\_WORKLOAD\_REPLAY\_SCHEDULES displays the names of replay schedules for the current replay directory.

A replay schedule defines one or multiple workload captures, and the order to start their replays. The current replay directory is set by

DBMS\_WORKLOAD\_REPLAY.SET\_REPLAY\_DIRECTORY('replay\_dir'). Each row in the view contains information about one replay schedule.

| Column        | Datatype       | NULL     | Description                                                                                                                |
|---------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------|
| SCHEDULE_NAME | VARCHAR2 (128) | NOT NULL | The name of a schedule to be replayed. It defines one or multiple workload captures, and the order to start their replays. |
| DIRECTORY     | VARCHAR2 (128) | NOT NULL | Directory object name for the replay schedule name                                                                         |
| STATUS        | VARCHAR2 (128) |          | NEW if the schedule is being created, CURRENT if the schedule is currently being used by a replay, otherwise NULL          |

**See Also:**

- ["DBA\\_WORKLOAD\\_SCHEDULE\\_CAPTURES"](#) displays the workload captures in a replay schedule.
- ["DBA\\_WORKLOAD\\_SCHEDULE\\_ORDERING"](#) displays the order to start captures in a replay schedule.
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_WORKLOAD\_REPLAY package

## 7.135 DBA\_WORKLOAD\_REPLAYS

DBA\_WORKLOAD\_REPLAYS displays all the workload replays that have been performed in the current database.

It also lists replays on which DBMS\_WORKLOAD\_REPLAY.GET\_REPLAY\_INFO() has been called. Each row contains information about one workload replay.

| Column           | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ID               | NUMBER         | NOT NULL | Internal key for the workload replay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| NAME             | VARCHAR2 (128) | NOT NULL | Name of the workload replay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DBID             | NUMBER         | NOT NULL | ID of the database in which the workload was replayed                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| DBNAME           | VARCHAR2 (128) | NOT NULL | Name of the database in which the workload was replayed                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| DBVERSION        | VARCHAR2 (17)  | NOT NULL | Version of the database in which the workload was replayed                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| PARALLEL         | VARCHAR2 (3)   |          | Indicates whether the database in which the workload was replayed was an Oracle RAC database (YES) or a single instance database (NO)                                                                                                                                                                                                                                                                                                                                                                                |
| DIRECTORY        | VARCHAR2 (128) | NOT NULL | Name of the directory object for the workload replay                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CAPTURE_ID       | NUMBER         |          | ID of the capture (DBA_WORKLOAD_CAPTURES.ID) that was replayed. If the replay involves a replay schedule, the CAPTURE_ID will be null.                                                                                                                                                                                                                                                                                                                                                                               |
| STATUS           | VARCHAR2 (40)  | NOT NULL | Current status of the workload replay: <ul style="list-style-type: none"> <li>• PREPARE - Workload prepare has been started and is waiting for clients to join</li> <li>• IN PROGRESS - Workload replay is in progress</li> <li>• COMPLETED - Workload replay has successfully completed</li> <li>• CANCELLED - Workload replay or the workload prepare has been cancelled</li> <li>• FAILED - Workload replay was terminated due to errors encountered. See the COMMENTS column for further information.</li> </ul> |
| PREPARE_TIME     | DATE           |          | Datetime at which the workload prepare started                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| START_TIME       | DATE           |          | Datetime when the replay began                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| END_TIME         | DATE           |          | Datetime when the replay completed or cancelled; NULL if the replay is still in progress                                                                                                                                                                                                                                                                                                                                                                                                                             |
| DURATION_SECS    | NUMBER         |          | Duration of the workload replay (in seconds)                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| NUM_CLIENTS      | NUMBER         | NOT NULL | Number of workload replay client processes that were used in this workload replay                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NUM_CLIENTS_DONE | NUMBER         | NOT NULL | Number of workload replay client processes that have finished replay                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| FILTER_SET_NAME  | VARCHAR2 (128) |          | Name of the filter set used for the replay                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DEFAULT_ACTION   | VARCHAR2 (30)  | NOT NULL | Reserved for future use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Column                  | Datatype     | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------|--------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SYNCHRONIZATION         | VARCHAR2 (9) |          | <p>Indicates whether recorded transaction semantics should be maintained (<b>TRUE</b>) or not (<b>FALSE</b>)</p> <p>When synchronization is on, the commit order observed during the original workload capture will be preserved. Every action that is replayed will be executed only after all of its dependent commits have been executed. Dependent commits are commits that were issued before the given action in the original workload capture.</p> <p><b>See Also:</b> <code>DBMS_WORKLOAD_REPLAY.PREPARE_REPLAY()</code> in <i>Oracle Database PL/SQL Packages and Types Reference</i> for a detailed explanation of this replay parameter</p> |
| CONNECT_TIME_SCALE      | NUMBER       | NOT NULL | <p>Connection time scaling factor for captured streams during replay. The value is interpreted as a percentage. The default value of 100 means 100 percent.</p> <p><b>See Also:</b> <code>DBMS_WORKLOAD_REPLAY.PREPARE_REPLAY()</code> in <i>Oracle Database PL/SQL Packages and Types Reference</i> for a detailed explanation of this replay parameter</p>                                                                                                                                                                                                                                                                                           |
| THINK_TIME_SCALE        | NUMBER       | NOT NULL | <p>Think time scaling factor for captured streams during replay. It scales the thinking time elapsed between two successive user calls from the same captured stream. The input is interpreted as a percentage. The default value of 100 means 100 percent.</p> <p><b>See Also:</b> <code>DBMS_WORKLOAD_REPLAY.PREPARE_REPLAY()</code> in <i>Oracle Database PL/SQL Packages and Types Reference</i> for a detailed explanation of this replay parameter</p>                                                                                                                                                                                           |
| THINK_TIME_AUTO_CORRECT | VARCHAR2 (5) |          | <p>Indicates whether the think time should be automatically corrected between calls (<b>TRUE</b>) or not (<b>FALSE</b>)</p> <p>A value of <b>TRUE</b> reduces think time if replay goes slower than capture.</p> <p>A value of <b>FALSE</b> results in no action.</p> <p><b>See Also:</b> <code>DBMS_WORKLOAD_REPLAY.PREPARE_REPLAY()</code> in <i>Oracle Database PL/SQL Packages and Types Reference</i> for a detailed explanation of this replay parameter</p>                                                                                                                                                                                     |
| SCALE_UP_MULTIPLIER     | NUMBER       | NOT NULL | <p>Before the multiple-capture replay, <code>SCALE_UP_MULTIPLIER</code> is used to scale up the query part of a workload capture. The queries from each captured session are replayed concurrently as many times as the value of <code>SCALE_UP_MULTIPLIER</code>.</p>                                                                                                                                                                                                                                                                                                                                                                                 |
| USER_CALLS              | NUMBER       |          | Total number of user calls replayed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DBTIME                  | NUMBER       |          | Accumulated database time (in microseconds) for the replay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| NETWORK_TIME            | NUMBER       |          | Accumulated network time for the replay (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| THINK_TIME              | NUMBER       |          | Accumulated think time (in microseconds) for the replay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |



| Column            | Datatype     | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------|--------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PAUSE_TIME        | NUMBER       |      | The total time (in seconds) that the replay has been paused (by calling the PAUSE_REPLAY procedure)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PLSQL_CALLS       | NUMBER       |      | Total number of replayed top-level PL/SQL calls                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PLSQL_SUBCALLS    | NUMBER       |      | Total number of replayed calls for SQL executed from PL/SQL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| PLSQL_DBTIME      | NUMBER       |      | Total amount of database time (in microseconds) from PL/SQL calls                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ELAPSED_TIME_DIFF | NUMBER       |      | Reserved for future use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| REPLAY_DEADLOCKS  | NUMBER       |      | <p>A workload replay uses either the timing information from the capture files or the commit-based synchronization.</p> <p>With commit-based synchronization, the capture-time commit order is preserved during replay, and sessions normally wait on the session that is to do the next commit; such waits are classified as "WCR: replay clock" waits.</p> <p>A replay deadlock occurs if the session that is to do the next commit is itself blocked by a session that is waiting on "WCR: replay clock." Replay deadlocks are resolved by allowing the blocker to go ahead and commit out of order.</p> <p>Replay deadlocks are not detected as database deadlocks since "WCR: replay clock" is an idle wait, introduced specifically for DB Replay.</p> <p><b>See Also:</b> "WCR: replay clock"</p> |
| AWR_DBID          | NUMBER       |      | <p>Database ID of the AWR snapshots that correspond to this workload replay. For replays that were performed in the current database, this value is equal to the current database's DBID. For replays that were performed in other databases, this value will either be NULL or will be populated by</p> <p><code>DBMS_WORKLOAD_REPLAY.IMPORT_AWR()</code>.</p> <p><b>See Also:</b><br/> <code>DBMS_WORKLOAD_REPLAY.IMPORT_AWR()</code> in <i>Oracle Database PL/SQL Packages and Types Reference</i></p>                                                                                                                                                                                                                                                                                                |
| AWR_BEGIN_SNAP    | NUMBER       |      | Begin snapshot ID of the AWR snapshots that correspond to this workload replay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| AWR_END_SNAP      | NUMBER       |      | End snapshot ID of the AWR snapshots that correspond to this workload replay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| AWR_EXPORTED      | VARCHAR2(12) |      | <p>Indicates whether the AWR snapshots that correspond to this workload replay have been exported using <code>DBMS_WORKLOAD_REPLAY.EXPORT_AWR()</code> (YES) or not (NO), or whether AWR snapshots cannot be exported because the replay is still in progress, has run to completion successfully, or was done in a different database from which it was not exported (NOT POSSIBLE)</p> <p><b>See Also:</b><br/> <code>DBMS_WORKLOAD_REPLAY.EXPORT_AWR()</code> in <i>Oracle Database PL/SQL Packages and Types Reference</i></p>                                                                                                                                                                                                                                                                       |

| Column                    | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ERROR_CODE                | NUMBER          |          | Error code for this workload replay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ERROR_MESSAGE             | VARCHAR2 (512)  |          | Error message for this workload replay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| DIR_PATH                  | VARCHAR2 (4000) | NOT NULL | Full directory path for the replay directory object                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| REPLAY_DIR_NUMBER         | NUMBER          |          | A hash value computed based on the values of other columns in this view, such as the NAME, DBID, DBNAME, PREPARE_TIME, START_TIME, and END_TIME columns. It should be fairly unique for any replay. The value is used to create a subdirectory under the replay directory.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SQLESET_OWNER             | VARCHAR2 (128)  |          | User name of the SQL tuning set owner                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SQLESET_NAME              | VARCHAR2 (128)  |          | Name of the SQL tuning set for this workload replay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SCHEDULE_NAME             | VARCHAR2 (128)  |          | <p>The name of a schedule to be replayed. It defines one or multiple workload captures, and the order to start their replays.</p> <p>If SCHEDULE_NAME is NULL, the replay is a regular replay introduced since Oracle Database 11g, done with existing APIs from DBMS_WORKLOAD_REPLAY: INITIALIZE_REPLAY, PREPARE_REPLAY, and START_REPLAY.</p> <p>If SCHEDULE_NAME is not NULL, the replay is a new consolidated replay introduced in Oracle Database 12c. That is, it is a replay of one or more workload captures done with new APIs at DBMS_WORKLOAD_REPLAY: INITIALIZE_CONSOLIDATED_REPLAY, PREPARE_CONSOLIDATED_REPLAY, and START_CONSOLIDATED_REPLAY.</p> <p><b>See Also:</b> DBMS_WORKLOAD_REPLAY in <i>Oracle Database PL/SQL Packages and Types Reference</i></p> |
| DIVERGENCE_LOAD_STATUS    | VARCHAR2 (5)    |          | Indicates whether replay divergence data have been loaded (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| PLSQL_MODE                | VARCHAR2 (12)   |          | <p>Replay options for PL/SQL calls. Possible values:</p> <ul style="list-style-type: none"> <li>• TOP_LEVEL: Top-level PL/SQL only</li> <li>• EXTENDED: SQL executed from PL/SQL or top-level PL/SQL if there is no SQL recorded inside the PL/SQL</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CONNECT_TIME_AUTO_CORRECT | VARCHAR2 (12)   |          | <p>Indicates whether the waiting time for a new session to be connected is automatically reduced when the replay proceeds faster than its capture. The reduced amount is determined by the elapsed-time difference between the replay and the capture of the slowest session. The default value is true.</p> <p>There is no impact when the replay proceeds slower than the capture.</p>                                                                                                                                                                                                                                                                                                                                                                                    |

| Column              | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RAC_MODE            | VARCHAR2 (19)  |      | Replay options in an Oracle RAC environment: <ul style="list-style-type: none"> <li>• GLOBAL_SYNC: Synchronization is across all instances. This is the default.<br/>Database connections from workload replay client (wrc) are done based on connection remapping.</li> <li>• PER_INSTANCE_CLIENT: Synchronization is across all instances.<br/>All database connections from one wrc are connected to only one instance.</li> <li>• PER_INSTANCE_SYNC: Synchronization is within one instance.<br/>All database connections from one wrc are connected to only one instance.</li> </ul> |
| QUERY_ONLY          | VARCHAR2 (1)   |      | Indicates whether only the query-only workload from the current workload capture will be replayed, skipping all the DML/DDDL that might update the database (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                |
| PDB_LEVEL           | VARCHAR2 (1)   |      | Indicates whether the replay is a PDB-level replay (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| NUM_CLIENTS_ABORTED | NUMBER         |      | Number of workload replay clients terminated during the replay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PATCH_NAME          | VARCHAR2 (128) |      | Database workload capture and replay patch name<br>This column is only populated for backports to Oracle Database 12c Release 1 (12.1) and earlier releases.                                                                                                                                                                                                                                                                                                                                                                                                                              |
| DURATION_LIMIT      | NUMBER (38)    |      | Replay duration limit (in seconds)<br>If the replay duration limit has not been set, then the value of this column is null.                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| STATUS_DETAILS      | VARCHAR2 (128) |      | Provides additional details about the replay status<br>If additional details are not available, then the value of this column is null.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |



#### See Also:

*Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_WORKLOAD\_REPLAY package

## 7.136 DBA\_WORKLOAD\_SCHEDULE\_CAPTURES

DBA\_WORKLOAD\_SCHEDULE\_CAPTURES displays the workload captures used by replay schedules.

Each row in the view contains information about one workload capture.

| Column        | Datatype       | NULL     | Description                           |
|---------------|----------------|----------|---------------------------------------|
| SCHEDULE_NAME | VARCHAR2 (128) | NOT NULL | The name of a schedule to be replayed |

| Column                  | Datatype        | NULL     | Description                                                                                                                                                                                                                                                           |
|-------------------------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCHEDULE_CAP_ID         | NUMBER          | NOT NULL | Identifies a workload capture added to a replay schedule. It starts with 1. If the same capture is added multiple times to a schedule, there will be multiple rows with different SCHEDULE_CAP_ID columns and identical CAPTURE_ID columns.                           |
| CAPTURE_ID              | NUMBER          | NOT NULL | Points to the capture ID from DBA_WORKLOAD_CAPTURES.                                                                                                                                                                                                                  |
| CAPTURE_DIR             | VARCHAR2 (128)  | NOT NULL | Name of the directory object for workload capture                                                                                                                                                                                                                     |
| OS_SUBDIR               | VARCHAR2 (4000) | NOT NULL | Name of the subdirectory under the replay directory for this workload capture                                                                                                                                                                                         |
| MAX_CONCURRENT_SESSIONS | NUMBER          |          | The maximal number of concurrent sessions that was seen in this workload capture                                                                                                                                                                                      |
| NUM_CLIENTS_ASSIGNED    | NUMBER          |          | Number of clients assigned to this workload capture before replay starts                                                                                                                                                                                              |
| NUM_CLIENTS             | NUMBER          |          | Number of clients that are running for this workload capture during replay                                                                                                                                                                                            |
| NUM_CLIENTS_DONE        | NUMBER          |          | Number of clients that have finished the replay of this workload capture                                                                                                                                                                                              |
| STOP_REPLAY             | VARCHAR2 (1)    | NOT NULL | Indicates whether the whole replay will stop once the replay of this workload capture is done (Y) or not (N)                                                                                                                                                          |
| TAKE_BEGIN_SNAPSHOT     | VARCHAR2 (1)    | NOT NULL | Indicates whether an AWR snapshot will be taken when the replay of this capture starts (Y) or not (N)                                                                                                                                                                 |
| TAKE_END_SNAPSHOT       | VARCHAR2 (1)    | NOT NULL | Indicates whether an AWR snapshot will be taken when the replay of this capture finishes (Y) or not (N)                                                                                                                                                               |
| QUERY_ONLY              | VARCHAR2 (1)    | NOT NULL | Indicates whether only the query-only workload from the current workload capture will be replayed, skipping all the DML/DDl that might update the database (Y) or not (N)                                                                                             |
| START_DELAY_SECS        | NUMBER          |          | Displays the wait time (in seconds) when the replay of a workload capture is ready to start. "Ready to start" means the capture does not wait for any other capture, or all the captures for which it should wait have already been replayed. The default value is 0. |
| START_TIME              | DATE            |          | Start time for the replay of this capture                                                                                                                                                                                                                             |
| END_TIME                | DATE            |          | Finish time for the replay of this capture                                                                                                                                                                                                                            |
| AWR_DBID                | NUMBER          |          | AWR database ID of the replay                                                                                                                                                                                                                                         |
| AWR_BEGIN_SNAP          | NUMBER          |          | AWR snapshot ID when the replay starts                                                                                                                                                                                                                                |
| AWR_END_SNAP            | NUMBER          |          | AWR snapshot ID when the replay finishes                                                                                                                                                                                                                              |
| NUM_CLIENTS_ABORTED     | NUMBER          |          | Number of workload replay clients terminated during the replay                                                                                                                                                                                                        |

## 7.137 DBA\_WORKLOAD\_SCHEDULE\_ORDERING

DBA\_WORKLOAD\_SCHEDULE\_ORDERING displays the start ordering between workload captures in the replay schedule.

Each row in the view defines one start ordering between two workload captures in the same replay schedule.

| Column          | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCHEDULE_NAME   | VARCHAR2 (128) | NOT NULL | Name of a schedule to be replayed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SCHEDULE_CAP_ID | NUMBER         | NOT NULL | Identifies the workload capture that will wait                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| WAITFOR_CAP_ID  | NUMBER         | NOT NULL | Identifies the workload capture for which the workload capture identified by SCHEDULE_CAP_ID needs to wait. The replay of capture SCHEDULE_CAP_ID will not start until capture WAITFOR_CAP_ID finishes its replay.<br><br>If the view has multiple rows with the same SCHEDULE_CAP_ID but different WAITFOR_CAP_ID, it defines a schedule so that the replay of a capture specified by SCHEDULE_CAP_ID will not start unless all the replays of the waited captures run into completion.<br><br>If the view has multiple rows with the same WAITFOR_CAP_ID but different SCHEDULE_CAP_ID, it defines a schedule so that the replay of multiple captures will not start unless the replay of the capture specified by WAITFOR_CAP_ID finishes. |

## 7.138 DBA\_WORKLOAD\_SQL\_MAP

DBA\_WORKLOAD\_SQL\_MAP contains the mapping information for skipping or replacing a SQL statement based on its sql\_id during workload replay.

| Column               | Datatype        | NULL     | Description                                                                                                                                                                    |
|----------------------|-----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REPLAY_ID            | NUMBER (38)     | NOT NULL | A foreign key to the ID column in the DBA_WORKLOAD_REPLAYs view                                                                                                                |
| SCHEDULE_CAP_ID      | NUMBER (38)     | NOT NULL | The ID of a capture in the schedule                                                                                                                                            |
| SQL_ID               | VARCHAR2 (13)   | NOT NULL | SQL identifier of the SQL statement at the time of capture                                                                                                                     |
| OPERATION            | VARCHAR2 (7)    |          | SKIP or REPLACE                                                                                                                                                                |
| SQL_ID_NUMBER        | NUMBER          |          | Internal representation of SQL_ID                                                                                                                                              |
| REPLACEMENT_SQL_TEXT | VARCHAR2 (4000) |          | When the value in the OPERATION column is SKIP, this column is NULL.<br><br>When the value in the OPERATION column is REPLACE, this column shows the SQL statement to be used. |

## 7.139 DBA\_WORKLOAD\_TRACKED\_COMMITS

DBA\_WORKLOAD\_TRACKED\_COMMITS displays the commits tracked every second during a database replay.

| Column            | Datatype    | NULL     | Description                                                                                                                                   |
|-------------------|-------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| REPLAY_DIR_NUMBER | NUMBER      | NOT NULL | The numerical value that is associated with the subdirectory under the replay directory.<br><br>See REPLAY_DIR_NUMBER in DBA_WORKLOAD_REPLAYS |
| INSTANCE_NUMBER   | NUMBER (38) |          | The instance where the commit is executed                                                                                                     |
| FILE_ID           | NUMBER (38) | NOT NULL | The file ID                                                                                                                                   |

| Column                     | Datatype   | NULL     | Description                                                                                 |
|----------------------------|------------|----------|---------------------------------------------------------------------------------------------|
| CALL_CTR                   | NUMBER(38) | NOT NULL | The call counter of the commit                                                              |
| COMMIT_SCN                 | NUMBER(38) |          | The recorded commit SCN value                                                               |
| PREV_GLOBAL_COMMIT_FILE_ID | NUMBER(38) |          | The file ID of the latest commit across all sessions                                        |
| PREV_GLOBAL_COMMIT_SCN     | NUMBER(38) |          | The recorded SCN of the latest commit across all sessions                                   |
| PREV_LOCAL_COMMIT_CALL_CTR | NUMBER(38) |          | The call counter of the latest commit in the same session                                   |
| CAPTURE_COMMIT_TIME        | NUMBER(38) |          | The time in seconds since the capture started                                               |
| CAPTURE_COMMIT_TIME_DELTA  | NUMBER(38) |          | The elapsed time in seconds since the previous commit across all sessions during capture    |
| REPLAY_COMMIT_TIME         | NUMBER(38) |          | The time in seconds since the replay started                                                |
| REPLAY_COMMIT_TIME_DELTA   | NUMBER(38) |          | The elapsed time in seconds since the previous commit across all sessions during the replay |

**See Also:**[DBA\\_WORKLOAD\\_REPLAYS](#)

## 7.140 DBA\_WORKLOAD\_USER\_MAP

DBA\_WORKLOAD\_USER\_MAP contains all the mappings ever done until they are removed at some point.

The mappings are stored in a table made public through this view.

To remove old mappings, execute this statement:

```
SQL> delete * from DBA_WORKLOAD_USER_MAP;
```

| Column          | Datatype       | NULL     | Description                                                                                                                                                                               |
|-----------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REPLAY_ID       | NUMBER         |          | This is a foreign key to the ID column in the DBA_WORKLOAD_REPLAYS view                                                                                                                   |
| SCHEDULE_CAP_ID | NUMBER         |          | The ID of a capture in the schedule                                                                                                                                                       |
| CAPTURE_USER    | VARCHAR2(4000) | NOT NULL | The user name during the time of the workload capture                                                                                                                                     |
| REPLAY_USER     | VARCHAR2(4000) |          | The user name to which the captured user should be remapped during replay. If the REPLAY_USER is null, the CAPTURE_USER is used during replay. In other words, the original user is used. |

**See Also:**["DBA\\_WORKLOAD\\_REPLAYS"](#)

## 7.141 DBA\_XML\_INDEXES

DBA\_XML\_INDEXES describes all XML indexes in the database. Its columns are the same as those in ALL\_XML\_INDEXES.



**See Also:**

["ALL\\_XML\\_INDEXES"](#)

## 7.142 DBA\_XML\_NESTED\_TABLES

DBA\_XML\_NESTED\_TABLES describes all the tables and their corresponding nested tables. Its columns are the same as those in ALL\_XML\_NESTED\_TABLES.



**See Also:**

["ALL\\_XML\\_NESTED\\_TABLES"](#)

## 7.143 DBA\_XML\_OUT\_OF\_LINE\_TABLES

DBA\_XML\_OUT\_OF\_LINE\_TABLES describes all the out of line tables connected to a given root table for the same schema. Its columns are the same as those in ALL\_XML\_OUT\_OF\_LINE\_TABLES.



**See Also:**

["ALL\\_XML\\_OUT\\_OF\\_LINE\\_TABLES"](#)

## 7.144 DBA\_XML\_SCHEMA\_ATTRIBUTES

DBA\_XML\_SCHEMA\_ATTRIBUTES describes all the attributes and their properties. Its columns are the same as those in ALL\_XML\_SCHEMA\_ATTRIBUTES.



**See Also:**

["ALL\\_XML\\_SCHEMA\\_ATTRIBUTES"](#)

## 7.145 DBA\_XML\_SCHEMA\_COMPLEX\_TYPES

DBA\_XML\_SCHEMA\_COMPLEX\_TYPES describes all complex types in the database. Its columns are the same as those in ALL\_XML\_SCHEMA\_COMPLEX\_TYPES.



**See Also:**

["ALL\\_XML\\_SCHEMA\\_COMPLEX\\_TYPES"](#)

## 7.146 DBA\_XML\_SCHEMA\_ELEMENTS

DBA\_XML\_SCHEMA\_ELEMENTS describes all the elements and their properties. Its columns are the same as those in ALL\_XML\_SCHEMA\_ELEMENTS.



**See Also:**

["ALL\\_XML\\_SCHEMA\\_ELEMENTS"](#)

## 7.147 DBA\_XML\_SCHEMA\_NAMESPACES

DBA\_XML\_SCHEMA\_NAMESPACES describes all the available namespaces. Its columns are the same as those in ALL\_XML\_SCHEMA\_NAMESPACES.



**See Also:**

["ALL\\_XML\\_SCHEMA\\_NAMESPACES"](#)

## 7.148 DBA\_XML\_SCHEMA\_SIMPLE\_TYPES

DBA\_XML\_SCHEMA\_SIMPLE\_TYPES describes all simple types. Its columns are the same as those in ALL\_XML\_SCHEMA\_SIMPLE\_TYPES.



**See Also:**

["ALL\\_XML\\_SCHEMA\\_SIMPLE\\_TYPES"](#)



## 7.149 DBA\_XML\_SCHEMA\_SUBSTGRP\_HEAD

DBA\_XML\_SCHEMA\_SUBSTGRP\_HEAD describes the heads of substitution groups. Its columns are the same as those in ALL\_XML\_SCHEMA\_SUBSTGRP\_HEAD.



**See Also:**

["ALL\\_XML\\_SCHEMA\\_SUBSTGRP\\_HEAD"](#)

## 7.150 DBA\_XML\_SCHEMA\_SUBSTGRP\_MBRS

DBA\_XML\_SCHEMA\_SUBSTGRP\_MBRS describes all members of substitution groups. Its columns are the same as those in ALL\_XML\_SCHEMA\_SUBSTGRP\_MBRS.



**See Also:**

["ALL\\_XML\\_SCHEMA\\_SUBSTGRP\\_MBRS"](#)

## 7.151 DBA\_XML\_SCHEMAS

DBA\_XML\_SCHEMAS describes all registered XML schemas in the database. Its columns are the same as those in ALL\_XML\_SCHEMAS.



**See Also:**

["ALL\\_XML\\_SCHEMAS"](#)

## 7.152 DBA\_XML\_TAB\_COLS

DBA\_XML\_TAB\_COLS describes the columns of all XML tables in the database. Its columns are the same as those in ALL\_XML\_TAB\_COLS.



**See Also:**

["ALL\\_XML\\_TAB\\_COLS"](#)

## 7.153 DBA\_XML\_TABLES

DBA\_XML\_TABLES describes all XML tables in the database. Its columns are the same as those in ALL\_XML\_TABLES.



**See Also:**

["ALL\\_XML\\_TABLES"](#)

## 7.154 DBA\_XML\_VIEW\_COLS

DBA\_XML\_VIEW\_COLS describes the columns of all XML views in the database. Its columns are the same as those in ALL\_XML\_VIEW\_COLS.



**See Also:**

["ALL\\_XML\\_VIEW\\_COLS"](#)

## 7.155 DBA\_XML\_VIEWS

DBA\_XML\_VIEWS describes all XML views in the database. Its columns are the same as those in ALL\_XML\_VIEWS.



**See Also:**

["ALL\\_XML\\_VIEWS"](#)

## 7.156 DBA\_XS\_AUDIT\_POLICY\_OPTIONS

DBA\_XS\_AUDIT\_POLICY\_OPTIONS describes auditing options defined under all audit policies specific to Oracle Database Real Application Security.

| Column             | Datatype        | NULL | Description                                                                                                                 |
|--------------------|-----------------|------|-----------------------------------------------------------------------------------------------------------------------------|
| POLICY_NAME        | VARCHAR2 (128)  |      | Name of the audit policy                                                                                                    |
| AUDIT_CONDITION    | VARCHAR2 (4000) |      | Condition associated with the audit policy                                                                                  |
| AUDIT_OPTION       | VARCHAR2 (128)  |      | Auditing option defined in the audit policy                                                                                 |
| CONDITION_EVAL_OPT | VARCHAR2 (9)    |      | Evaluation option associated with the audit policy's condition. The possible values are STATEMENT, SESSION, INSTANCE, NONE. |

| Column | Datatype     | NULL | Description                                                                                                     |
|--------|--------------|------|-----------------------------------------------------------------------------------------------------------------|
| COMMON | VARCHAR2 (3) |      | Indicates whether the audit policy is a common audit policy (YES) or local (NO). The value is NULL in non-CDBs. |



### See Also:

*Oracle Database Security Guide* for more information about auditing

## 7.157 DBA\_XS\_AUDIT\_TRAIL

DBA\_XS\_AUDIT\_TRAIL describes all audit records specific to Oracle Database Real Application Security.

| Column                   | Datatype       | NULL | Description                                                                                                                                                                                        |
|--------------------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USERID                   | VARCHAR2 (128) |      | Name of the database user whose actions were audited                                                                                                                                               |
| ACTION                   | NUMBER         |      | Numeric audit trail action type code. The corresponding name of the action type is in the ACTION_NAME column.                                                                                      |
| ACTION_NAME              | VARCHAR2 (64)  |      | Name of the action type corresponding to the numeric code in the ACTION column                                                                                                                     |
| OBJ_OWNER                | VARCHAR2 (128) |      | Owner of the object affected by the action                                                                                                                                                         |
| OBJ_NAME                 | VARCHAR2 (128) |      | Name of the object affected by the action                                                                                                                                                          |
| RETURN_CODE              | NUMBER         |      | Oracle error code generated by the action                                                                                                                                                          |
| XS_USER_NAME             | VARCHAR2 (128) |      | Name of the Real Application Security user                                                                                                                                                         |
| XS_SESSIONID             | RAW (33)       |      | Identifier of the Real Application Security session                                                                                                                                                |
| XS_INACTIVITY_TIMEOUT    | NUMBER         |      | Inactivity timeout of the Real Application Security session                                                                                                                                        |
| XS_ENTITY_TYPE           | VARCHAR2 (32)  |      | Type of the Real Application Security entity. Possible values are USER, ROLE, ROLESSET, SECURITYCLASS, ACL, DATASEcurity, and NSTEMPLATE.                                                          |
| XS_TARGET_PRINCIPAL_NAME | VARCHAR2 (128) |      | Target principal name in Real Application Security operations. Possible operations are set verifier, set password, add proxy, remove proxy, switch user, assign user, create session, grant roles. |
| XS_PROXY_USER_NAME       | VARCHAR2 (128) |      | Name of the Real Application Security proxy user.                                                                                                                                                  |
| XS_DATASEC_POLICY_NAME   | VARCHAR2 (128) |      | Name of the Real Application Security data security policy enabled or disabled                                                                                                                     |
| XS_SCHEMA_NAME           | VARCHAR2 (128) |      | Name of the schema in enable, disable data security policy and global callback operation                                                                                                           |
| XS_CALLBACK_EVENT_TYPE   | VARCHAR2 (32)  |      | Real Application Security global callback event type                                                                                                                                               |
| XS_PACKAGE_NAME          | VARCHAR2 (128) |      | Real Application Security callback package name for the global callback                                                                                                                            |

| Column                  | Datatype                     | NULL | Description                                                                |
|-------------------------|------------------------------|------|----------------------------------------------------------------------------|
| XS_PROCEDURE_NAME       | VARCHAR2 (128)               |      | Real Application Security callback procedure name for the global callback  |
| XS_ENABLED_ROLE         | VARCHAR2 (128)               |      | The role that is enabled                                                   |
| XS_COOKIE               | VARCHAR2 (1024)              |      | Real Application Security session cookie                                   |
| XS_NS_NAME              | VARCHAR2 (128)               |      | Name of the Real Application Security session namespace                    |
| XS_NS_ATTRIBUTE         | VARCHAR2 (4000)              |      | Name of the Real Application Security session namespace attribute          |
| XS_NS_ATTRIBUTE_OLD_VAL | VARCHAR2 (4000)              |      | The old value of the Real Application Security session namespace attribute |
| XS_NS_ATTRIBUTE_NEW_VAL | VARCHAR2 (4000)              |      | The new value of the Real Application Security session namespace attribute |
| EVENT_TIMESTAMP         | TIMESTAMP (6) WITH TIME ZONE |      | Timestamp of audit record                                                  |

**See Also:**

*Oracle Database Security Guide* for more information about auditing

## 7.158 DBA\_XS\_ENABLED\_AUDIT\_POLICIES

DBA\_XS\_ENABLED\_AUDIT\_POLICIES describes all the audit policies specific to Oracle Database Real Application Security that are enabled to users.

**Note:**

This view was known as DBA\_XS\_ENB\_AUDIT\_POLICIES in Oracle Database 12c Release 1. It was renamed to DBA\_XS\_ENABLED\_AUDIT\_POLICIES in Oracle Database 12c Release 2 (12.2.0.1).

| Column         | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                            |
|----------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POLICY_NAME    | VARCHAR2 (128) |      | Name of the audit policy                                                                                                                                                                                                                                                                                                                               |
| ENABLED_OPTION | VARCHAR2 (15)  |      | Enabled option of the audit policy. Possible values: <ul style="list-style-type: none"> <li>• BY USER: For policies that are enabled on users</li> <li>• EXCEPT USERS: For policies that are enabled on users</li> <li>• BY GRANTED ROLE: For policies that are enabled on roles</li> <li>• INVALID: For policies that are enabled on roles</li> </ul> |
| ENTITY_NAME    | VARCHAR2 (128) |      | Database entity (user name or role name) on which the audit policy is enabled                                                                                                                                                                                                                                                                          |

| Column      | Datatype     | NULL | Description                                                                                                                                                                                                                      |
|-------------|--------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ENTITY_TYPE | VARCHAR2 (7) |      | Database entity type. Possible values: <ul style="list-style-type: none"><li>• USER: Indicates that the policy is enabled on a user or users.</li><li>• ROLE: Indicates that the policy is enabled on a role or roles.</li></ul> |
| SUCCESS     | VARCHAR2 (3) |      | Indicates whether the audit policy is enabled for auditing successful events (YES) or not (NO)                                                                                                                                   |
| FAILURE     | VARCHAR2 (3) |      | Indicates whether the audit policy is enabled for auditing unsuccessful events (YES) or not (NO)                                                                                                                                 |

**See Also:**

*Oracle Database Security Guide* for more information about auditing

## 7.159 DBA\_XS\_ENB\_AUDIT\_POLICIES

DBA\_XS\_ENB\_AUDIT\_POLICIES is a synonym for the DBA\_XS\_ENABLED\_AUDIT\_POLICIES view.

**See Also:**

- "DBA\_XS\_ENABLED\_AUDIT\_POLICIES"
- *Oracle Database Security Guide* for more information about auditing
- *Oracle Database Security Guide* for more information about auditing

## 7.160 DBA\_XSTREAM\_ADMINISTRATOR

DBA\_XSTREAM\_ADMINISTRATOR displays information about the users who have been granted privileges to be XStream administrators by procedures in the DBMS\_XSTREAM\_AUTH package. Its columns are the same as those in ALL\_XSTREAM\_ADMINISTRATOR.

**See Also:**

"ALL\_XSTREAM\_ADMINISTRATOR"

## 7.161 DBA\_XSTREAM\_INBOUND

DBA\_XSTREAM\_INBOUND displays information about all XStream inbound servers in the database. Its columns are the same as those in ALL\_XSTREAM\_INBOUND.



**See Also:**

["ALL\\_XSTREAM\\_INBOUND"](#)

## 7.162 DBA\_XSTREAM\_INBOUND\_PROGRESS

DBA\_XSTREAM\_INBOUND\_PROGRESS displays information about the progress made by all XStream inbound servers in the database. Its columns are the same as those in ALL\_XSTREAM\_INBOUND\_PROGRESS.



**See Also:**

["ALL\\_XSTREAM\\_INBOUND\\_PROGRESS"](#)

## 7.163 DBA\_XSTREAM\_OUT\_SUPPORT\_MODE

DBA\_XSTREAM\_OUT\_SUPPORT\_MODE displays information about the level of XStream capture process support for the tables in the database. Its columns are the same as those in ALL\_XSTREAM\_OUT\_SUPPORT\_MODE.



**See Also:**

["ALL\\_XSTREAM\\_OUT\\_SUPPORT\\_MODE"](#)

## 7.164 DBA\_XSTREAM\_OUTBOUND

DBA\_XSTREAM\_OUTBOUND displays information about all XStream outbound servers in the database. Its columns are the same as those in ALL\_XSTREAM\_OUTBOUND.



**See Also:**

["ALL\\_XSTREAM\\_OUTBOUND"](#)

## 7.165 DBA\_XSTREAM\_OUTBOUND\_PROGRESS

DBA\_XSTREAM\_OUTBOUND\_PROGRESS displays information about the progress made by all XStream outbound servers in the database. Its columns are the same as those in ALL\_XSTREAM\_OUTBOUND\_PROGRESS.



### See Also:

"ALL\_XSTREAM\_OUTBOUND\_PROGRESS"

## 7.166 DBA\_XSTREAM\_RULES

DBA\_XSTREAM\_RULES displays information about all XStream rules in the database. Its columns are the same as those in ALL\_XSTREAM\_RULES.



### See Also:

"ALL\_XSTREAM\_RULES"

## 7.167 DBA\_XSTREAM\_SPLIT\_MERGE

DBA\_XSTREAM\_SPLIT\_MERGE displays information about XStream current automatic split and merge operations.

| Column                  | Datatype       | NULL     | Description                                                                                                                                                                       |
|-------------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGINAL_CAPTURE_NAME   | VARCHAR2 (128) | NOT NULL | Name of the original capture process                                                                                                                                              |
| CLONED_CAPTURE_NAME     | VARCHAR2 (128) |          | Name of the cloned capture process                                                                                                                                                |
| ORIGINAL_CAPTURE_STATUS | VARCHAR2 (8)   |          | Status of the original capture process: <ul style="list-style-type: none"><li>• DISABLED</li><li>• ENABLED</li><li>• ABORTED</li></ul>                                            |
| CLONED_CAPTURE_STATUS   | VARCHAR2 (8)   |          | Status of the cloned capture process: <ul style="list-style-type: none"><li>• DISABLED</li><li>• ENABLED</li><li>• ABORTED</li></ul>                                              |
| ORIGINAL_XSTREAM_NAME   | VARCHAR2 (128) |          | Name of the original XStream component that receives database changes directly from the original capture process. The component is either a propagation or a local apply process. |
| CLONED_XSTREAM_NAME     | VARCHAR2 (128) |          | Name of the cloned XStream component that receives database changes directly from the cloned capture process. The component is either a propagation or a local apply process.     |

| Column                | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| XSTREAM_TYPE          | VARCHAR2 (11)  |      | Type of the component in ORIGINAL_XSTREAM_NAME and CLONED_XSTREAM_NAME: <ul style="list-style-type: none"> <li>• PROPAGATION</li> <li>• APPLY</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| RECOVERABLE_SCRIPT_ID | RAW (16)       |      | Unique ID of the script to split or merge operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SCRIPT_STATUS         | VARCHAR2 (12)  |      | Status of the recoverable script: <ul style="list-style-type: none"> <li>• GENERATING</li> <li>• NOT EXECUTING</li> <li>• EXECUTING</li> <li>• EXECUTED</li> <li>• ERROR</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ACTION_TYPE           | VARCHAR2 (7)   |      | type of action performed by the script: <ul style="list-style-type: none"> <li>• SPLIT</li> <li>• MERGE</li> <li>• MONITOR</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ACTION_THRESHOLD      | VARCHAR2 (40)  |      | For SPLIT actions, the threshold set by the split_threshold capture process parameter. For MERGE actions, the threshold set by the merge_threshold capture process parameter.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| STATUS                | VARCHAR2 (16)  |      | Status of the action: <ul style="list-style-type: none"> <li>• NOTHING TO SPLIT - Not ready to split or does not need to split</li> <li>• ABOUT TO SPLIT</li> <li>• SPLITTING - A split is in progress</li> <li>• SPLIT DONE - A split is done</li> <li>• NOTHING TO MERGE - Not ready to merge</li> <li>• ABOUT TO MERGE</li> <li>• MERGING - A merge is in progress</li> <li>• MERGE DONE - A merge is done</li> <li>• ERROR - An error was returned during a split or merge</li> <li>• NONSPLITTABLE - The original capture is not splittable either because it is disabled, it has more than one publisher to its queue, or it has only one destination for captured messages</li> </ul> |
| STATUS_UPDATE_TIME    | TIMESTAMP (6)  |      | Time when status was last updated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CREATION_TIME         | TIMESTAMP (6)  |      | Time when the action started                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| LAG                   | NUMBER         |      | Time (in seconds) that the cloned capture process lags behind the original capture process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| JOB_OWNER             | VARCHAR2 (128) |      | Owner of the job that performs the split or merge operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| JOB_NAME              | VARCHAR2 (128) |      | Name of the job that performs the split or merge operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |



| Column            | Datatype        | NULL | Description                                                                                                                                                                                                                                                                        |
|-------------------|-----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JOB_STATE         | VARCHAR2 (15)   |      | Current state of the job: <ul style="list-style-type: none"> <li>• DISABLED</li> <li>• RETRY SCHEDULED</li> <li>• SCHEDULED</li> <li>• RUNNING</li> <li>• COMPLETED</li> <li>• BROKEN</li> <li>• FAILED</li> <li>• REMOTE</li> <li>• SUCCEEDED</li> <li>• CHAIN_STALLED</li> </ul> |
| JOB_NEXT_RUN_DATE | VARCHAR2 (64)   |      | Next time the job will run                                                                                                                                                                                                                                                         |
| ERROR_NUMBER      | NUMBER          |      | Error number if the capture process was terminated                                                                                                                                                                                                                                 |
| ERROR_MESSAGE     | VARCHAR2 (4000) |      | Error message if the capture process was terminated                                                                                                                                                                                                                                |

## 7.168 DBA\_XSTREAM\_SPLIT\_MERGE\_HIST

DBA\_XSTREAM\_SPLIT\_MERGE\_HIST displays information about past XStream automatic split and merge operations.

| Column                  | Datatype       | NULL     | Description                                                                                                                                                                       |
|-------------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGINAL_CAPTURE_NAME   | VARCHAR2 (128) | NOT NULL | Name of the original capture process                                                                                                                                              |
| CLONED_CAPTURE_NAME     | VARCHAR2 (128) |          | Name of the cloned capture process                                                                                                                                                |
| ORIGINAL_QUEUE_OWNER    | VARCHAR2 (128) |          | Owner of the queue used by the original capture process                                                                                                                           |
| ORIGINAL_QUEUE_NAME     | VARCHAR2 (128) |          | Name of the queue used by the original capture process                                                                                                                            |
| CLONED_QUEUE_OWNER      | VARCHAR2 (128) |          | Owner of the queue used by the cloned capture process                                                                                                                             |
| CLONED_QUEUE_NAME       | VARCHAR2 (128) |          | Name of the queue used by the cloned capture process                                                                                                                              |
| ORIGINAL_CAPTURE_STATUS | VARCHAR2 (8)   |          | Status of the original capture process: <ul style="list-style-type: none"> <li>• DISABLED</li> <li>• ENABLED</li> <li>• ABORTED</li> </ul>                                        |
| CLONED_CAPTURE_STATUS   | VARCHAR2 (8)   |          | Status of the cloned capture process: <ul style="list-style-type: none"> <li>• DISABLED</li> <li>• ENABLED</li> <li>• ABORTED</li> </ul>                                          |
| ORIGINAL_XSTREAM_NAME   | VARCHAR2 (128) |          | Name of the original XStream component that receives database changes directly from the original capture process. The component is either a propagation or a local apply process. |
| CLONED_XSTREAM_NAME     | VARCHAR2 (128) |          | Name of the cloned XStream component that receives database changes directly from the cloned capture process. The component is either a propagation or a local apply process.     |

| Column                | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------|-----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| XSTREAM_TYPE          | VARCHAR2 (11)   |      | Type of the component in ORIGINAL_XSTREAM_NAME and CLONED_XSTREAM_NAME: <ul style="list-style-type: none"> <li>• PROPAGATION</li> <li>• APPLY</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| RECOVERABLE_SCRIPT_ID | RAW (16)        |      | Unique ID of the script to split or merge operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SCRIPT_STATUS         | VARCHAR2 (12)   |      | Status of the recoverable script: <ul style="list-style-type: none"> <li>• GENERATING</li> <li>• NOT EXECUTING</li> <li>• EXECUTING</li> <li>• EXECUTED</li> <li>• ERROR</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ACTION_TYPE           | VARCHAR2 (7)    |      | type of action performed by the script: <ul style="list-style-type: none"> <li>• SPLIT</li> <li>• MERGE</li> <li>• MONITOR</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ACTION_THRESHOLD      | VARCHAR2 (40)   |      | For SPLIT actions, the threshold set by the split_threshold capture process parameter. For MERGE actions, the threshold set by the merge_threshold capture process parameter.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| STATUS                | VARCHAR2 (16)   |      | Status of the action: <ul style="list-style-type: none"> <li>• NOTHING TO SPLIT - Not ready to split or does not need to split</li> <li>• ABOUT TO SPLIT</li> <li>• SPLITTING - A split is in progress</li> <li>• SPLIT DONE - A split is done</li> <li>• NOTHING TO MERGE - Not ready to merge</li> <li>• ABOUT TO MERGE</li> <li>• MERGING - A merge is in progress</li> <li>• MERGE DONE - A merge is done</li> <li>• ERROR - An error was returned during a split or merge</li> <li>• NONSPLITTABLE - The original capture is not splittable either because it is disabled, it has more than one publisher to its queue, or it has only one destination for captured messages</li> </ul> |
| STATUS_UPDATE_TIME    | TIMESTAMP (6)   |      | Time when status was last updated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CREATION_TIME         | TIMESTAMP (6)   |      | Time when the action started                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| LAG                   | NUMBER          |      | Time (in seconds) that the cloned capture process lags behind the original capture process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| JOB_OWNER             | VARCHAR2 (128)  |      | Owner of the job that performs the split or merge operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| JOB_NAME              | VARCHAR2 (128)  |      | Name of the job that performs the split or merge operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ERROR_NUMBER          | NUMBER          |      | Error number if the capture process was terminated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ERROR_MESSAGE         | VARCHAR2 (4000) |      | Error message if the capture process was terminated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## 7.169 DBA\_XSTREAM\_STMT\_HANDLERS

DBA\_XSTREAM\_STMT\_HANDLERS displays information about all XStream statement DML handlers in the database.

| Column            | Datatype        | NULL     | Description                       |
|-------------------|-----------------|----------|-----------------------------------|
| HANDLER_NAME      | VARCHAR2 (128)  | NOT NULL | Name of the statement handler     |
| HANDLER_COMMENT   | VARCHAR2 (4000) |          | Comment of the statement handler  |
| CREATION_TIME     | TIMESTAMP (6)   |          | Timestamp for script creation     |
| MODIFICATION_TIME | TIMESTAMP (6)   |          | Timestamp for script modification |

## 7.170 DBA\_XSTREAM\_STMTS

DBA\_XSTREAM\_STMTS displays information about the statements in all XStream statement DML handlers in the database.

| Column             | Datatype       | NULL     | Description                          |
|--------------------|----------------|----------|--------------------------------------|
| HANDLER_NAME       | VARCHAR2 (128) | NOT NULL | Name of the statement handler        |
| EXECUTION_SEQUENCE | NUMBER         | NOT NULL | Execution sequence of the statement  |
| STATEMENT          | CLOB           |          | Text of the SQL statement            |
| CREATION_TIME      | TIMESTAMP (6)  |          | Timestamp for statement creation     |
| MODIFICATION_TIME  | TIMESTAMP (6)  |          | Timestamp for statement modification |

## 7.171 DBA\_XSTREAM\_TRANSFORMATIONS

DBA\_XSTREAM\_TRANSFORMATIONS displays information about all XStream transformations available on a system, in order of execution. Its columns are the same as those in ALL\_XSTREAM\_TRANSFORMATIONS.



**See Also:**

["ALL\\_XSTREAM\\_TRANSFORMATIONS"](#)

## 7.172 DBA\_XTERNAL\_LOC\_PARTITIONS

DBA\_XTERNAL\_LOC\_PARTITIONS describes partition-level locations in the database. Its columns are the same as those in ALL\_XTERNAL\_LOC\_PARTITIONS.



**See Also:**

["ALL\\_XTERNAL\\_LOC\\_PARTITIONS"](#)

## 7.173 DBA\_XTERNAL\_LOC\_SUBPARTITIONS

DBA\_XTERNAL\_LOC\_SUBPARTITIONS describes subpartition-level locations in the database. Its columns are the same as those in ALL\_XTERNAL\_LOC\_SUBPARTITIONS.



**See Also:**

["ALL\\_XTERNAL\\_LOC\\_SUBPARTITIONS"](#)

## 7.174 DBA\_XTERNAL\_PART\_TABLES

DBA\_XTERNAL\_PART\_TABLES describes object-level information for partitioned external tables in the database. Its columns are the same as those in ALL\_XTERNAL\_PART\_TABLES.



**See Also:**

["ALL\\_XTERNAL\\_PART\\_TABLES"](#)

## 7.175 DBA\_XTERNAL\_TAB\_PARTITIONS

DBA\_XTERNAL\_TAB\_PARTITIONS describes partition-level information for partitioned external tables in the database. Its columns are the same as those in ALL\_XTERNAL\_TAB\_PARTITIONS.



**See Also:**

["ALL\\_XTERNAL\\_TAB\\_PARTITIONS"](#)

## 7.176 DBA\_XTERNAL\_TAB\_SUBPARTITIONS

DBA\_XTERNAL\_TAB\_SUBPARTITIONS describes subpartition-level information for partitioned external tables in the database. Its columns are the same as those in ALL\_XTERNAL\_TAB\_SUBPARTITIONS.



**See Also:**

["ALL\\_XTERNAL\\_TAB\\_SUBPARTITIONS"](#)

## 7.177 DBA\_ZONEMAP\_AUTO\_ACTIONS

DBA\_ZONEMAP\_AUTO\_ACTIONS provides information about automatic zone map tasks and executions.

| Column     | Datatype        | NULL     | Description                 |
|------------|-----------------|----------|-----------------------------|
| TASK_ID    | NUMBER          | NOT NULL | Zone map task identifier    |
| MSG_ID     | NUMBER          | NOT NULL | Zone map message identifier |
| EXEC_NAME  | VARCHAR2 (128)  |          | Zone map execution name     |
| ACTION_MSG | VARCHAR2 (4000) |          | Execution message text      |
| TIME_STAMP | TIMESTAMP (9)   |          | Execution timestamp         |

The TASK\_ID, MSG\_ID, and EXEC\_NAME columns in this view correspond to the same columns in the DBA\_ZONEMAP\_AUTO\_FINDINGS view. This allows you to correlate the actions in DBA\_ZONEMAP\_AUTO\_ACTIONS with their corresponding findings in DBA\_ZONEMAP\_AUTO\_FINDINGS.



**See Also:**

"DBA\_ZONEMAP\_AUTO\_FINDINGS"

## 7.178 DBA\_ZONEMAP\_AUTO\_FINDINGS

DBA\_ZONEMAP\_AUTO\_FINDINGS provides information about automatic zone map findings.

| Column         | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TASK_ID        | NUMBER          | NOT NULL | Zone map task identifier                                                                                                                                                                                                                                                                                                                                                                                                |
| MSG_ID         | NUMBER          | NOT NULL | Zone map message identifier                                                                                                                                                                                                                                                                                                                                                                                             |
| EXEC_NAME      | VARCHAR2 (128)  |          | Zone map execution name                                                                                                                                                                                                                                                                                                                                                                                                 |
| MESSAGE        | VARCHAR2 (4000) |          | Execution message text                                                                                                                                                                                                                                                                                                                                                                                                  |
| TIME_STAMP     | TIMESTAMP (9)   |          | Finding timestamp                                                                                                                                                                                                                                                                                                                                                                                                       |
| OBJECT_NAME    | VARCHAR2 (128)  | NOT NULL | Name of the object for which the finding was observed, typically a table name or a zone map name                                                                                                                                                                                                                                                                                                                        |
| FINDING_REASON | VARCHAR2 (9)    |          | Finding reason code                                                                                                                                                                                                                                                                                                                                                                                                     |
| FINDING_TYPE   | VARCHAR2 (9)    |          | Finding type. Possible values: <ul style="list-style-type: none"><li>• <b>BLACKLIST</b>: The table is no longer a candidate for automatic zone maps</li><li>• <b>ERROR</b>: An error occurred</li><li>• <b>EVICT</b>: The table does not meet automatic zone map creation criteria</li><li>• <b>OTHER</b></li></ul> Refer to the MESSAGE column for additional information about the reasoning behind the finding type. |

Automatic zone map findings contain information that the database learned when performing automatic zone map executions. The database uses these findings to optimize subsequent automatic zone maps executions, which saves on execution time and resources.

The `TASK_ID`, `MSG_ID`, and `EXEC_NAME` columns in this view correspond to the same columns in the `DBA_ZONEMAP_AUTO_ACTIONS` view. This allows you to correlate the findings in `DBA_ZONEMAP_AUTO_FINDINGS` with their corresponding actions in `DBA_ZONEMAP_AUTO_ACTIONS`.

**See Also:**

["DBA\\_ZONEMAP\\_AUTO\\_ACTIONS"](#)

## 7.179 DBA\_ZONEMAP\_MEASURES

`DBA_ZONEMAP_MEASURES` describes the measures for all the zone maps in the database. Its columns are the same as those in `ALL_ZONEMAP_MEASURES`.

**Note:**

This view is intended for use with Oracle Exadata release 12.1.2.1.1 or later.

**See Also:**

- ["ALL\\_ZONEMAP\\_MEASURES"](#)
- *Oracle Database Data Warehousing Guide* for more information about zone maps

## 7.180 DBA\_ZONEMAPS

`DBA_ZONEMAPS` describes all the zone maps in the database. Its columns are the same as those in `ALL_ZONEMAPS`.

**Note:**

This view is intended for use with Oracle Exadata release 12.1.2.1.1 or later.

**See Also:**

- ["ALL\\_ZONEMAPS"](#)
- *Oracle Database Data Warehousing Guide* for more information about zone maps

## 7.181 DBFS\_CONTENT

DBFS\_CONTENT displays all the path items from all available content stores in the system.

| Column                | Datatype        | NULL | Description                                                                                                                                                                                                                                                          |
|-----------------------|-----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STORE                 | VARCHAR2 (256)  |      | Name of store                                                                                                                                                                                                                                                        |
| MOUNT                 | VARCHAR2 (256)  |      | Location at which instance of store is mounted                                                                                                                                                                                                                       |
| PATHNAME              | VARCHAR2 (1024) |      | Name of path to item                                                                                                                                                                                                                                                 |
| PATHTYPE              | VARCHAR2 (32)   |      | Type of path item (see DBMS_DBFS_CONTENT Constants - Path Name Types)                                                                                                                                                                                                |
| FILEDATA              | BLOB            |      | BLOB locator that can be used to access data in the path item                                                                                                                                                                                                        |
| STD_ACCESS_TIME       | TIMESTAMP (6)   |      | Time of last access of a path name's contents                                                                                                                                                                                                                        |
| STD_ACL               | VARCHAR2 (1024) |      | Access Control List (in standard ACL syntax)                                                                                                                                                                                                                         |
| STD_CHANGE_TIME       | TIMESTAMP (6)   |      | Time of last change to the path name                                                                                                                                                                                                                                 |
| STD_CHILDREN          | NUMBER          |      | Number of child directories/folders a directory/folder path has (this property should be available in providers that support the FEATURE_FOLDERS feature)                                                                                                            |
| STD_CONTENT_TYPE      | VARCHAR2 (1024) |      | One or more client-supplied mime-types (in standard RFC syntax) describing the path name which is typically of TYPE_FILE. The content type is not necessarily interpreted by the store.                                                                              |
| STD_CREATION_TIME     | TIMESTAMP (6)   |      | Time at which the item was created. Once set, this value remains the same for the lifetime of the path name.                                                                                                                                                         |
| STD_DELETED           | NUMBER          |      | Set to a nonzero number if the path name has been soft-deleted but not yet purged (see DBMS_DBFS_CONTENT Constants - Store Features)                                                                                                                                 |
| STD_GUID              | NUMBER          |      | Store-specific unique identifier for a path name. Clients must not depend on the GUID being unique across different stores, but a given (store-name, store-specific-path name) has a stable and unique GUID for its lifetime.                                        |
| STD_MODIFICATION_TIME | TIMESTAMP (6)   |      | Time of last change to the data associated with a path name. Changes to the content of a TYPE_FILE or TYPE_REFERENCE path, the referent of the TYPE_LINK path, and addition or deletion of immediate children in a TYPE_DIRECTORY path, all constitute data changes. |
| STD_OWNER             | VARCHAR2 (32)   |      | Client-supplied (or implicit) owner name for the path name                                                                                                                                                                                                           |

| Column           | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------|-----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STD_PARENT_GUID  | NUMBER          |      | Store-specific unique identifier for the parent of a path name. Clients must not depend on the GUID being unique across different stores, but a given (store-name, store-specific-path name) has a stable and unique GUID for its lifetime.                                                                                                                                                            |
| STD_REFERENT     | VARCHAR2 (1024) |      | The GUID of the parent of this path name (that is that <code>std_parent_guid(pathname) == std_guid(parent(pathname))</code> ).<br><br>Content of the symbolic link of a <code>TYPE_LINK</code> path, otherwise NULL. The <code>STD_REFERENT</code> can be an arbitrary string and must not necessarily be interpreted as path name by clients (or such interpretation should be done with great care). |
| OPT_HASH_TYPE    | VARCHAR2 (32)   |      | Type of hash provided in the <code>OPT_HASH_VALUE</code> property (see <code>DBMS_CRYPTO</code> for possible options)                                                                                                                                                                                                                                                                                  |
| OPT_HASH_VALUE   | VARCHAR2 (128)  |      | Hash value of type <code>OPT_HASH_TYPE</code> describing the content of the path name                                                                                                                                                                                                                                                                                                                  |
| OPT_LOCK_COUNT   | NUMBER          |      | Number of compatible locks placed on a path name. If different principals are allowed to place compatible (read) locks on a path, the <code>OPT_LOCKER</code> must specify all lockers with repeats so that lock counts can be correctly maintained.                                                                                                                                                   |
| OPT_LOCK_DATA    | VARCHAR2 (128)  |      | Client-supplied user-data associated with a user-lock, uninterpreted by the store                                                                                                                                                                                                                                                                                                                      |
| OPT_LOCKER       | VARCHAR2 (128)  |      | One or more implicit or client-specified principals that applied a user-lock on a path name                                                                                                                                                                                                                                                                                                            |
| OPT_LOCK_STATUS  | NUMBER          |      | One of the ( <code>LOCK_READ_ONLY</code> , <code>LOCK_WRITE_ONLY</code> , <code>LOCK_READ_WRITE</code> ) values describing the type of lock currently applied on a path name                                                                                                                                                                                                                           |
| OPT_VERSION      | NUMBER          |      | Sequence number for linear versioning of a path name                                                                                                                                                                                                                                                                                                                                                   |
| OPT_VERSION_PATH | VARCHAR2 (1024) |      | Version path name for hierarchical versioning of a path name                                                                                                                                                                                                                                                                                                                                           |
| OPT_CONTENT_ID   | RAW (128)       |      | A provider-generated store-specific unique contentID in the form of a string for a file element (that may optionally not be associated with a path (see <code>FEATURE_CONTENT_ID</code> and <code>FEATURE_LAZY_PATH</code> in <code>DBMS_DBFS_CONTENT</code> Constants - Store Features)                                                                                                               |

#### See Also:

- *Oracle Database PL/SQL Packages and Types Reference* for more information about `DBMS_DBFS_CONTENT` Constants - Path Name Types and `DBMS_DBFS_CONTENT` Constants - Store Features
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_CRYPTO` package



## 7.182 DBFS\_CONTENT\_PROPERTIES

DBFS\_CONTENT\_PROPERTIES displays all the property/value pairs for all path items in all content stores in the system.

| Column         | Datatype        | NULL | Description                                    |
|----------------|-----------------|------|------------------------------------------------|
| STORE          | VARCHAR2 (256)  |      | Name of store                                  |
| MOUNT          | VARCHAR2 (256)  |      | Location at which instance of store is mounted |
| PATHNAME       | VARCHAR2 (1024) |      | Name of path to item                           |
| PROPERTY_NAME  | VARCHAR2 (32)   |      | Name of the property                           |
| PROPERTY_VALUE | VARCHAR2 (1024) |      | Value of the property                          |
| PROPERTY_TYPE  | NUMBER          |      | PL/SQL typecode for the property value         |

## 7.183 DBMS\_ALERT\_INFO

DBMS\_ALERT\_INFO describes registered alerts.

| Column  | Datatype        | NULL     | Description                                                                               |
|---------|-----------------|----------|-------------------------------------------------------------------------------------------|
| NAME    | VARCHAR2 (30)   | NOT NULL | Name of the alert                                                                         |
| SID     | VARCHAR2 (30)   | NOT NULL | Session ID of a session waiting for this alert                                            |
| CHANGED | VARCHAR2 (1)    |          | Boolean flag to indicate that an alert has been signaled. Y: alert signaled, N: no alert. |
| MESSAGE | VARCHAR2 (1800) |          | Optional message passed by signaler                                                       |

## 7.184 DBMS\_KAFKA\_APPLICATIONS

DBMS\_KAFKA\_APPLICATIONS describes all Oracle SQL Access to Kafka (OSAK) applications in the database.

The role OSAK\_ADMIN\_ROLE allows users with no administrative privileges to query this table.

| Column              | Datatype       | NULL     | Description                                                                   |
|---------------------|----------------|----------|-------------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128) | NOT NULL | Owner of the application                                                      |
| CLUSTER_ID          | VARCHAR2 (40)  | NOT NULL | ID of the OSAK cluster associated with the application                        |
| APPLICATION_NAME    | VARCHAR2 (30)  | NOT NULL | Application name (also used as the Kafka group name)                          |
| TOPIC_NAME          | VARCHAR2 (249) | NOT NULL | Name of the Kafka topic associated with the application                       |
| NUM_VIEWS           | NUMBER (38)    | NOT NULL | Number of OSAK views for the application                                      |
| NUM_PARTITIONS      | NUMBER (38)    | NOT NULL | Number of Kafka partitions associated with the OSAK views for the application |
| NUM_VIEWS_REQUESTED | NUMBER (38)    | NOT NULL | Number of OSAK views requested for the application                            |

| Column                 | Datatype       | NULL     | Description                                                                                                            |
|------------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------|
| APPLICATION_TYPE       | VARCHAR2 (30)  | NOT NULL | Type of application: <ul style="list-style-type: none"> <li>• LOAD</li> <li>• SEEKABLE</li> <li>• STREAMING</li> </ul> |
| OPTIONS                | BLOB           | NOT NULL | User-supplied options (excluding AVRO-related schemas)                                                                 |
| AVRO_SCHEMA            | BLOB           |          | User-supplied AVRO schema for the Kafka topic value data                                                               |
| KEY_AVRO_SCHEMA        | BLOB           |          | Reserved for future use                                                                                                |
| EXT_TABLE_NAME         | VARCHAR2 (128) |          | Name of the external table created for the application                                                                 |
| EXT_TABLE_SCHEMA       | VARCHAR2 (128) |          | Schema of the external table created for the application                                                               |
| PARTITION_TABLE_NAME   | VARCHAR2 (128) |          | Name of the PARTITIONS table created for the application                                                               |
| PARTITION_TABLE_SCHEMA | VARCHAR2 (128) |          | Schema of the PARTITIONS table created for the application                                                             |
| PARTITION_VIEW_NAME    | VARCHAR2 (128) |          | Name of the PARTITIONS view created for the application                                                                |
| PARTITION_VIEW_SCHEMA  | VARCHAR2 (128) |          | Schema of the PARTITIONS view created for the application                                                              |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- "DBA\_KAFKA\_APPLICATIONS"
- "USER\_KAFKA\_APPLICATIONS"

## 7.185 DBMS\_KAFKA\_CLUSTERS

DBMS\_KAFKA\_CLUSTERS describes all registered Oracle SQL Access to Kafka (OSAK) clusters in the database.

The role OSAK\_ADMIN\_ROLE allows users with no administrative privileges to query this table.

| Column     | Datatype       | NULL     | Description                                                     |
|------------|----------------|----------|-----------------------------------------------------------------|
| OWNER      | VARCHAR2 (128) | NOT NULL | Owner of the cluster<br>The value of this column is always SYS. |
| CLUSTER_ID | VARCHAR2 (40)  | NOT NULL | System-generated unique cluster ID                              |

| Column                   | Datatype       | NULL     | Description                                                                                                                                                                           |
|--------------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATE                    | NUMBER(38)     | NOT NULL | Current state of the cluster: <ul style="list-style-type: none"> <li>0 - CONNECTED</li> <li>1 - MAINTENANCE</li> <li>2 - BROKEN</li> <li>3 - DEREGISTERED</li> </ul>                  |
| CLUSTER_NAME             | VARCHAR2(30)   | NOT NULL | User-supplied name of the cluster                                                                                                                                                     |
| BOOTSTRAP_SERVERS        | VARCHAR2(4000) | NOT NULL | Comma-separated list of bootstrap servers for the cluster<br>Each bootstrap server is represented in the following form: <i>hostname:port</i>                                         |
| CLUSTER_ACCESS_DIRECTORY | VARCHAR2(128)  | NOT NULL | Name of the directory object associated with the cluster<br>Users with <code>READ</code> access to this directory object are allowed to access the cluster.                           |
| KAFKA_PROVIDER           | VARCHAR2(128)  | NOT NULL | Provider of the Kafka cluster software: <ul style="list-style-type: none"> <li>APACHE - Apache Kafka</li> <li>OSS - Oracle Cloud Infrastructure Streaming Service</li> </ul>          |
| CREDENTIAL_NAME          | VARCHAR2(128)  |          | If <code>KAFKA_PROVIDER = OSS</code> , the name of the database credential for the Oracle Cloud Infrastructure Streaming Service connection                                           |
| CREDENTIAL_SCHEMA        | VARCHAR2(128)  |          | If <code>KAFKA_PROVIDER = OSS</code> , the schema of <code>CREDENTIAL_NAME</code>                                                                                                     |
| CLUSTER_CONFIG_DIRECTORY | VARCHAR2(128)  |          | If <code>KAFKA_PROVIDER = APACHE</code> , the directory object that references the operating system directory containing the <code>osakafka.properties</code> file for the cluster    |
| CLUSTER_DESCRIPTION      | VARCHAR2(4000) |          | Optional user-supplied description of the Oracle SQL access to the cluster                                                                                                            |
| CONNECTION_TS            | TIMESTAMP(6)   |          | Timestamp of the last known successful connection to the cluster<br>The value of this column is NULL if a disconnect occurred or if there has never been a connection to the cluster. |
| OPTIONS                  | BLOB           |          | Optional user-supplied options for the cluster                                                                                                                                        |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- "DBA\_KAFKA\_CLUSTERS"
- "USER\_KAFKA\_CLUSTERS"

## 7.186 DBMS\_KAFKA\_LOAD\_METRICS

DBMS\_KAFKA\_LOAD\_METRICS displays metrics for DBMS\_KAFKA.EXECUTE\_LOAD\_APP operations on all tables in the database.

The role OSAK\_ADMIN\_ROLE allows users with no administrative privileges to query this table.

| Column              | Datatype                     | NULL     | Description                                                                |
|---------------------|------------------------------|----------|----------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128)               | NOT NULL | Owner of the table into which the Kafka data was loaded (TARGET_TABLE)     |
| CLUSTER_ID          | VARCHAR2 (40)                | NOT NULL | ID of the OSAK cluster associated with the EXECUTE_LOAD_APP operation      |
| APPLICATION_NAME    | VARCHAR2 (30)                |          | Application name (also used as the Kafka group name)                       |
| TARGET_TABLE        | VARCHAR2 (128)               | NOT NULL | Name of the table into which the Kafka data was loaded                     |
| TARGET_TABLE_SCHEMA | VARCHAR2 (128)               | NOT NULL | Schema of the table into which the Kafka data was loaded                   |
| INSERTED_ROWS       | NUMBER (38)                  |          | Total number of rows inserted into the table by the load operation         |
| KAFKA_RECORDS       | NUMBER (38)                  |          | Total number of Kafka records fetched for the load operation               |
| STARTED_TIME        | TIMESTAMP (6) WITH TIME ZONE |          | Date and time at which the Kafka data started being loaded into the table  |
| FINISHED_TIME       | TIMESTAMP (6) WITH TIME ZONE |          | Date and time at which the Kafka data finished being loaded into the table |



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

- ["DBA\\_KAFKA\\_LOAD\\_METRICS"](#)
- ["USER\\_KAFKA\\_LOAD\\_METRICS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_KAFKA.EXECUTE\_LOAD\_APP procedure

## 7.187 DBMS\_KAFKA\_MESSAGES

DBMS\_KAFKA\_MESSAGES displays messages logged by all Oracle SQL Access to Kafka (OSAK) applications in the database.

The role OSAK\_ADMIN\_ROLE allows users with no administrative privileges to query this table.

| Column           | Datatype        | NULL     | Description                                              |
|------------------|-----------------|----------|----------------------------------------------------------|
| OWNER            | VARCHAR2 (128)  | NOT NULL | Owner of the application                                 |
| CLUSTER_ID       | VARCHAR2 (40)   | NOT NULL | ID of the OSAK cluster associated with the application   |
| CLUSTER_NAME     | VARCHAR2 (30)   | NOT NULL | Name of the OSAK cluster associated with the application |
| APPLICATION_NAME | VARCHAR2 (30)   |          | Application name (also used as the Kafka group name)     |
| VIEW_NAME        | VARCHAR2 (128)  |          | Name of the view associated with the application         |
| VIEW_SCHEMA      | VARCHAR2 (128)  |          | Schema of the view associated with the application       |
| MESSAGE_TYPE     | VARCHAR2 (20)   |          | Message type                                             |
| MESSAGE_TS       | TIMESTAMP (6)   |          | Timestamp for when the message was logged                |
| MESSAGE          | VARCHAR2 (4000) |          | Message text                                             |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"[USER\\_KAFKA\\_MESSAGES](#)"

## 7.188 DBMS\_KAFKA\_OPS

DBMS\_KAFKA\_OPS describes operations for all Oracle SQL Access to Kafka (OSAK) views in the database.

The role OSAK\_ADMIN\_ROLE allows users with no administrative privileges to query this table.

| Column           | Datatype       | NULL     | Description                                                                                    |
|------------------|----------------|----------|------------------------------------------------------------------------------------------------|
| OWNER            | VARCHAR2 (128) | NOT NULL | Owner of the OSAK view                                                                         |
| OP_KEY           | VARCHAR2 (30)  | NOT NULL | Unique operation key (replacement for the location file)                                       |
| OP_TYPE          | VARCHAR2 (30)  | NOT NULL | Generic operation type                                                                         |
| OP               | VARCHAR2 (30)  | NOT NULL | Specific type of operation within OP_TYPE                                                      |
| CLUSTER_ID       | VARCHAR2 (40)  | NOT NULL | ID of the OSAK cluster associated with the operation                                           |
| APPLICATION_NAME | VARCHAR2 (30)  |          | Name of the OSAK application associated with the operation (also used as the Kafka group name) |
| TOPIC_NAME       | VARCHAR2 (249) |          | Name of the Kafka topic associated with the operation                                          |
| PARTITION_ID     | NUMBER (38)    |          | Partition ID of the Kafka topic associated with the operation                                  |
| OFFSET           | NUMBER (38)    |          | Next offset from which an SEQ operation will start reading                                     |

| Column                  | Datatype    | NULL | Description                                                                                                                                                                                                                        |
|-------------------------|-------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RELATIVE_OFFSET         | NUMBER(38)  |      | Number of offsets, including the watermark, from which an SEQ operation will start reading                                                                                                                                         |
| WATERMARK               | VARCHAR2(5) |      | Basis for the start read offset for an SEQ operation (WMH or WML)                                                                                                                                                                  |
| START_OFFSET_EPOCH_TIME | NUMBER(38)  |      | Timestamp (in milliseconds) that determines the next offset from which the operation will start reading<br>This value is used by the <code>DBMS_KAFKA.INIT_OFFSET_TS</code> and <code>DBMS_KAFKA.SEEK_OFFSET_TS</code> procedures. |
| END_OFFSET_EPOCH_TIME   | NUMBER(38)  |      | Timestamp (in milliseconds) that determines the end offset at which the operation will stop reading<br>This value is used by the <code>DBMS_KAFKA.SEEK_OFFSET_TS</code> procedure.                                                 |
| OPTIONS                 | BLOB        |      | Options associated with the operation                                                                                                                                                                                              |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_KAFKA\\_OPS"](#)
- ["USER\\_KAFKA\\_OPS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_KAFKA.INIT_OFFSET_TS` and `DBMS_KAFKA.SEEK_OFFSET_TS` procedures

## 7.189 DBMS\_KAFKA\_OPS\_RESULTS

`DBMS_KAFKA_OPS` displays the results of operations for all Oracle SQL Access to Kafka (OSAK) views in the database.

The role `OSAK_ADMIN_ROLE` allows users with no administrative privileges to query this table.

| Column      | Datatype      | NULL     | Description                                                |
|-------------|---------------|----------|------------------------------------------------------------|
| OWNER       | VARCHAR2(128) | NOT NULL | Owner of OSAK view                                         |
| OP_KEY      | VARCHAR2(30)  |          | Unique operation key (replacement for the location file)   |
| ROWS_READ   | NUMBER(38)    |          | Number of Kafka records read and returned by the operation |
| LAST_OFFSET | NUMBER(38)    |          | Kafka offset of the last record read by the operation      |
| OPTIONS     | BLOB          |          | Options associated with the operation results              |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- ["DBA\\_KAFKA\\_OPS\\_RESULTS"](#)
- ["USER\\_KAFKA\\_OPS\\_RESULTS"](#)

## 7.190 DBMS\_KAFKA\_PARTITIONS

DBMS\_KAFKA\_PARTITIONS describes partitions for Kafka topics associated with all Oracle SQL Access to Kafka (OSAK) views in the database.

The role OSAK\_ADMIN\_ROLE allows users with no administrative privileges to query this table.

| Column            | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                      |
|-------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER             | VARCHAR2 (128) | NOT NULL | Owner of the OSAK view                                                                                                                                                                                                                                                                                                                           |
| CLUSTER_ID        | VARCHAR2 (40)  | NOT NULL | ID of the OSAK cluster associated with the topic/partition                                                                                                                                                                                                                                                                                       |
| APPLICATION_NAME  | VARCHAR2 (30)  | NOT NULL | Application name (also used as the Kafka group name)                                                                                                                                                                                                                                                                                             |
| TOPIC_NAME        | VARCHAR2 (249) | NOT NULL | Kafka topic name associated with the topic/partition                                                                                                                                                                                                                                                                                             |
| PARTITION_ID      | NUMBER (38)    | NOT NULL | Partition ID of the Kafka topic                                                                                                                                                                                                                                                                                                                  |
| VIEW_ID           | NUMBER (38)    | NOT NULL | ID of the OSAK view associated with the topic/partition                                                                                                                                                                                                                                                                                          |
| VIEW_NAME         | VARCHAR2 (128) | NOT NULL | Name of the OSAK view associated with the topic/partition                                                                                                                                                                                                                                                                                        |
| VIEW_SCHEMA       | VARCHAR2 (128) | NOT NULL | Schema of the OSAK view associated with the topic/partition                                                                                                                                                                                                                                                                                      |
| TEMP_TABLE_NAME   | VARCHAR2 (128) |          | Name of the OSAK global temporary table associated with the topic/partition<br>The value of this column is null if the application type is LOAD, that is, if the application was created using the DBMS_KAFKA.CREATE_LOAD_APP procedure. The application type is displayed in the APPLICATION_TYPE column of the DBMS_KAFKA_APPLICATIONS view.   |
| TEMP_TABLE_SCHEMA | VARCHAR2 (128) |          | Schema of the OSAK global temporary table associated with the topic/partition<br>The value of this column is null if the application type is LOAD, that is, if the application was created using the DBMS_KAFKA.CREATE_LOAD_APP procedure. The application type is displayed in the APPLICATION_TYPE column of the DBMS_KAFKA_APPLICATIONS view. |
| OPTIONS           | BLOB           |          | Options associated with the partition                                                                                                                                                                                                                                                                                                            |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- "DBA\_KAFKA\_PARTITIONS"
- "USER\_KAFKA\_PARTITIONS"

## 7.191 DBMS\_KAFKA\_SEC\_ALLOWED\_PROPERTIES

DBMS\_KAFKA\_SEC\_ALLOWED\_PROPERTIES displays valid Oracle SQL Access to Kafka (OSAK) security properties.

DBMS\_KAFKA\_SEC\_ALLOWED\_PROPERTIES is a system table that is created and populated during database installation. It displays the properties that are allowed in the `osakafka.properties` file, which contains security configuration properties as required by the `librdkafka` library.

Immediately after installation, DBMS\_KAFKA\_SEC\_ALLOWED\_PROPERTIES displays the initial Oracle SQL Access to Kafka (OSAK) security properties listed in [Table 7-1](#). Subsequently, a user with the role `OSAK_ADMIN_ROLE` can view DBMS\_KAFKA\_SEC\_ALLOWED\_PROPERTIES and add additional properties to this table, as required or suggested by Oracle Support. Only the properties displayed in the DBMS\_KAFKA\_SEC\_ALLOWED\_PROPERTIES table are read from the `osakafka.properties` file.

| Column        | Datatype        | NULL     | Description                          |
|---------------|-----------------|----------|--------------------------------------|
| PROPERTY_NAME | VARCHAR2 (200)  | NOT NULL | Name of the security property        |
| DESCRIPTION   | VARCHAR2 (4000) |          | Description of the security property |

**Table 7-1 Initial Oracle SQL Access to Kafka (OSAK) Security Properties**

| Property Name                            | Description                                                                                                                                                                                                                                                                      |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>debug</code>                       | Enables <code>rdkafka</code> client debug output. The debug information is logged in Oracle trace files. The only allowed value is <code>all</code> .                                                                                                                            |
| <code>max.partition.fetch.bytes</code>   | Maximum number of bytes a Kafka server can return in a poll of a single partition. This is a positive integer value. Oracle Cloud Infrastructure (OCI) Streaming service Kafka recommends limiting the request size to 1 MB per partition.                                       |
| <code>osak.kgmps.max.message.size</code> | Maximum number of bytes a Kafka client can fetch in a poll of a single partition. This is a positive integer value with a default of 1 MB. This parameter, along with <code>max.partition.fetch.bytes</code> , allows for the retrieval of single Kafka records larger the 1 MB. |
| <code>sasl.kerberos.ccname</code>        | File name of the Kerberos credentials (ticket) cache ( <code>KRB5CCNAME</code> ) of the Kafka cluster                                                                                                                                                                            |
| <code>sasl.kerberos.config</code>        | File name of the Kerberos configuration file ( <code>krb5.conf</code> ) of the Kafka cluster                                                                                                                                                                                     |
| <code>sasl.kerberos.principal</code>     | Kafka client Kerberos principal name                                                                                                                                                                                                                                             |



Table 7-1 (Cont.) Initial Oracle SQL Access to Kafka (OSAK) Security Properties

| Property Name                                      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>sasl.kerberos.service.name</code>            | Primary name of the Kerberos principal, as specified in the Kafka Broker JAAS configuration file<br>For example:<br>The format of a typical Kerberos V5 principal is: <i>primary/instance@REALM</i> .<br>Therefore, if the following is specified in the Kafka Broker JAAS configuration file:<br><code>principal="kafka/example.hostname.com@EXAMPLEREALM.COM"</code><br>Then the value of <code>sasl.kerberos.service.name</code> will be <code>kafka</code> . |
| <code>sasl.mechanism</code>                        | Simple Authentication and Security Layer (SASL) mechanism to use for authentication. This is an alias for the <code>sasl.mechanisms</code> property. The allowed values are GSSAPI, PLAIN, SCRAM-SHA-256, and SCRAM-SHA-512. Only one value is allowed. The default value is GSSAPI.                                                                                                                                                                             |
| <code>sasl.mechanisms</code>                       | SASL mechanism to use for authentication. The allowed values are GSSAPI, PLAIN, SCRAM-SHA-256, and SCRAM-SHA-512. Only one value is allowed. The default value is GSSAPI.                                                                                                                                                                                                                                                                                        |
| <code>sasl.username</code>                         | User name for SASL authentication                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <code>security.protocol</code>                     | Protocol used to communicate with Kafka brokers. The allowed values are <code>plaintext</code> , <code>ssl</code> , <code>sasl_plaintext</code> , and <code>sasl_ssl</code> . Only one value is allowed.                                                                                                                                                                                                                                                         |
| <code>ssl.ca.location</code>                       | File name of the Certificate Authority (CA) file for verifying the Kafka broker key                                                                                                                                                                                                                                                                                                                                                                              |
| <code>ssl.certificate.location</code>              | File name of the Kafka client certificate in Privacy-Enhanced Mail (PEM) format                                                                                                                                                                                                                                                                                                                                                                                  |
| <code>ssl.endpoint.identification.algorithm</code> | Endpoint identification algorithm to validate the Kafka broker host name using a Kafka broker certificate. The allowed values are <code>https</code> and <code>none</code> . The default value is <code>none</code> .                                                                                                                                                                                                                                            |
| <code>ssl.key.location</code>                      | File name of the Kafka client private key                                                                                                                                                                                                                                                                                                                                                                                                                        |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

*Oracle Database Utilities* for more information about the `osakafka.properties` file

## 7.192 DBMS\_LOCK\_ALLOCATED

DBMS\_LOCK\_ALLOCATED describes user-allocated locks.

| Column | Datatype       | NULL     | Description            |
|--------|----------------|----------|------------------------|
| NAME   | VARCHAR2 (128) | NOT NULL | Name of the lock       |
| LOCKID | NUMBER (38)    |          | Lock identifier number |

| Column     | Datatype | NULL | Description                                                                     |
|------------|----------|------|---------------------------------------------------------------------------------|
| EXPIRATION | DATE     |      | Planned lock expiration date (updates whenever the allocation procedure is run) |

## 7.193 DBMS\_METADATA\_PARSE\_ITEMS

DBMS\_METADATA\_PARSE\_ITEMS documents the valid parse items.

| Column         | Datatype        | NULL     | Description                                       |
|----------------|-----------------|----------|---------------------------------------------------|
| OBJECT_TYPE    | VARCHAR2 (128)  | NOT NULL | Object type name                                  |
| PARSE_ITEM     | VARCHAR2 (124)  |          | Parse item name                                   |
| ALTER_XML      | VARCHAR2 (1)    |          | Y: Can be used when generating ALTER_XML document |
| FETCH_XML_CLOB | VARCHAR2 (1)    |          | Y: Can be returned by FETCH_XML_CLOB              |
| CONVERT        | VARCHAR2 (1)    |          | Y: Can be returned by CONVERT or FETCH_DDL        |
| DESCRIPTION    | VARCHAR2 (4000) |          | Description of the parse item                     |



### See Also:

- "DBMS\_METADATA\_TRANSFORM\_PARAMS"
- "DBMS\_METADATA\_TRANSFORMS"

## 7.194 DBMS\_METADATA\_TRANSFORM\_PARAMS

DBMS\_METADATA\_TRANSFORM\_PARAMS documents the valid transform parameters for each transform.

| Column      | Datatype        | NULL     | Description                                                                                   |
|-------------|-----------------|----------|-----------------------------------------------------------------------------------------------|
| OBJECT_TYPE | VARCHAR2 (128)  | NOT NULL | Object type name                                                                              |
| TRANSFORM   | VARCHAR2 (128)  | NOT NULL | Transform name                                                                                |
| PARAM       | VARCHAR2 (128)  | NOT NULL | Parameter name                                                                                |
| DATATYPE    | VARCHAR2 (11)   |          | BOOLEAN, TEXT, NUMBER or UNSPECIFIED                                                          |
| DEFAULT_VAL | VARCHAR2 (2000) |          | Default value of the transform parameter                                                      |
| CLIENT      | VARCHAR2 (1)    |          | Indicates whether the transform parameter is available to the Data Pump client (Y) or not (N) |
| API         | VARCHAR2 (1)    |          | Indicates whether the transform parameter is available to the Data Pump API (Y) or not (N)    |
| DESCRIPTION | VARCHAR2 (4000) |          | Description of the transform parameter                                                        |

**See Also:**

- ["DBMS\\_METADATA\\_PARSE\\_ITEMS"](#)
- ["DBMS\\_METADATA\\_TRANSFORMS"](#)

## 7.195 DBMS\_METADATA\_TRANSFORMS

DBMS\_METADATA\_TRANSFORMS documents the valid Oracle-supplied transforms.

| Column      | Datatype       | NULL     | Description                  |
|-------------|----------------|----------|------------------------------|
| OBJECT_TYPE | VARCHAR2 (128) | NOT NULL | Object type name             |
| TRANSFORM   | VARCHAR2 (128) | NOT NULL | Transform name               |
| INPUT_TYPE  | VARCHAR2 (24)  |          | Type of input document       |
| OUTPUT_TYPE | VARCHAR2 (24)  |          | Type of output document      |
| DESCRIPTION | VARCHAR2 (71)  |          | Description of the transform |

**See Also:**

- ["DBMS\\_METADATA\\_PARSE\\_ITEMS"](#)
- ["DBMS\\_METADATA\\_TRANSFORM\\_PARAMS"](#)

## 7.196 DEPTREE

This view, created by `utldtree.sql`, contains information on the object dependency tree.

For user `SYS`, this view displays shared cursors (and only shared cursors) that depend on the object. For all other users, it displays objects other than shared cursors. Other users can access `SYS.DEPTREE` for information on shared cursors.

| Column       | Datatype        | NULL | Description                                                                                                       |
|--------------|-----------------|------|-------------------------------------------------------------------------------------------------------------------|
| NESTED_LEVEL | NUMBER          |      | Nesting level in the dependency tree                                                                              |
| TYPE         | VARCHAR2 (23)   |      | Object type                                                                                                       |
| SCHEMA       | VARCHAR2 (128)  |      | Object schema                                                                                                     |
| NAME         | VARCHAR2 (1002) |      | Object name                                                                                                       |
| SEQ#         | NUMBER          |      | Sequence number in the dependency tree. Used for ordering queries.<br><b>See Also:</b> <a href="#">"IDEPTREE"</a> |

## 7.197 DICT

DICT is a synonym for DICTIONARY.



**See Also:**

"DICTIONARY"

## 7.198 DICT\_COLUMNS

DICT\_COLUMNS contains descriptions of columns in data dictionary tables and views.

| Column      | Datatype        | NULL | Description                                 |
|-------------|-----------------|------|---------------------------------------------|
| TABLE_NAME  | VARCHAR2 (128)  |      | Name of the object that contains the column |
| COLUMN_NAME | VARCHAR2 (128)  |      | Name of the column                          |
| COMMENTS    | VARCHAR2 (4000) |      | Text comment on the column                  |

## 7.199 DICTIONARY

DICTIONARY contains descriptions of data dictionary tables and views.

| Column     | Datatype        | NULL | Description                |
|------------|-----------------|------|----------------------------|
| TABLE_NAME | VARCHAR2 (128)  |      | Name of the object         |
| COMMENTS   | VARCHAR2 (4000) |      | Text comment on the object |

## 7.200 DICTIONARY\_CREDENTIALS\_ENCRYPT

DICTIONARY\_CREDENTIALS\_ENCRYPT indicates whether encryption of dictionary credentials is enforced or not. You can encrypt sensitive credential information, such as passwords that are stored in the data dictionary.

| Column      | Datatype     | NULL | Description                                                                                                                                                                                                                                                    |
|-------------|--------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ENFORCEMENT | VARCHAR2 (8) |      | Enforcement status for encryption of dictionary credentials. Possible values: <ul style="list-style-type: none"><li>ENABLED: Encryption of dictionary credentials is enforced</li><li>DISABLED: Encryption of dictionary credentials is not enforced</li></ul> |

**See Also:**

*Oracle Database Security Guide* for information about encrypting sensitive credential information in the data dictionary

## 7.201 DM\_USER\_MODELS

DM\_USER\_MODELS displays information about the models in the user's schema.

| Column        | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME          | VARCHAR2 (128) | NOT NULL | Name of the model                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| FUNCTION_NAME | VARCHAR2 (30)  |          | <p>Model function:</p> <ul style="list-style-type: none"><li>• <code>association</code> - Association is a descriptive mining function. An association model identifies relationships and the probability of their occurrence within a data set.</li><li>• <code>attribute_importance</code> - Attribute Importance is a predictive mining function. An attribute importance model identifies the relative importance of an attribute in predicting a given outcome.</li><li>• <code>classification</code> - Classification is a predictive mining function. A classification model uses historical data to predict new discrete or categorical data.<br/><br/>The <code>classification</code> function can also be used for anomaly detection. In this case, the SVM algorithm with a null target is used (One-Class SVM).</li><li>• <code>clustering</code> - Clustering is a descriptive mining function. A clustering model identifies natural groupings within a data set.</li><li>• <code>feature_extraction</code> - Feature Extraction is a descriptive mining function. A feature extraction model creates an optimized data set on which to base a model.</li><li>• <code>regression</code> - Regression is a predictive mining function. A regression model uses historical data to predict new continuous, numeric data.</li></ul> |

| Column           | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALGORITHM_NAME   | VARCHAR2 (30)  |          | Algorithm used by the model: <ul style="list-style-type: none"> <li>• <code>algo_name</code> - Setting that specifies the algorithm used by the model.</li> <li>• <code>asso_max_rule_length</code> - Setting that specifies the maximum length of a rule used by an association model.</li> <li>• <code>asso_min_confidence</code> - Setting that specifies the minimum confidence for an association model.</li> <li>• <code>asso_min_support</code> - Setting that specifies the minimum support for an association model.</li> <li>• <code>clas_cost_table_name</code> - Setting that specifies the name of the cost matrix table for a classification model.</li> <li>• <code>clas_priors_table_name</code> - Setting that specifies the name of the prior probability table for NB and ABN models. Decision Tree is the only classification algorithm that does not use priors. For SVM classification models, this setting specifies the name of a table of weights.</li> <li>• <code>clus_num_clusters</code> - Setting that specifies the number of clusters for a clustering model.</li> <li>• <code>feat_num_features</code> - Setting that specifies the number of features for a feature selection model.</li> </ul> |
| CREATION_DATE    | DATE           | NOT NULL | Date on which the model was created                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| BUILD_DURATION   | NUMBER         |          | Duration of the model build process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TARGET_ATTRIBUTE | VARCHAR2 (128) |          | Attribute designated as the target of a classification model                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| MODEL_SIZE       | NUMBER         |          | Size of the model (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## 7.202 DOCUMENT\_LINKS

`DOCUMENT_LINKS` provides system information about Oracle XML DB document links in Oracle XML DB Repository documents.

When an XML document that includes XLink or XInclude links is added to the repository, these links can be mapped to document links, which are tracked using view `DOCUMENT_LINKS`.

| Column      | Datatype        | NULL | Description                                                            |
|-------------|-----------------|------|------------------------------------------------------------------------|
| SOURCE_ID   | RAW (16)        |      | The source resource OID                                                |
| TARGET_ID   | RAW (16)        |      | The target resource OID                                                |
| TARGET_PATH | VARCHAR2 (4000) |      | This column is always NULL. It is reserved for future use.             |
| LINK_TYPE   | VARCHAR2 (8)    |      | The document link type: Hard or Weak                                   |
| LINK_FORM   | VARCHAR2 (8)    |      | Whether the original link was of form XLink or XInclude                |
| SOURCE_TYPE | VARCHAR2 (17)   |      | Whether the link is contained in Resource Content or Resource Metadata |

**Note:**

Oracle XML DB Repository is deprecated in Oracle Database 23ai. Oracle recommends that you replace any functionality used in Oracle XML DB Repository with alternative technologies.

**See Also:**

*Oracle XML DB Developer's Guide* for information about using this view

## 7.203 ERROR\_SIZE

ERROR\_SIZE is accessed to create DBA\_OBJECT\_SIZE and USER\_OBJECT\_SIZE.

**See Also:**

- "DBA\_OBJECT\_SIZE"
- "USER\_OBJECT\_SIZE"

## 7.204 EXCEPTIONS

EXCEPTIONS contains information on violations of integrity constraints. This table is created by the utlexcpt.sql script.

| Column     | Datatype       | NULL | Description                            |
|------------|----------------|------|----------------------------------------|
| ROW_ID     | ROWID          |      | Row that caused the violation          |
| OWNER      | VARCHAR2 (128) |      | Owner of the table                     |
| TABLE_NAME | VARCHAR2 (128) |      | Name of the table                      |
| CONSTRAINT | VARCHAR2 (128) |      | Integrity constraint that was violated |

## 7.205 FLASHBACK\_TRANSACTION\_QUERY

FLASHBACK\_TRANSACTION\_QUERY displays information about all flashback transaction queries in the database.

The database must have at least minimal supplemental logging enabled to avoid unpredictable behavior.

| Column    | Datatype | NULL | Description                                  |
|-----------|----------|------|----------------------------------------------|
| XID       | RAW (8)  |      | Transaction identifier                       |
| START_SCN | NUMBER   |      | Transaction start system change number (SCN) |

| Column           | Datatype        | NULL | Description                                                                                                                                                                                          |
|------------------|-----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| START_TIMESTAMP  | DATE            |      | Transaction start timestamp                                                                                                                                                                          |
| COMMIT_SCN       | NUMBER          |      | Transaction commit system change number; NULL for active transactions                                                                                                                                |
| COMMIT_TIMESTAMP | DATE            |      | Transaction commit timestamp; NULL for active transactions                                                                                                                                           |
| LOGON_USER       | VARCHAR2 (128)  |      | Logon user for the transaction                                                                                                                                                                       |
| UNDO_CHANGE#     | NUMBER          |      | Undo system change number (1 or higher)                                                                                                                                                              |
| OPERATION        | VARCHAR2 (32)   |      | Forward-going DML operation performed by the transaction: <ul style="list-style-type: none"> <li>• D - Delete</li> <li>• I - Insert</li> <li>• U - Update</li> <li>• B</li> <li>• UNKNOWN</li> </ul> |
| TABLE_NAME       | VARCHAR2 (256)  |      | Name of the table to which the DML applies                                                                                                                                                           |
| TABLE_OWNER      | VARCHAR2 (386)  |      | Owner of the table to which the DML applies                                                                                                                                                          |
| ROW_ID           | VARCHAR2 (19)   |      | Rowid of the row that was modified by the DML                                                                                                                                                        |
| UNDO_SQL         | VARCHAR2 (4000) |      | SQL to undo the DML indicated by OPERATION                                                                                                                                                           |



#### See Also:

*Oracle Database Utilities* for information on how to enable minimal supplemental logging

## 7.206 GLOBAL\_CONTEXT

GLOBAL\_CONTEXT displays the values of global context attributes, which are accessible for the current session, based on the CLIENT\_IDENTIFIER value.

GLOBAL\_CONTEXT is similar to SESSION\_CONTEXT, which lists the values of session (or local) context attributes set under the current session.

| Column            | Datatype        | NULL | Description                                                        |
|-------------------|-----------------|------|--------------------------------------------------------------------|
| NAMESPACE         | VARCHAR2 (31)   |      | Namespace of the globally accessible context                       |
| ATTRIBUTE         | VARCHAR2 (31)   |      | Attribute of the globally accessible context                       |
| VALUE             | VARCHAR2 (4000) |      | Value of the attribute of the globally accessible context          |
| USERNAME          | VARCHAR2 (31)   |      | Username for which globally accessible context value is applicable |
| CLIENT_IDENTIFIER | VARCHAR2 (65)   |      | Client identifier of the globally accessible context               |



**See Also:**

- ["SESSION\\_CONTEXT"](#)
- *Oracle Database Security Guide* for more information about using global application contexts

## 7.207 GLOBAL\_NAME

GLOBAL\_NAME contains one row that displays the global name of the current database.

| Column      | Datatype        | NULL | Description                 |
|-------------|-----------------|------|-----------------------------|
| GLOBAL_NAME | VARCHAR2 (4000) |      | Global name of the database |

## 7.208 HS\_ALL\_CAPS

HS\_ALL\_CAPS contains information about all of the capabilities (that is, features) associated with non-Oracle (FDS) data stores.

| Column          | Datatype       | NULL | Description                                              |
|-----------------|----------------|------|----------------------------------------------------------|
| CAP_NUMBER      | NUMBER         |      | Capability number                                        |
| CONTEXT         | NUMBER         |      | Context in which this capability is applicable           |
| TRANSLATION     | VARCHAR2 (255) |      | Valid for functions; contains translation to FDS dialect |
| ADDITIONAL_INFO | NUMBER         |      | Flag for internal use                                    |
| FDS_CLASS_NAME  | VARCHAR2 (30)  |      | Name of the FDS Class                                    |
| FDS_INST_NAME   | VARCHAR2 (30)  |      | Name of the FDS instance                                 |

## 7.209 HS\_ALL\_DD

HS\_ALL\_DD contains data dictionary information about non-Oracle (FDS) data stores.

| Column           | Datatype        | NULL | Description                                     |
|------------------|-----------------|------|-------------------------------------------------|
| DD_TABLE_NAME    | VARCHAR2 (128)  |      | Data dictionary table name                      |
| TRANSLATION_TYPE | CHAR (1)        |      | T = Translation, M = Mimic                      |
| TRANSLATION_TEXT | VARCHAR2 (4000) |      | SQL statement containing the mapping            |
| FDS_CLASS_NAME   | VARCHAR2 (30)   |      | Name of the FDS Class                           |
| FDS_INST_NAME    | VARCHAR2 (30)   |      | Name of the FDS instance                        |
| DD_TABLE_DESC    | VARCHAR2 (255)  |      | Description of the Oracle data dictionary table |

## 7.210 HS\_ALL\_INITS

HS\_ALL\_INITS contains initialization parameter information about non-Oracle (FDS) data stores.

| Column          | Datatype       | NULL | Description                                                                                                           |
|-----------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------|
| INIT_VALUE_NAME | VARCHAR2 (64)  |      | Name of the initialization parameter                                                                                  |
| INIT_VALUE      | VARCHAR2 (255) |      | Value of the initialization parameter                                                                                 |
| INIT_VALUE_TYPE | VARCHAR2 (1)   |      | Environment variable (T or F). T means this is an environment variable; F means do not set as an environment variable |
| FDS_CLASS_NAME  | VARCHAR2 (30)  |      | Name of the FDS Class                                                                                                 |
| FDS_INST_NAME   | VARCHAR2 (30)  |      | Name of the FDS instance                                                                                              |

## 7.211 HS\_BASE\_CAPS

HS\_BASE\_CAPS contains information about base capability (that is, base features) of the non-Oracle (FDS) data store.

| Column          | Datatype       | NULL     | Description                   |
|-----------------|----------------|----------|-------------------------------|
| CAP_NUMBER      | NUMBER         | NOT NULL | Capability number             |
| CAP_DESCRIPTION | VARCHAR2 (255) |          | Description of the capability |

## 7.212 HS\_BASE\_DD

HS\_BASE\_DD displays information from the base data dictionary translation table.

| Column        | Datatype       | NULL     | Description                                                                      |
|---------------|----------------|----------|----------------------------------------------------------------------------------|
| DD_TABLE_NAME | VARCHAR2 (128) | NOT NULL | Name of the Oracle data dictionary table                                         |
| DD_TABLE_DESC | VARCHAR2 (255) |          | Description of the Oracle data dictionary table                                  |
| DD_TABLE_ID   | NUMBER         | NOT NULL | Sequence: a counter that is incremented for every row inserted (used internally) |

## 7.213 HS\_CLASS\_CAPS

HS\_CLASS\_CAPS contains information about the class-specific (driver) capabilities belonging to the non-Oracle (FDS) data store.

| Column          | Datatype       | NULL     | Description                                                                      |
|-----------------|----------------|----------|----------------------------------------------------------------------------------|
| CAP_NUMBER      | NUMBER         | NOT NULL | Capability number                                                                |
| CAP_DESCRIPTION | VARCHAR2 (255) |          | Capability description                                                           |
| CONTEXT         | NUMBER         |          | Flag indicating the context in which the capability is enabled                   |
| TRANSLATION     | VARCHAR2 (255) |          | Valid for functions; contains translation to FDS dialect                         |
| ADDITIONAL_INFO | NUMBER         |          | Additional flags for internal use                                                |
| FDS_CLASS_NAME  | VARCHAR2 (30)  | NOT NULL | Name of the FDS Class                                                            |
| FDS_CLASS_ID    | NUMBER         | NOT NULL | Sequence: a counter that is incremented for every row inserted (used internally) |

## 7.214 HS\_CLASS\_DD

HS\_CLASS\_DD displays information from the non-Oracle data store (FDS) class-specific data dictionary translations.

| Column           | Datatype        | NULL     | Description                                                                      |
|------------------|-----------------|----------|----------------------------------------------------------------------------------|
| DD_TABLE_NAME    | VARCHAR2 (128)  | NOT NULL | Name of the Oracle data dictionary table                                         |
| DD_TABLE_DESC    | VARCHAR2 (255)  |          | Description of the Oracle data dictionary table                                  |
| TRANSLATION_TYPE | CHAR (1)        | NOT NULL | T = Translation, M = Mimic                                                       |
| TRANSLATION_TEXT | VARCHAR2 (4000) |          | SQL statement containing the mapping                                             |
| FDS_CLASS_NAME   | VARCHAR2 (30)   | NOT NULL | Name of the FDS Class                                                            |
| DD_TABLE_ID      | NUMBER          | NOT NULL | Sequence: a counter that is incremented for every row inserted (used internally) |
| FDS_CLASS_ID     | NUMBER          | NOT NULL | Sequence: a counter that is incremented for every row inserted (used internally) |

## 7.215 HS\_CLASS\_INIT

HS\_CLASS\_INIT displays information about the non-Oracle (FDS) class-specific initialization parameters.

| Column            | Datatype       | NULL     | Description                                                                                                           |
|-------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------|
| INIT_VALUE_NAME   | VARCHAR2 (64)  | NOT NULL | Name of the initialization parameter                                                                                  |
| INIT_VALUE        | VARCHAR2 (255) | NOT NULL | Value of the initialization parameter                                                                                 |
| INIT_VALUE_TYPE   | VARCHAR2 (1)   | NOT NULL | Environment variable (T or F). T means this is an environment variable; F means do not set as an environment variable |
| FDS_CLASS_NAME    | VARCHAR2 (30)  | NOT NULL | Name of the FDS Class                                                                                                 |
| FDS_CLASS_INIT_ID | NUMBER         | NOT NULL | Sequence: a counter that is incremented for every row inserted (used internally)                                      |
| FDS_CLASS_ID      | NUMBER         | NOT NULL | Sequence: a counter that is incremented for every row inserted (used internally)                                      |

## 7.216 HS\_FDS\_CLASS

HS\_FDS\_CLASS contains information about legal non-Oracle (FDS) classes.

| Column             | Datatype       | NULL     | Description                                                                      |
|--------------------|----------------|----------|----------------------------------------------------------------------------------|
| FDS_CLASS_NAME     | VARCHAR2 (30)  | NOT NULL | Name of the FDS class (for example, ODBC, DB2)                                   |
| FDS_CLASS_COMMENTS | VARCHAR2 (255) |          | Text description of the non-Oracle class                                         |
| FDS_CLASS_ID       | NUMBER         | NOT NULL | Sequence: a counter that is incremented for every row inserted (used internally) |

## 7.217 HS\_FDS\_INST

HS\_FDS\_INST contains information about non-Oracle (FDS) instances.

| Column            | Datatype       | NULL     | Description                                                                      |
|-------------------|----------------|----------|----------------------------------------------------------------------------------|
| FDS_INST_NAME     | VARCHAR2 (30)  | NOT NULL | Name of the FDS instance                                                         |
| FDS_INST_COMMENTS | VARCHAR2 (255) |          | Text description of the non-Oracle instance                                      |
| FDS_CLASS_NAME    | VARCHAR2 (30)  | NOT NULL | Name of the FDS class                                                            |
| FDS_INST_ID       | NUMBER         | NOT NULL | Sequence: a counter that is incremented for every row inserted (used internally) |
| FDS_CLASS_ID      | NUMBER         | NOT NULL | Sequence: a counter that is incremented for every row inserted (used internally) |

## 7.218 HS\_INST\_CAPS

HS\_INST\_CAPS contains information about instance-specific capabilities (that is, features).

| Column          | Datatype       | NULL     | Description                                                                      |
|-----------------|----------------|----------|----------------------------------------------------------------------------------|
| CAP_NUMBER      | NUMBER         | NOT NULL | Capability number                                                                |
| CAP_DESCRIPTION | VARCHAR2 (255) |          | Capability description                                                           |
| CONTEXT         | NUMBER         |          | Context in which this capability is applicable                                   |
| TRANSLATION     | VARCHAR2 (255) |          | Valid for functions; contains translation to FDS dialect                         |
| ADDITIONAL_INFO | NUMBER         |          | Additional flags for internal use                                                |
| FDS_CLASS_NAME  | VARCHAR2 (30)  | NOT NULL | Name of the FDS class (for example, ODBC, DB2)                                   |
| FDS_INST_NAME   | VARCHAR2 (30)  | NOT NULL | Name of the FDS instance                                                         |
| FDS_CLASS_ID    | NUMBER         | NOT NULL | Sequence: a counter that is incremented for every row inserted (used internally) |
| FDS_INST_ID     | NUMBER         | NOT NULL | Sequence: a counter that is incremented for every row inserted (used internally) |

## 7.219 HS\_INST\_DD

HS\_INST\_DD displays information from the non-Oracle (FDS) instance-specific data dictionary translations.

| Column           | Datatype        | NULL     | Description                                                                      |
|------------------|-----------------|----------|----------------------------------------------------------------------------------|
| DD_TABLE_NAME    | VARCHAR2 (128)  | NOT NULL | Name of the Oracle data dictionary table                                         |
| DD_TABLE_DESC    | VARCHAR2 (255)  |          | Description of the Oracle data dictionary table                                  |
| TRANSLATION_TYPE | CHAR (1)        | NOT NULL | T = Translation, M = Mimic                                                       |
| TRANSLATION_TEXT | VARCHAR2 (4000) |          | SQL statement containing the mapping                                             |
| FDS_CLASS_NAME   | VARCHAR2 (30)   | NOT NULL | Name of the FDS class (for example, ODBC, DB2)                                   |
| FDS_INST_NAME    | VARCHAR2 (30)   | NOT NULL | Name of the FDS instance                                                         |
| DD_TABLE_ID      | NUMBER          | NOT NULL | Sequence: a counter that is incremented for every row inserted (used internally) |

| Column       | Datatype | NULL     | Description                                                                      |
|--------------|----------|----------|----------------------------------------------------------------------------------|
| FDS_CLASS_ID | NUMBER   | NOT NULL | Sequence: a counter that is incremented for every row inserted (used internally) |
| FDS_INST_ID  | NUMBER   | NOT NULL | Sequence: a counter that is incremented for every row inserted (used internally) |

## 7.220 HS\_INST\_INIT

HS\_INST\_INIT contains information about the non-Oracle (FDS) instance-specific initialization parameters.

| Column           | Datatype       | NULL     | Description                                                                                                           |
|------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------|
| INIT_VALUE_NAME  | VARCHAR2 (64)  | NOT NULL | Name of the initialization parameter                                                                                  |
| INIT_VALUE       | VARCHAR2 (255) | NOT NULL | Value of the initialization parameter                                                                                 |
| INIT_VALUE_TYPE  | VARCHAR2 (1)   | NOT NULL | Environment variable (T or F). T means this is an environment variable; F means do not set as an environment variable |
| FDS_CLASS_NAME   | VARCHAR2 (30)  | NOT NULL | Name of the FDS class (for example: ODBC, DB2)                                                                        |
| FDS_INST_NAME    | VARCHAR2 (30)  | NOT NULL | Name of the FDS instance                                                                                              |
| FDS_INST_INIT_ID | NUMBER         | NOT NULL | Sequence: a counter that is incremented for every row inserted (used internally)                                      |
| FDS_CLASS_ID     | NUMBER         | NOT NULL | Sequence: a counter that is incremented for every row inserted (used internally)                                      |
| FDS_INST_ID      | NUMBER         | NOT NULL | Sequence: a counter that is incremented for every row inserted (used internally)                                      |

## 7.221 IDEPTREE

This view, created by `utldtree.sql`, lists the indented dependency tree. It is a pre-sorted, pretty-print version of DEPTREE.

| Column       | Datatype        | NULL | Description                          |
|--------------|-----------------|------|--------------------------------------|
| NESTED_LEVEL | NUMBER          |      | Nesting level in the dependency tree |
| TYPE         | VARCHAR2 (23)   |      | Object type                          |
| OWNER        | VARCHAR2 (28)   |      | Object schema                        |
| NAME         | VARCHAR2 (1002) |      | Object name                          |

## 7.222 IND

IND is a synonym for USER\_INDEXES.



**See Also:**

"USER\_INDEXES"

## 7.223 INDEX\_HISTOGRAM

INDEX\_HISTOGRAM contains information from the ANALYZE INDEX ... VALIDATE STRUCTURE statement.

**Note:**

The ANALYZE INDEX ... VALIDATE STRUCTURE OFFLINE statement must be used to collect statistics.

| Column                 | Datatype | NULL | Description                                                          |
|------------------------|----------|------|----------------------------------------------------------------------|
| REPEAT_COUNT           | NUMBER   |      | Number of times that one or more index keys is repeated in the table |
| KEYS_WITH_REPEAT_COUNT | NUMBER   |      | Number of index keys that are repeated that many times               |

## 7.224 INDEX\_STATS

INDEX\_STATS stores information from the last ANALYZE INDEX ... VALIDATE STRUCTURE statement.

**Note:**

The ANALYZE INDEX ... VALIDATE STRUCTURE OFFLINE statement must be used in order to collect statistics

| Column         | Datatype       | NULL     | Description                                                                                               |
|----------------|----------------|----------|-----------------------------------------------------------------------------------------------------------|
| HEIGHT         | NUMBER         |          | Height of the B-Tree                                                                                      |
| BLOCKS         | NUMBER         | NOT NULL | Blocks allocated to the segment                                                                           |
| NAME           | VARCHAR2 (128) | NOT NULL | Name of the index                                                                                         |
| PARTITION_NAME | VARCHAR2 (128) |          | Name of the partition of the index which was analyzed. If the index is not partitioned, NULL is returned. |
| LF_ROWS        | NUMBER         |          | Number of leaf rows (values in the index)                                                                 |
| LF_BLKS        | NUMBER         |          | Number of leaf blocks in the B-Tree                                                                       |
| LF_ROWS_LEN    | NUMBER         |          | Sum of the lengths of all the leaf rows                                                                   |
| LF_BLK_LEN     | NUMBER         |          | Usable space in a leaf block                                                                              |
| BR_ROWS        | NUMBER         |          | Number of branch rows in the B-Tree                                                                       |
| BR_BLKS        | NUMBER         |          | Number of branch blocks in the B-Tree                                                                     |
| BR_ROWS_LEN    | NUMBER         |          | Sum of the lengths of all the branch blocks in the B-Tree                                                 |
| BR_BLK_LEN     | NUMBER         |          | Usable space in a branch block                                                                            |
| DEL_LF_ROWS    | NUMBER         |          | Number of deleted leaf rows in the index                                                                  |

| Column                | Datatype | NULL | Description                                                                                                                                                                                                     |
|-----------------------|----------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DEL_LF_ROWS_LEN       | NUMBER   |      | Total length of all deleted rows in the index                                                                                                                                                                   |
| DISTINCT_KEYS         | NUMBER   |      | Number of distinct keys in the index (may include rows that have been deleted)                                                                                                                                  |
| MOST_REPEATED_KEY     | NUMBER   |      | How many times the most repeated key is repeated (may include rows that have been deleted)                                                                                                                      |
| BTREE_SPACE           | NUMBER   |      | Total space currently allocated in the B-Tree                                                                                                                                                                   |
| USED_SPACE            | NUMBER   |      | Total space that is currently being used in the B-Tree                                                                                                                                                          |
| PCT_USED              | NUMBER   |      | Percent of space allocated in the B-Tree that is being used                                                                                                                                                     |
| ROWS_PER_KEY          | NUMBER   |      | Average number of rows per distinct key (this figure is calculated without consideration of deleted rows)                                                                                                       |
| BLKS_GETS_PER_ACCESS  | NUMBER   |      | Expected number of consistent mode block reads per row, assuming that a randomly chosen row is accessed using the index. Used to calculate the number of consistent reads that will occur during an index scan. |
| PRE_ROWS              | NUMBER   |      | Number of prefix rows (values in the index)                                                                                                                                                                     |
| PRE_ROWS_LEN          | NUMBER   |      | Sum of lengths of all prefix rows                                                                                                                                                                               |
| OPT_CMPR_COUNT        | NUMBER   |      | Optimal index compression length                                                                                                                                                                                |
| OPT_CMPR_PCTSAVE      | NUMBER   |      | Corresponding space savings after an <code>ANALYZE</code>                                                                                                                                                       |
| DEL_LF_CMP_ROWS       | NUMBER   |      | Number of deleted rows that are within a compression unit (CU)                                                                                                                                                  |
| PRG_LF_CMP_ROWS       | NUMBER   |      | Number of purged rows that are within a CU                                                                                                                                                                      |
| LF_CMP_ROWS           | NUMBER   |      | Number of rows that are in a CU or prefix compressed                                                                                                                                                            |
| LF_CMP_ROWS_LEN       | NUMBER   |      | Sum of lengths of all prefix rows and CUs                                                                                                                                                                       |
| LF_UNCMP_ROWS         | NUMBER   |      | Number of rows that are neither in a CU nor prefix compressed                                                                                                                                                   |
| LF_UNCMP_ROWS_LEN     | NUMBER   |      | Sum of lengths of rows that are neither in a CU nor prefix compressed                                                                                                                                           |
| LF_SUF_ROWS_LEN       | NUMBER   |      | Sum of lengths of suffix rows                                                                                                                                                                                   |
| LF_CMP_ROWS_UNCMP_LEN | NUMBER   |      | Sum of the uncompressed lengths of rows that are in a CU or prefix compressed                                                                                                                                   |
| LF_CMP_RECMP_COUNT    | NUMBER   |      | Sum of CU recompression counts                                                                                                                                                                                  |
| LF_CMP_LOCK_VEC_LEN   | NUMBER   |      | Sum of CU lock vector lengths                                                                                                                                                                                   |
| LF_CMP_BLKs           | NUMBER   |      | Number of blocks that have a CU or nonzero prefix column count                                                                                                                                                  |
| LF_UNCMP_BLKs         | NUMBER   |      | Number of blocks that do not have a CU and have a zero prefix column count                                                                                                                                      |
| LF_CMP_ADVLO_BLKs     | NUMBER   |      | Number of blocks that are enabled for <code>COMPRESS ADVANCED LOW</code>                                                                                                                                        |
| LF_CMP_ADVHI_BLKs     | NUMBER   |      | Number of blocks that are enabled for <code>COMPRESS ADVANCED HIGH</code>                                                                                                                                       |

## 7.225 LOGSTDBY\_UNSUPPORTED\_TABLES

LOGSTDBY\_UNSUPPORTED\_TABLES is a synonym for DBA\_LOGSTDBY\_UNSUPPORTED\_TABLE.



### See Also:

"DBA\_LOGSTDBY\_UNSUPPORTED\_TABLE"

## 7.226 MAP\_OBJECT

MAP\_OBJECT is a global temporary table that displays the hierarchical arrangement of storage containers for objects. Each row in the table represents a level in the hierarchy.

| Column        | Datatype        | NULL | Description                                                                                                                                                                                        |
|---------------|-----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_NAME   | VARCHAR2 (2000) |      | Name of the object                                                                                                                                                                                 |
| OBJECT_OWNER  | VARCHAR2 (2000) |      | Owner of the object                                                                                                                                                                                |
| OBJECT_TYPE   | VARCHAR2 (2000) |      | Object type                                                                                                                                                                                        |
| FILE_MAP_IDX  | NUMBER          |      | File index (corresponds to FILE_MAP_IDX in V\$MAP_FILE)                                                                                                                                            |
| DEPTH         | NUMBER          |      | Element depth within the I/O stack                                                                                                                                                                 |
| ELEM_IDX      | NUMBER          |      | Index corresponding to the element                                                                                                                                                                 |
| CU_SIZE       | NUMBER          |      | Contiguous set of logical blocks of the file (in HKB units) that is resident contiguously on the element                                                                                           |
| STRIDE        | NUMBER          |      | Number of HKB between contiguous units (CU) in the file that are contiguous on this element. Used in RAID5 and striped files.                                                                      |
| NUM_CU        | NUMBER          |      | Number of contiguous units that are adjacent to each other on this element that are separated by STRIDE HKB in the file. In RAID5, the number of contiguous units also include the parity stripes. |
| ELEM_OFFSET   | NUMBER          |      | Element offset (in HKB units)                                                                                                                                                                      |
| FILE_OFFSET   | NUMBER          |      | Offset (in HKB units) from the start of the file to the first byte of the contiguous units                                                                                                         |
| DATA_TYPE     | VARCHAR2 (2000) |      | Data type (DATA, PARITY, or DATA AND PARITY)                                                                                                                                                       |
| PARITY_POS    | NUMBER          |      | Position of the parity. Only for RAID5. This field is needed to distinguish the parity from the data part.                                                                                         |
| PARITY_PERIOD | NUMBER          |      | Parity period. Only for RAID5.                                                                                                                                                                     |

## 7.227 NLS\_DATABASE\_PARAMETERS

NLS\_DATABASE\_PARAMETERS lists permanent NLS parameters of the database.

| Column    | Datatype       | NULL | Description    |
|-----------|----------------|------|----------------|
| PARAMETER | VARCHAR2 (128) |      | Parameter name |



| Column | Datatype      | NULL | Description     |
|--------|---------------|------|-----------------|
| VALUE  | VARCHAR2 (64) |      | Parameter value |

## 7.228 NLS\_INSTANCE\_PARAMETERS

NLS\_INSTANCE\_PARAMETERS lists NLS parameters of the instance.

| Column    | Datatype      | NULL | Description     |
|-----------|---------------|------|-----------------|
| PARAMETER | VARCHAR2 (30) |      | Parameter name  |
| VALUE     | VARCHAR2 (64) |      | Parameter value |

## 7.229 NLS\_SESSION\_PARAMETERS

NLS\_SESSION\_PARAMETERS lists NLS parameters of the user session.

| Column    | Datatype      | NULL | Description     |
|-----------|---------------|------|-----------------|
| PARAMETER | VARCHAR2 (30) |      | Parameter name  |
| VALUE     | VARCHAR2 (64) |      | Parameter value |

## 7.230 OBJ

OBJ is a synonym for USER\_OBJECTS.



**See Also:**

"USER\_OBJECTS"

## 7.231 PATH\_VIEW

PATH\_VIEW contains one row for each unique path to access a resource in Oracle XML DB Repository.

| Column | Datatype                                                                             | NULL | Description                                   |
|--------|--------------------------------------------------------------------------------------|------|-----------------------------------------------|
| PATH   | VARCHAR2 (1024)                                                                      |      | An (absolute) path to repository resource RES |
| RES    | XMLTYPE(XMLSchema "http://xmlns.oracle.com/xdbr/XDBResource.xsd" Element "Resource") |      | The resource referred to by the PATH column   |
| LINK   | XMLTYPE                                                                              |      | Link property                                 |
| RESID  | RAW (16)                                                                             |      | Resource OID                                  |

**Note:**

Oracle XML DB Repository is deprecated in Oracle Database 23ai. Oracle recommends that you replace any functionality used in Oracle XML DB Repository with alternative technologies.

**See Also:**

*Oracle XML DB Developer's Guide* for information about using this view

## 7.232 PDB\_ALERTS

PDB\_ALERTS contains descriptions of reasons for PDB alerts.

| Column   | Datatype        | NULL     | Description                                             |
|----------|-----------------|----------|---------------------------------------------------------|
| TIME     | TIMESTAMP (6)   | NOT NULL | Time when the violation happened                        |
| NAME     | VARCHAR2 (128)  | NOT NULL | A name of a PDB or non-CDB to which this record applies |
| CAUSE_NO | NUMBER          | NOT NULL | Number identifying a specific reason for a PDB alert    |
| TYPE_NO  | NUMBER          | NOT NULL | Type of the violation                                   |
| ERROR    | NUMBER          |          | Oracle error, if any, for this violation                |
| LINE     | NUMBER          | NOT NULL | Line number for the violation message                   |
| MESSAGE  | VARCHAR2 (4000) | NOT NULL | Description of the violation                            |
| STATUS   | NUMBER          |          | Status of the violation                                 |
| ACTION   | VARCHAR2 (4000) |          | Actions to take to resolve the violations               |

## 7.233 PDB\_PLUG\_IN\_VIOLATIONS

PDB\_PLUG\_IN\_VIOLATIONS displays information about incompatibilities between a PDB and the CDB to which it belongs.

This view is also used to display information generated by executing  
DBMS\_PDB.CHECK\_PLUG\_COMPATIBILITY.

| Column | Datatype       | NULL     | Description                                                                                                                                 |
|--------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------|
| TIME   | TIMESTAMP (6)  | NOT NULL | Time when a violation described by this row was discovered                                                                                  |
| NAME   | VARCHAR2 (128) | NOT NULL | The name of an existing PDB or a PDB intended to be created (if a row was entered as a result of running DBMS_PDB.CHECK_PLUG_COMPATIBILITY) |
| CAUSE  | VARCHAR2 (64)  | NOT NULL | Attribute which was being checked                                                                                                           |
| TYPE   | VARCHAR2 (9)   | NOT NULL | ERROR or WARNING                                                                                                                            |

| Column       | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ERROR_NUMBER | NUMBER          |          | Oracle error number, if any, encountered during a check                                                                                                                                                                                                                                                                                                                                                                                                                     |
| LINE         | NUMBER          | NOT NULL | Used to differentiate between violations which share a cause                                                                                                                                                                                                                                                                                                                                                                                                                |
| MESSAGE      | VARCHAR2 (4000) | NOT NULL | Description of a violation                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| STATUS       | VARCHAR2 (9)    |          | PENDING, RESOLVED, or IGNORE                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| ACTION       | VARCHAR2 (4000) |          | Description of an action to take to correct the violation                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID       | NUMBER          |          | The ID of the container to which the data pertains.<br>Possible values: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire multitenant container database (CDB). This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

*Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_PDB` package, which provides an interface for examining and manipulating data about PDBs

## 7.234 PLAN\_TABLE

`PLAN_TABLE` is automatically created as a global temporary table to hold the output of an `EXPLAIN PLAN` statement for all users.

`PLAN_TABLE` is the default sample output table into which the `EXPLAIN PLAN` statement inserts rows describing execution plans.

While a `PLAN_TABLE` table is automatically set up for each user, you can use the SQL script `utlxplan.sql` to manually create a local `PLAN_TABLE` in your schema.

| Column       | Datatype      | NULL | Description                                                                                                    |
|--------------|---------------|------|----------------------------------------------------------------------------------------------------------------|
| STATEMENT_ID | VARCHAR2 (30) |      | Value of the optional <code>STATEMENT_ID</code> parameter specified in the <code>EXPLAIN PLAN</code> statement |
| PLAN_ID      | NUMBER        |      | Unique identifier of a plan in the database                                                                    |
| TIMESTAMP    | DATE          |      | Date and time when the <code>EXPLAIN PLAN</code> statement was generated                                       |

| Column          | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------|-----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REMARKS         | VARCHAR2 (4000) |      | Any comment (of up to 4000 bytes) you want to associate with each step of the explained plan. This column is used to indicate whether an outline or SQL Profile was used for the query.<br><br>If you need to add or change a remark on any row of the <code>PLAN_TABLE</code> , then use the <code>UPDATE</code> statement to modify the rows of the <code>PLAN_TABLE</code> .    |
| OPERATION       | VARCHAR2 (30)   |      | Name of the internal operation performed in this step. In the first row generated for a statement, the column contains one of the following values: <ul style="list-style-type: none"> <li>• <code>DELETE STATEMENT</code></li> <li>• <code>INSERT STATEMENT</code></li> <li>• <code>SELECT STATEMENT</code></li> <li>• <code>UPDATE STATEMENT</code></li> </ul>                   |
| OPTIONS         | VARCHAR2 (255)  |      | A variation on the operation described in the <code>OPERATION</code> column                                                                                                                                                                                                                                                                                                        |
| OBJECT_NODE     | VARCHAR2 (128)  |      | Name of the database link used to reference the object (a table name or view name). For local queries using parallel execution, this column describes the order in which output from operations is consumed.                                                                                                                                                                       |
| OBJECT_OWNER    | VARCHAR2 (128)  |      | Owner of the table or index                                                                                                                                                                                                                                                                                                                                                        |
| OBJECT_NAME     | VARCHAR2 (128)  |      | Name of the table or index                                                                                                                                                                                                                                                                                                                                                         |
| OBJECT_ALIAS    | VARCHAR2 (261)  |      | Unique alias of a table or view in a SQL statement. For indexes, it is the object alias of the underlying table.                                                                                                                                                                                                                                                                   |
| OBJECT_INSTANCE | NUMBER (38)     |      | Number corresponding to the ordinal position of the object as it appears in the original statement. The numbering proceeds from left to right, outer to inner with respect to the original statement text. View expansion results in unpredictable numbers.                                                                                                                        |
| OBJECT_TYPE     | VARCHAR2 (30)   |      | Modifier that provides descriptive information about the object; for example, <code>NON-UNIQUE</code> for indexes                                                                                                                                                                                                                                                                  |
| OPTIMIZER       | VARCHAR2 (255)  |      | Current mode of the optimizer                                                                                                                                                                                                                                                                                                                                                      |
| SEARCH_COLUMNS  | NUMBER          |      | Not currently used                                                                                                                                                                                                                                                                                                                                                                 |
| ID              | NUMBER (38)     |      | A number assigned to each step in the execution plan                                                                                                                                                                                                                                                                                                                               |
| PARENT_ID       | NUMBER (38)     |      | ID of the next execution step that operates on the output of the <code>ID</code> step                                                                                                                                                                                                                                                                                              |
| DEPTH           | NUMBER (38)     |      | Depth of the operation in the row source tree that the plan represents. The value can be used for indenting the rows in a plan table report.                                                                                                                                                                                                                                       |
| POSITION        | NUMBER (38)     |      | For the first row of output, this indicates the optimizer's estimated cost of executing the statement. For the other rows, it indicates the position relative to the other children of the same parent.                                                                                                                                                                            |
| COST            | NUMBER (38)     |      | Cost of the operation as estimated by the optimizer's query approach. Cost is not determined for table access operations. The value of this column does not have any particular unit of measurement; it is merely a weighted value used to compare costs of execution plans. The value of this column is a function of the <code>CPU_COST</code> and <code>IO_COST</code> columns. |

| Column          | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CARDINALITY     | NUMBER (38)    |      | Estimate by the query optimization approach of the number of rows accessed by the operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| BYTES           | NUMBER (38)    |      | Estimate by the query optimization approach of the number of bytes accessed by the operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| OTHER_TAG       | VARCHAR2 (255) |      | <p>Describes the contents of the <code>OTHER</code> column:</p> <ul style="list-style-type: none"> <li><code>SERIAL</code> - Serial execution. Currently, SQL is not loaded in the <code>OTHER</code> column for this case.</li> <li><code>SERIAL_FROM_REMOTE</code> - Serial execution at a remote site.</li> <li><code>PARALLEL_FROM_SERIAL</code> - Serial execution. Output of step is partitioned or broadcast to parallel execution servers.</li> <li><code>PARALLEL_TO_SERIAL</code> - Parallel execution. Output of step is returned to serial query coordinator (QC) process.</li> <li><code>PARALLEL_TO_PARALLEL</code> - Parallel execution. Output of step is repartitioned to second set of parallel execution servers.</li> <li><code>PARALLEL_COMBINED_WITH_PARENT</code> - Parallel execution; Output of step goes to next step in same parallel process. No interprocess communication to parent.</li> <li><code>PARALLEL_COMBINED_WITH_CHILD</code> - Parallel execution. Input of step comes from prior step in same parallel process. No interprocess communication from child.</li> </ul> |
| PARTITION_START | VARCHAR2 (255) |      | <p>Start partition of a range of accessed partitions:</p> <ul style="list-style-type: none"> <li><i>number</i> - Start partition has been identified by the SQL compiler, and its partition number is given by <i>number</i></li> <li><code>KEY</code> - Start partition will be identified at run time from partitioning key values</li> <li><code>ROW LOCATION</code> - Start partition (same as the stop partition) will be computed at run time from the location of each record being retrieved. The record location is obtained from a user-specified ROWID or from a global index.</li> <li><code>INVALID</code> - Range of accessed partitions is empty</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PARTITION_STOP  | VARCHAR2 (255) |      | <p>Stop partition of a range of accessed partitions:</p> <ul style="list-style-type: none"> <li><i>number</i> - Stop partition has been identified by the SQL compiler, and its partition number is given by <i>number</i></li> <li><code>KEY</code> - Stop partition will be identified at run time from partitioning key values</li> <li><code>ROW LOCATION</code> - Stop partition (same as the start partition) will be computed at run time from the location of each record being retrieved. The record location is obtained from a user-specified ROWID or from a global index.</li> <li><code>INVALID</code> - Range of accessed partitions is empty</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PARTITION_ID    | NUMBER (38)    |      | Step that has computed the pair of values of the <code>PARTITION_START</code> and <code>PARTITION_STOP</code> columns                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Column            | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------|-----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTHER             | LONG            |      | Other information that is specific to the execution step that a user might find useful (see the <code>OTHER_TAG</code> column)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| OTHER_XML         | CLOB            |      | Provides extra information specific to an execution step of the execution plan. The content of this column is structured using XML, which allows multiple pieces of information to be stored, including the following: <ul style="list-style-type: none"> <li>• Name of the schema against which the query was parsed</li> <li>• Release number of the Oracle Database that produced the explain plan</li> <li>• Hash value associated with the execution plan</li> <li>• Name (if any) of the outline or the SQL profile used to build the execution plan</li> <li>• Indication of whether or not dynamic statistics were used to produce the plan</li> <li>• The outline data, a set of optimizer hints that can be used to regenerate the same plan</li> <li>• Additional data that describes the relationship between rows in the plan table and subplans of adaptive plans</li> </ul> |
| DISTRIBUTION      | VARCHAR2 (30)   |      | Method used to distribute rows from producer query servers to consumer query servers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CPU_COST          | NUMBER (38)     |      | CPU cost of the operation as estimated by the query optimizer's approach. The value of this column is proportional to the number of machine cycles required for the operation. For statements that use the rule-based approach, this column is NULL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| IO_COST           | NUMBER (38)     |      | I/O cost of the operation as estimated by the query optimizer's approach. The value of this column is proportional to the number of data blocks read by the operation. For statements that use the rule-based approach, this column is NULL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TEMP_SPACE        | NUMBER (38)     |      | Temporary space (in bytes) used by the operation as estimated by the query optimizer's approach. For statements that use the rule-based approach, or for operations that do not use any temporary space, this column is NULL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ACCESS_PREDICATES | VARCHAR2 (4000) |      | Predicates used to locate rows in an access structure. For example, start or stop predicates for an index range scan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| FILTER_PREDICATES | VARCHAR2 (4000) |      | Predicates used to filter rows before producing them                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| PROJECTION        | VARCHAR2 (4000) |      | Expressions produced by the operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TIME              | NUMBER (38)     |      | Elapsed time (in seconds) of the operation as estimated by query optimization. For statements that use the rule-based approach, this column is NULL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| QBLOCK_NAME       | VARCHAR2 (128)  |      | Name of the query block (either system-generated or defined by the user with the <code>QB_NAME</code> hint)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## 7.235 PLUGGABLE\_SET\_CHECK

PLUGGABLE\_SET\_CHECK contains pluggable set checks.

| Column          | Datatype       | NULL | Description                          |
|-----------------|----------------|------|--------------------------------------|
| OBJ1_OWNER      | VARCHAR2 (128) |      | Owner of the object                  |
| OBJ1_NAME       | VARCHAR2 (128) |      | Object 1                             |
| OBJ1_SUBNAME    | VARCHAR2 (128) |      | SubObject1Name                       |
| OBJ1_TYPE       | VARCHAR2 (18)  |      | Object Type                          |
| TS1_NAME        | VARCHAR2 (30)  |      | Tablespace containing Object 1       |
| OBJ2_NAME       | VARCHAR2 (128) |      | Object Name                          |
| OBJ2_SUBNAME    | VARCHAR2 (128) |      | SubObject2Name                       |
| OBJ2_TYPE       | VARCHAR2 (18)  |      | Object Type                          |
| OBJ2_OWNER      | VARCHAR2 (128) |      | Object owner of second object        |
| TS2_NAME        | VARCHAR2 (30)  |      | Tablespace containing Object 1       |
| CONSTRAINT_NAME | VARCHAR2 (128) |      | Name of dependent constraint         |
| REASON          | VARCHAR2 (86)  |      | Reason for Pluggable check violation |
| MESG_ID         | NUMBER         |      | The message ID                       |

## 7.236 PRODUCT\_COMPONENT\_VERSION

PRODUCT\_COMPONENT\_VERSION contains version and status information for component products.

| Column       | Datatype       | NULL | Description                                                                                                                                                                                                                  |
|--------------|----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRODUCT      | VARCHAR2 (80)  |      | Product name                                                                                                                                                                                                                 |
| VERSION      | VARCHAR2 (80)  |      | Version number                                                                                                                                                                                                               |
| VERSION_FULL | VARCHAR2 (160) |      | The version number with the new Oracle Database version scheme introduced in Oracle Database 18c. The version number is displayed only for the database component. All other components return a null value for this column. |
| STATUS       | VARCHAR2 (80)  |      | Status of release                                                                                                                                                                                                            |

## 7.237 PROXY\_USERS

PROXY\_USERS describes the list of proxy users and the clients on whose behalf they can act.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                         |
|----------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROXY          | VARCHAR2 (128) | NOT NULL | Name of a proxy user                                                                                                                                                                                                                                                                                |
| CLIENT         | VARCHAR2 (128) | NOT NULL | Name of the client user who the proxy user can act as                                                                                                                                                                                                                                               |
| AUTHENTICATION | VARCHAR2 (3)   |          | Indicates whether the proxy is required to supply the client's authentication credentials (YES) or not (NO)                                                                                                                                                                                         |
| FLAGS          | VARCHAR2 (35)  |          | Flags associated with the proxy/client pair: <ul style="list-style-type: none"><li>• PROXY MAY ACTIVATE ALL CLIENT ROLES</li><li>• NO CLIENT ROLES MAY BE ACTIVATED</li><li>• PROXY MAY ACTIVATE ROLE</li><li>• PROXY MAY ACTIVATE ALL CLIENT ROLES</li><li>• PROXY MAY NOT ACTIVATE ROLE</li></ul> |

## 7.238 PSTUBTBL

This table contains information on stubs generated by the PSTUB utility so that an Oracle Forms 3.0 client can call stored procedures in Oracle Database.



### Note:

The contents of this table are intended only for use by the PSTUB utility.

| Column   | Datatype        | NULL | Description                                                    |
|----------|-----------------|------|----------------------------------------------------------------|
| USERNAME | VARCHAR2 (128)  |      | Schema part of the identifier of a stored procedure            |
| DBNAME   | VARCHAR2 (128)  |      | Database link part of the identifier of a stored procedure     |
| LUN      | VARCHAR2 (128)  |      | Library unit name part of the identifier of a stored procedure |
| LUTYPE   | VARCHAR2 (3)    |      | Type of the stored procedure                                   |
| LINENO   | NUMBER          |      | Line number of the stub                                        |
| LINE     | VARCHAR2 (1800) |      | Text of the stub                                               |

## 7.239 PUBLIC\_DEPENDENCY

PUBLIC\_DEPENDENCY lists dependencies to and from objects, by object number.

| Column               | Datatype | NULL     | Description                           |
|----------------------|----------|----------|---------------------------------------|
| OBJECT_ID            | NUMBER   | NOT NULL | Object number                         |
| REFERENCED_OBJECT_ID | NUMBER   | NOT NULL | Referenced object (the parent object) |

## 7.240 PUBLICSYN

PUBLICSYN contains information on public synonyms.

| Column   | Datatype       | NULL | Description                         |
|----------|----------------|------|-------------------------------------|
| SNAME    | VARCHAR2 (128) |      | Name of the synonym                 |
| CREATOR  | VARCHAR2 (128) |      | Owner of the synonym                |
| TNAME    | VARCHAR2 (128) |      | Table of which this is a synonym    |
| DATABASE | VARCHAR2 (128) |      | Database in which the table resides |
| TABTYPE  | VARCHAR2 (10)  |      | Type of table                       |

## 7.241 QUEUE\_PRIVILEGES

QUEUE\_PRIVILEGES shows all Advanced Queuing object privileges granted to the session.



| Column            | Datatype       | NULL     | Description                                         |
|-------------------|----------------|----------|-----------------------------------------------------|
| GRANTEE           | VARCHAR2 (128) | NOT NULL | Name of the user or role to whom access was granted |
| OWNER             | VARCHAR2 (128) | NOT NULL | Owner of the object                                 |
| NAME              | VARCHAR2 (128) | NOT NULL | Name of the object                                  |
| GRANTOR           | VARCHAR2 (128) | NOT NULL | Name of the user who performed the grant            |
| ENQUEUE_PRIVILEGE | NUMBER         |          | Permission to ENQUEUE to the queue                  |
| DEQUEUE_PRIVILEGE | NUMBER         |          | Permission to DEQUEUE from the queue                |

## 7.242 RECYCLEBIN

RECYCLEBIN is a synonym for USER\_RECYCLEBIN.



**See Also:**

"USER\_RECYCLEBIN"

## 7.243 REDACTION\_COLUMNS

REDACTION\_COLUMNS describes all redacted columns in the database, giving the owner of the table or view within which the column resides, the object name, the column name, the type of redaction function, the parameters to the redaction function (if any), and an optional user-provided description of the redaction function that is performed on the column.

| Column                 | Datatype        | NULL     | Description                                                                                                                                                                                                                        |
|------------------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_OWNER           | VARCHAR2 (128)  | NOT NULL | Owner of the object that is redacted                                                                                                                                                                                               |
| OBJECT_NAME            | VARCHAR2 (128)  | NOT NULL | Name of the object that is redacted                                                                                                                                                                                                |
| COLUMN_NAME            | VARCHAR2 (128)  | NOT NULL | Name of the column that is redacted                                                                                                                                                                                                |
| FUNCTION_TYPE          | VARCHAR2 (27)   |          | Redaction function for this column                                                                                                                                                                                                 |
| FUNCTION_PARAMETERS    | VARCHAR2 (1000) |          | Redaction function_parameters for this column                                                                                                                                                                                      |
| REGEXP_PATTERN         | VARCHAR2 (512)  |          | Regular expression pattern to search for                                                                                                                                                                                           |
| REGEXP_REPLACE_STRING  | VARCHAR2 (4000) |          | Replacement string (up to 4000 characters in length) with up to 500 back-references to subexpressions in the form \n, (where n is a number from 1 to 9)                                                                            |
| REGEXP_POSITION        | NUMBER          |          | Integer counting from 1, giving the position where the search should begin                                                                                                                                                         |
| REGEXP_OCCURRENCE      | NUMBER          |          | Either 0 (to replace all occurrences of the match), or a positive integer n (to replace the nth occurrence of the match)                                                                                                           |
| REGEXP_MATCH_PARAMETER | VARCHAR2 (10)   |          | To change the default matching behavior, possible values are a combination of i, c, n, m, and x. See the documentation of the match_parameter in the REGEXP_REPLACE section of the <i>Oracle Database SQL Language Reference</i> . |

| Column             | Datatype        | NULL | Description                                                                                                                                                                                              |
|--------------------|-----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COLUMN_DESCRIPTION | VARCHAR2 (4000) |      | User-provided description of the redaction function that is performed on the column. For example, for a Social Security Number column, the description might be: "redact SSN to XXX-XX-(last 4 digits)". |

**See Also:**

*Oracle Database Data Redaction Guide* for more information about Oracle Data Redaction

## 7.244 REDACTION\_EXPRESSIONS

REDACTION\_EXPRESSIONS shows all the Data Redaction named Policy Expressions in the database.

| Column                        | Datatype        | NULL | Description                                                                      |
|-------------------------------|-----------------|------|----------------------------------------------------------------------------------|
| POLICY_EXPRESSION_NAME        | VARCHAR2 (256)  |      | Customer-specified name of the named Policy Expression                           |
| EXPRESSION                    | VARCHAR2 (4000) |      | The SQL expression defined for this Data Redaction named Policy Expression       |
| OBJECT_OWNER                  | VARCHAR2 (128)  |      | Owner of the table or view which this named Policy Expression is associated with |
| OBJECT_NAME                   | VARCHAR2 (128)  |      | Name of the table or view which this named Policy Expression is associated with  |
| COLUMN_NAME                   | VARCHAR2 (128)  |      | Name of the column which this named Policy Expression is associated with         |
| POLICY_EXPRESSION_DESCRIPTION | VARCHAR2 (4000) |      | Description of this named Policy Expression                                      |

**See Also:**

*Oracle Database Data Redaction Guide* for more information about Oracle Data Redaction

## 7.245 REDACTION\_POLICIES

REDACTION\_POLICIES displays all redaction policies in the database.

| Column       | Datatype       | NULL     | Description                         |
|--------------|----------------|----------|-------------------------------------|
| OBJECT_OWNER | VARCHAR2 (128) | NOT NULL | Owner of the object with the policy |
| OBJECT_NAME  | VARCHAR2 (128) | NOT NULL | Name of the object with the policy  |
| POLICY_NAME  | VARCHAR2 (128) | NOT NULL | Name of the policy                  |

| Column             | Datatype        | NULL     | Description                                               |
|--------------------|-----------------|----------|-----------------------------------------------------------|
| EXPRESSION         | VARCHAR2 (4000) | NOT NULL | Expression for this policy                                |
| ENABLE             | VARCHAR2 (7)    |          | Indicates whether the policy is enabled (YES) or not (NO) |
| POLICY_DESCRIPTION | VARCHAR2 (4000) |          | Description of the policy                                 |



#### See Also:

*Oracle Database Data Redaction Guide* for more information about Oracle Data Redaction

## 7.246 REDACTION\_VALUES\_FOR\_TYPE\_FULL

REDACTION\_VALUES\_FOR\_TYPE\_FULL shows all of the current values for full redaction.

For example, if a redaction policy is applied to a column of type `BINARY_DOUBLE` and the redaction type is full redaction, that column will be redacted with the value shown in the `BINARY_DOUBLE_VALUE` column of this view.

| Column                         | Datatype                     | NULL     | Description                                                             |
|--------------------------------|------------------------------|----------|-------------------------------------------------------------------------|
| NUMBER_VALUE                   | NUMBER                       | NOT NULL | Redaction result for full redaction on NUMBER columns                   |
| BINARY_FLOAT_VALUE             | BINARY_FLOAT                 | NOT NULL | Redaction result for full redaction on BINARY_FLOAT columns             |
| BINARY_DOUBLE_VALUE            | BINARY_DOUBLE                | NOT NULL | Redaction result for full redaction on BINARY_DOUBLE columns            |
| CHAR_VALUE                     | VARCHAR2 (1)                 |          | Redaction result for full redaction on CHAR columns                     |
| VARCHAR_VALUE                  | VARCHAR2 (1)                 |          | Redaction result for full redaction on VARCHAR2 columns                 |
| NCHAR_VALUE                    | NCHAR (1)                    |          | Redaction result for full redaction on NCHAR columns                    |
| NVARCHAR_VALUE                 | NVARCHAR2 (1)                |          | Redaction result for full redaction on NVARCHAR2 columns                |
| DATE_VALUE                     | DATE                         | NOT NULL | Redaction result for full redaction on DATE columns                     |
| TIMESTAMP_VALUE                | TIMESTAMP (6)                | NOT NULL | Redaction result for full redaction on TIMESTAMP columns                |
| TIMESTAMP_WITH_TIME_ZONE_VALUE | TIMESTAMP (6) WITH TIME ZONE | NOT NULL | Redaction result for full redaction on TIMESTAMP WITH TIME ZONE columns |
| BLOB_VALUE                     | BLOB                         |          | Redaction result for full redaction on BLOB columns                     |
| CLOB_VALUE                     | CLOB                         |          | Redaction result for full redaction on CLOB columns                     |
| NCLOB_VALUE                    | NCLOB                        |          | Redaction result for full redaction on NCLOB columns                    |

**See Also:**

*Oracle Database Data Redaction Guide* for more information about Oracle Data Redaction

## 7.247 REPORT\_COMPONENTS

REPORT\_COMPONENTS displays metadata about different database components offering reports in XML, HTML, or Text formats.

Reports are first generated in XML and can then be translated into HTML or Text formats, for supported report types. Each component generates one or more reports containing different types of content. You can request reports using the component's own PL/SQL interface (for example, DBMS\_SQLTUNE for SQL Tuning Advisor).

| Column                | Datatype       | NULL     | Description                                                                                                   |
|-----------------------|----------------|----------|---------------------------------------------------------------------------------------------------------------|
| COMPONENT_ID          | NUMBER         | NOT NULL | ID number of the database component building the report                                                       |
| COMPONENT_NAME        | VARCHAR2 (128) | NOT NULL | Name of the database component building the report (for example, <code>sqltune</code> for SQL Tuning Advisor) |
| COMPONENT_DESCRIPTION | VARCHAR2 (256) |          | Component description                                                                                         |
| REPORT_ID             | NUMBER         | NOT NULL | ID number of the report type                                                                                  |
| REPORT_NAME           | VARCHAR2 (128) | NOT NULL | Name of the report type                                                                                       |
| REPORT_DESCRIPTION    | VARCHAR2 (256) |          | Description of the report type                                                                                |
| SCHEMA_FILENAME       | VARCHAR2 (500) |          | Filename of the XML schema for the report (optional)                                                          |
| SCHEMA_DATA           | XMLTYPE        |          | XML schema for this report (optional)                                                                         |

**See Also:**

*Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_SQLTUNE package

## 7.248 REPORT\_FILES

REPORT\_FILES displays data for all of the XML schema and XSLT files associated with reports for a given component.

| Column   | Datatype       | NULL     | Description                      |
|----------|----------------|----------|----------------------------------|
| FILENAME | VARCHAR2 (500) | NOT NULL | Name of the XSLT/XML schema file |
| DATA     | XMLTYPE        |          | XSLT/XML schema data             |

## 7.249 REPORT\_FORMATS

REPORT\_FORMATS displays metadata about the different output formats supported for reports.

Some reports are generated in XML only, in which case no data will appear in this view. When reports support HTML or Text formats (for example, the SQL Performance Analyzer reports), metadata about the format will appear in this view.

| Column         | Datatype       | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPONENT_ID   | NUMBER         | NOT NULL | ID number of the database component building the report                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| COMPONENT_NAME | VARCHAR2 (128) | NOT NULL | Name of the database component building the report (for example, <code>sqltune</code> for SQL Tuning Advisor)                                                                                                                                                                                                                                                                                                                                                                                   |
| REPORT_ID      | NUMBER         | NOT NULL | ID number of the report type                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| REPORT_NAME    | VARCHAR2 (128) | NOT NULL | Name of the report type                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| FORMAT_NAME    | VARCHAR2 (128) | NOT NULL | Name of the report format                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| DESCRIPTION    | VARCHAR2 (256) |          | Description of the report format                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TYPE           | VARCHAR2 (6)   |          | Format type: <ul style="list-style-type: none"><li>• <code>XSLT</code> - Reports generated by applying an XSLT style sheet to XML data (for example, HTML reports)</li><li>• <code>Text</code> - Reports generated by first applying an XSLT style sheet to convert XML data to HTML, and then converting the HTML to formatted Text using the internal report HTML-to-text translation engine.</li><li>• <code>Custom</code> - Custom formats implemented natively by report clients</li></ul> |
| XSLT_FILENAME  | VARCHAR2 (500) |          | Name of the XSLT used for this format ( <code>XSLT</code> and <code>Text</code> format types only)                                                                                                                                                                                                                                                                                                                                                                                              |
| XSLT_DATA      | XMLTYPE        |          | XSLT data ( <code>XSLT</code> and <code>Text</code> format types only)                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TEXT_LINESIZE  | NUMBER         |          | Maximum line size of the formatted text report ( <code>Text</code> format types only)                                                                                                                                                                                                                                                                                                                                                                                                           |

## 7.250 RESOURCE\_COST

RESOURCE\_COST lists the cost for each resource.

| Column        | Datatype      | NULL     | Description          |
|---------------|---------------|----------|----------------------|
| RESOURCE_NAME | VARCHAR2 (32) | NOT NULL | Name of the resource |
| UNIT_COST     | NUMBER        | NOT NULL | Cost of the resource |

## 7.251 RESOURCE\_MAP

RESOURCE\_MAP describes resources. This table can be used to map resource names to resource numbers.

| Column    | Datatype      | NULL     | Description           |
|-----------|---------------|----------|-----------------------|
| RESOURCE# | NUMBER        | NOT NULL | Numeric resource code |
| TYPE#     | NUMBER        | NOT NULL | Numeric type code     |
| NAME      | VARCHAR2 (32) | NOT NULL | Name of the resource  |

## 7.252 RESOURCE\_VIEW

RESOURCE\_VIEW contains one row for each resource in Oracle XML DB Repository.

| Column   | Datatype                                                                                          | NULL | Description                                            |
|----------|---------------------------------------------------------------------------------------------------|------|--------------------------------------------------------|
| RES      | XMLTYPE(XMLSchema "http://xmlns.oracle.com/xd<br>b/<br>XDBResource.xsd"<br>Element<br>"Resource") |      | A resource in the repository                           |
| ANY_PATH | VARCHAR2 (4000)                                                                                   |      | An (absolute) path to the resource                     |
| RESID    | RAW (16)                                                                                          |      | Resource OID, which is a unique handle to the resource |



### Note:

Oracle XML DB Repository is deprecated in Oracle Database 23ai. Oracle recommends that you replace any functionality used in Oracle XML DB Repository with alternative technologies.



### See Also:

*Oracle XML DB Developer's Guide* for information about using this view

## 7.253 ROLE\_ROLE\_PRIVS

ROLE\_ROLE\_PRIVS describes the roles granted to other roles.

Information is provided only about roles to which the user has access.

| Column       | Datatype       | NULL | Description                                           |
|--------------|----------------|------|-------------------------------------------------------|
| ROLE         | VARCHAR2 (128) |      | Name of the role                                      |
| GRANTED_ROLE | VARCHAR2 (128) |      | Role that was granted                                 |
| ADMIN_OPTION | VARCHAR2 (3)   |      | Signifies that the role was granted with ADMIN option |

| Column    | Datatype     | NULL | Description                                                                                                                                                                                                                                 |
|-----------|--------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMMON    | VARCHAR2 (3) |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"> <li>YES if the role was granted commonly (CONTAINER=ALL was used)</li> <li>NO if the role was granted locally (CONTAINER=ALL was not used)</li> </ul> |
| INHERITED | VARCHAR2 (3) |      | Indicates whether the role grant was inherited from another container (YES) or not (NO)                                                                                                                                                     |

## 7.254 ROLE\_SCHEMA\_PRIVS

ROLE\_SCHEMA\_PRIVS describes schema privileges granted to roles.

Information is provided only about roles to which the user has access.

| Column       | Datatype       | NULL | Description                                                                                                                                                                                                                                           |
|--------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ROLE         | VARCHAR2 (128) |      | Name of the role                                                                                                                                                                                                                                      |
| PRIVILEGE    | VARCHAR2 (40)  |      | Schema privilege granted to the role                                                                                                                                                                                                                  |
| SCHEMA       | VARCHAR2 (128) |      | Schema on which the privilege was granted                                                                                                                                                                                                             |
| ADMIN_OPTION | VARCHAR2 (3)   |      | Indicates whether the grant was with the ADMIN option (YES) or not (NO)                                                                                                                                                                               |
| COMMON       | VARCHAR2 (3)   |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"> <li>YES if the privilege was granted commonly (CONTAINER=ALL was used)</li> <li>NO if the privilege was granted locally (CONTAINER=ALL was not used)</li> </ul> |
| INHERITED    | VARCHAR2 (3)   |      | Indicates whether the role grant was inherited from another container (YES) or not (NO)                                                                                                                                                               |



### Note:

This view is available starting with Oracle Database 23ai.

## 7.255 ROLE\_SYS\_PRIVS

ROLE\_SYS\_PRIVS describes system privileges granted to roles.

Information is provided only about roles to which the user has access.

| Column       | Datatype       | NULL | Description                                                             |
|--------------|----------------|------|-------------------------------------------------------------------------|
| ROLE         | VARCHAR2 (128) |      | Name of the role                                                        |
| PRIVILEGE    | VARCHAR2 (40)  |      | System privilege granted to the role                                    |
| ADMIN_OPTION | VARCHAR2 (3)   |      | Indicates whether the grant was with the ADMIN option (YES) or not (NO) |

| Column    | Datatype     | NULL | Description                                                                                                                                                                                                                                               |
|-----------|--------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMMON    | VARCHAR2 (3) |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"> <li>• YES if the privilege was granted commonly (CONTAINER=ALL was used)</li> <li>• NO if the privilege was granted locally (CONTAINER=ALL was not used)</li> </ul> |
| INHERITED | VARCHAR2 (3) |      | Indicates whether the role grant was inherited from another container (YES) or not (NO)                                                                                                                                                                   |

## 7.256 ROLE\_SYS\_PRIVS\_ALL

ROLE\_SYS\_PRIVS\_ALL describes system privileges and schema privileges granted to roles.

Information is provided only about roles to which the user has access.

| Column       | Datatype       | NULL | Description                                                                                                                                                                                                                                               |
|--------------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ROLE         | VARCHAR2 (128) |      | Name of the role                                                                                                                                                                                                                                          |
| PRIVILEGE    | VARCHAR2 (40)  |      | Privilege granted to the role                                                                                                                                                                                                                             |
| SCHEMA       | VARCHAR2 (128) |      | Schema on which the privilege was granted<br>For system privileges, the value of this column is null.                                                                                                                                                     |
| ADMIN_OPTION | VARCHAR2 (3)   |      | Indicates whether the grant was with the ADMIN option (YES) or not (NO)                                                                                                                                                                                   |
| COMMON       | VARCHAR2 (3)   |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"> <li>• YES if the privilege was granted commonly (CONTAINER=ALL was used)</li> <li>• NO if the privilege was granted locally (CONTAINER=ALL was not used)</li> </ul> |
| INHERITED    | VARCHAR2 (3)   |      | Indicates whether the role grant was inherited from another container (YES) or not (NO)                                                                                                                                                                   |



### Note:

This view is available starting with Oracle Database 23ai.

## 7.257 ROLE\_TAB\_PRIVS

ROLE\_TAB\_PRIVS describes table privileges granted to roles. Information is provided only about roles to which the user has access.

| Column      | Datatype       | NULL | Description                       |
|-------------|----------------|------|-----------------------------------|
| ROLE        | VARCHAR2 (128) |      | Name of the role                  |
| OWNER       | VARCHAR2 (128) |      | Owner of the object               |
| TABLE_NAME  | VARCHAR2 (128) |      | Name of the object                |
| COLUMN_NAME | VARCHAR2 (128) |      | Name of the column, if applicable |



| Column    | Datatype      | NULL | Description                                                                                                                                                                                                                                           |
|-----------|---------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRIVILEGE | VARCHAR2 (40) |      | Object privilege granted to the role                                                                                                                                                                                                                  |
| GRANTABLE | VARCHAR2 (3)  |      | YES if the role was granted with ADMIN OPTION; otherwise NO                                                                                                                                                                                           |
| COMMON    | VARCHAR2 (3)  |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"> <li>YES if the privilege was granted commonly (CONTAINER=ALL was used)</li> <li>NO if the privilege was granted locally (CONTAINER=ALL was not used)</li> </ul> |
| INHERITED | VARCHAR2 (3)  |      | Indicates whether the role grant was inherited from another container (YES) or not (NO)                                                                                                                                                               |

## 7.258 SCHEDULER\_BATCH\_ERRORS

SCHEDULER\_BATCH\_ERRORS displays the errors caused by each call in the batch after a Scheduler batch call (when the COMMIT\_SEMANTICS argument has been set to ABSORB\_ERRORS).

| Column          | Datatype        | NULL | Description                                                                                                  |
|-----------------|-----------------|------|--------------------------------------------------------------------------------------------------------------|
| ARRAY_INDEX     | NUMBER          |      | Index of the job in the batch                                                                                |
| OBJECT_TYPE     | VARCHAR2 (30)   |      | Object type: <ul style="list-style-type: none"> <li>JOB</li> <li>LIGHTWEIGHT JOB</li> <li>UNKNOWN</li> </ul> |
| OBJECT_NAME     | VARCHAR2 (100)  |      | Full name of the object (including schema)                                                                   |
| ATTR_NAME       | VARCHAR2 (30)   |      | Name of the attribute being set (if this is a batch set attribute call); NULL otherwise                      |
| ERROR_CODE      | NUMBER          |      | Top level error code                                                                                         |
| ERROR_MESSAGE   | VARCHAR2 (4000) |      | Complete error stack                                                                                         |
| ADDITIONAL_INFO | VARCHAR2 (4000) |      | Additional information (currently unused)                                                                    |

## 7.259 SCHEMA\_EXPORT\_OBJECTS

SCHEMA\_EXPORT\_OBJECTS lists simple path names for some of the object types belonging to a Data Pump schema export, which is invoked using the SCHEMAS parameter on the expdp command.

Users of the Data Pump Export and Import utilities can query this view to determine valid values for the EXCLUDE and INCLUDE parameters.

| Column      | Datatype        | NULL     | Description                                                                                                                                       |
|-------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_PATH | VARCHAR2 (200)  | NOT NULL | Simple path name for the object type                                                                                                              |
| COMMENTS    | VARCHAR2 (2000) |          | Comment on the object type                                                                                                                        |
| NAMED       | CHAR (1)        |          | Do objects of this type have names? If yes (Y), then the name can be specified in the optional name_clause on the EXCLUDE and INCLUDE parameters. |

**See Also:**

- "DATABASE\_EXPORT\_OBJECTS"
- "TABLE\_EXPORT\_OBJECTS"
- *Oracle Database Utilities* for more information on performing a full Data Pump export using the `expdp` command

## 7.260 SEQ

SEQ is a synonym for USER\_SEQUENCES.

**See Also:**

"USER\_SEQUENCES"

## 7.261 SESSION\_CONTEXT

SESSION\_CONTEXT describes the context attributes and their values set for the current session.

| Column    | Datatype        | NULL | Description                               |
|-----------|-----------------|------|-------------------------------------------|
| NAMESPACE | VARCHAR2 (128)  |      | Namespace that the active attribute is in |
| ATTRIBUTE | VARCHAR2 (128)  |      | Name of the active attribute              |
| VALUE     | VARCHAR2 (4000) |      | Value of the active attribute             |

## 7.262 SESSION\_PRIVS

SESSION\_PRIVS describes the system privileges that are currently available to the user.

| Column    | Datatype      | NULL     | Description           |
|-----------|---------------|----------|-----------------------|
| PRIVILEGE | VARCHAR2 (40) | NOT NULL | Name of the privilege |

## 7.263 SESSION\_PRIVS\_ALL

SESSION\_PRIVS\_ALL describes the system privileges and schema privileges that are currently available to the user.

| Column    | Datatype       | NULL | Description                                                                                           |
|-----------|----------------|------|-------------------------------------------------------------------------------------------------------|
| PRIVILEGE | VARCHAR2 (40)  |      | Name of the privilege                                                                                 |
| SCHEMA    | VARCHAR2 (128) |      | Schema on which the privilege was granted<br>For system privileges, the value of this column is null. |

**Note:**

This view is available starting with Oracle Database 23ai.

## 7.264 SESSION\_SCHEMA\_PRIVS

SESSION\_SCHEMA\_PRIVS describes the schema privileges that are currently available to the user.

| Column    | Datatype       | NULL     | Description                               |
|-----------|----------------|----------|-------------------------------------------|
| PRIVILEGE | VARCHAR2 (40)  | NOT NULL | Schema privilege                          |
| SCHEMA    | VARCHAR2 (128) | NOT NULL | Schema on which the privilege was granted |

**Note:**

This view is available starting with Oracle Database 23ai.

## 7.265 SESSION\_ROLES

SESSION\_ROLES describes the roles that are currently enabled to the user.

| Column | Datatype       | NULL     | Description      |
|--------|----------------|----------|------------------|
| ROLE   | VARCHAR2 (128) | NOT NULL | Name of the role |

## 7.266 SHARD\_RAFT\_PARAMETERS

SHARD\_RAFT\_PARAMETERS displays Oracle Globally Distributed Database Raft replication parameters and their values.

This view displays the parameters that are set at the replication unit level on each shard.

| Column       | Datatype        | NULL     | Description                      |
|--------------|-----------------|----------|----------------------------------|
| ORA_SHARD_ID | NUMBER          |          | Shard identifier                 |
| RU_ID        | NUMBER          |          | Replication unit (RU) identifier |
| NAME         | VARCHAR2 (128)  | NOT NULL | Parameter name                   |
| VALUE        | VARCHAR2 (4000) |          | Parameter value                  |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

*Oracle Globally Distributed Database Guide* for more information about Raft replication parameters

## 7.267 SOURCE\_SIZE

Oracle accesses this view to create views about object size.

**See Also:**

"[DBA\\_OBJECT\\_SIZE](#)" and "[USER\\_OBJECT\\_SIZE](#)"

## 7.268 STMT\_AUDIT\_OPTION\_MAP

STMT\_AUDIT\_OPTION\_MAP describes auditing option type codes. This table can be used to map auditing option type numbers to type names.

**Note:**

This view is populated in any Oracle Database where auditing is enabled, regardless of whether pre-Oracle Database 12c auditing or unified auditing is enabled for the database.

- See *Oracle Database Security Guide* for more information about unified auditing.
- See *Oracle Database Upgrade Guide* for more information about migrating to unified auditing.

**Note:**

The mapping explained in this view is valid for audit configuration from the `DBA_STMT_AUDIT_OPTS` view only, and such audit configurations can be made when unified auditing is not enabled.

| Column   | Datatype      | NULL     | Description                          |
|----------|---------------|----------|--------------------------------------|
| OPTION#  | NUMBER        | NOT NULL | Numeric auditing option type code    |
| NAME     | VARCHAR2 (40) | NOT NULL | Name of the type of auditing option  |
| PROPERTY | NUMBER        | NOT NULL | Property flag of the auditing option |

**See Also:**["DBA\\_STMT\\_AUDIT\\_OPTS"](#)

## 7.269 SYN

SYN is a synonym for USER\_SYNONYMS.

**See Also:**["ALL\\_SYNONYMS"](#)

## 7.270 SYNONYMS

SYNONYMS is included for compatibility. Oracle recommends that you do not use this view.

## 7.271 SYS\_OBJECTS

SYS\_OBJECTS maps object IDs to object types and segment data block addresses.

| Column          | Datatype      | NULL | Description                                                                           |
|-----------------|---------------|------|---------------------------------------------------------------------------------------|
| OBJECT_TYPE     | VARCHAR2 (18) |      | Type of the object                                                                    |
| OBJECT_TYPE_ID  | NUMBER        |      | Type ID of the object                                                                 |
| SEGMENT_TYPE_ID | NUMBER        |      | Type of segment: TABLE, CLUSTER, INDEX, ROLLBACK, DEFERRED ROLLBACK, TEMPORARY, CACHE |
| OBJECT_ID       | NUMBER        |      | Object identifier                                                                     |
| HEADER_FILE     | NUMBER        |      | ID of the file containing the segment header                                          |
| HEADER_BLOCK    | NUMBER        |      | ID of the block containing the segment header                                         |
| TS_NUMBER       | NUMBER        |      | The tablespace number                                                                 |

## 7.272 SYSCATALOG

SYSCATALOG is included for compatibility.

Oracle recommends that you do not use this view.

## 7.273 SYSFILES

SYSFILES is included for compatibility.

Oracle recommends that you do not use this view.

## 7.274 SYSSEGOBJ

SYSSEGOBJ is included for compatibility.

Oracle recommends that you do not use this view.

## 7.275 SYSTEM\_PRIVILEGE\_MAP

SYSTEM\_PRIVILEGE\_MAP describes privilege (auditing option) type codes.

This table can be used to map privilege (auditing option) type numbers to type names.

| Column    | Datatype      | NULL     | Description                                                                                                                                                                                                                                                  |
|-----------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRIVILEGE | NUMBER        | NOT NULL | Numeric privilege (auditing option) type code                                                                                                                                                                                                                |
| NAME      | VARCHAR2 (40) | NOT NULL | Name of the type of privilege (auditing option).<br>See <i>Oracle Database SQL Language Reference</i> for a list of valid system privileges.                                                                                                                 |
| PROPERTY  | NUMBER        | NOT NULL | Property flag of the privilege (auditing option): <ul style="list-style-type: none"><li>0 - Indicates a privilege that can be granted with a SQL GRANT statement</li><li>1 - Indicates a privilege that can only be granted using a PL/SQL package</li></ul> |

## 7.276 TAB

TAB is included for compatibility.

Oracle recommends that you do not use this view.

## 7.277 TABLE\_EXPORT\_OBJECTS

TABLE\_EXPORT\_OBJECTS lists simple path names for some of the object types belonging to a Data Pump schema export, which is invoked using the TABLES parameter on the expdp command.

Users of the Data Pump Export and Import utilities can query this view to determine valid values for the EXCLUDE and INCLUDE parameters.

| Column      | Datatype        | NULL     | Description                                                                                                                                       |
|-------------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_PATH | VARCHAR2 (200)  | NOT NULL | Simple path name for the object type                                                                                                              |
| COMMENTS    | VARCHAR2 (2000) |          | Comment on the object type                                                                                                                        |
| NAMED       | CHAR (1)        |          | Do objects of this type have names? If yes (Y), then the name can be specified in the optional name_clause on the EXCLUDE and INCLUDE parameters. |

**See Also:**

- ["DATABASE\\_EXPORT\\_OBJECTS"](#)
- ["SCHEMA\\_EXPORT\\_OBJECTS"](#)
- *Oracle Database Utilities* for more information on performing a full Data Pump export using the `expdp` command

## 7.278 TABLE\_PRIVILEGE\_MAP

TABLE\_PRIVILEGE\_MAP describes privilege (auditing option) type codes.

This table can be used to map privilege (auditing option) type numbers to type names.

| Column    | Datatype      | NULL     | Description                                     |
|-----------|---------------|----------|-------------------------------------------------|
| PRIVILEGE | NUMBER        | NOT NULL | Numeric privilege (auditing option) type code   |
| NAME      | VARCHAR2 (40) | NOT NULL | Name of the type of privilege (auditing option) |

## 7.279 TABQUOTAS

TABQUOTAS is included for compatibility.

Oracle recommends that you do not use this view.

## 7.280 TABS

TABS is a synonym for USER\_TABLES.

**See Also:**

- ["USER\\_TABLES"](#)

## 7.281 TRUSTED\_SERVERS

TRUSTED\_SERVERS displays whether a server is trusted or untrusted.



### Note:

Enterprise User Security (EUS) is deprecated with Oracle Database 23ai.

Oracle recommends that you migrate to using Centrally Managed Users (CMU). This feature enables you to directly connect with Microsoft Active Directory without an intervening directory service for enterprise user authentication and authorization to the database. If your Oracle Database is in the cloud, you can also choose to move to one of the newer integrations with a cloud identity provider.

| Column | Datatype       | NULL | Description                                                                                                                                     |
|--------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| TRUST  | VARCHAR2 (9)   |      | Trustedness of the server listed. Values can be TRUSTED or UNTRUSTED servers which are not listed in the NAME column have opposite trustedness. |
| NAME   | VARCHAR2 (128) |      | Server name. Can be a specific server name or ALL for all servers.                                                                              |

Table 7-2 shows examples of the values returned depending on the status of the servers.

**Table 7-2 TRUSTED\_SERVERS Values**

| Condition (If . . . )                    | TRUSTED column | NAME column |
|------------------------------------------|----------------|-------------|
| ... all servers are trusted              | Trusted        | ALL         |
| ... no servers are trusted               | Untrusted      | ALL         |
| ... all servers except DB1 are trusted   | Untrusted      | DB1         |
| ... all servers except DB1 are untrusted | Trusted        | DB1         |



### See Also:

- *Oracle Database PL/SQL Packages and Types Reference*
- *Oracle Database Enterprise User Security Administrator's Guide*

## 7.282 TS\_PITR\_CHECK

This view, created by `catpitr.sql`, provides information on any dependencies or restrictions that might prevent tablespace point-in-time recovery from proceeding.

This view applies only to the tablespace point-in-time recovery feature.



| Column          | Datatype       | NULL | Description                                                                                                                                      |
|-----------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJ1_OWNER      | VARCHAR2 (128) |      | The owner of the object preventing tablespace point-in-time recovery. See the <code>REASON</code> column for details.                            |
| OBJ1_NAME       | VARCHAR2 (128) |      | The name of the object preventing tablespace point-in-time recovery                                                                              |
| OBJ1_SUBNAME    | VARCHAR2 (128) |      | Subordinate to <code>OBJ1_NAME</code>                                                                                                            |
| OBJ1_TYPE       | VARCHAR2 (16)  |      | The object type for the object preventing tablespace point-in-time recovery                                                                      |
| TS1_NAME        | VARCHAR2 (30)  |      | Name of the tablespace containing the object preventing tablespace point-in-time recovery                                                        |
| OBJ2_NAME       | VARCHAR2 (128) |      | The name of a second object which may be preventing tablespace point-in-time recovery. If NULL, object 1 is the only object preventing recovery. |
| OBJ2_SUBNAME    | VARCHAR2 (128) |      | Subordinate to <code>OBJ2_NAME</code>                                                                                                            |
| OBJ2_TYPE       | VARCHAR2 (15)  |      | The object type for the second object (will be NULL if <code>OBJ2_NAME</code> is NULL)                                                           |
| OBJ2_OWNER      | VARCHAR2 (128) |      | The owner of the second object (will be NULL if <code>OBJ2_NAME</code> is NULL)                                                                  |
| TS2_NAME        | VARCHAR2 (30)  |      | Name of the tablespace containing second object which may be preventing tablespace point-in-time recovery (-1 indicates not applicable)          |
| CONSTRAINT_NAME | VARCHAR2 (128) |      | Name of the constraint                                                                                                                           |
| REASON          | VARCHAR2 (81)  |      | Reason why tablespace point-in-time recovery cannot proceed                                                                                      |

**See Also:**

*Oracle Database Backup and Recovery User's Guide* for more information about tablespace point-in-time recovery

## 7.283 TS\_PITR\_OBJECTS\_TO\_BE\_DROPPED

`TS_PITR_OBJECTS_TO_BE_DROPPED` lists all objects lost as a result of performing tablespace point-in-time recovery.

This view applies only to the tablespace point-in-time recovery feature.

| Column          | Datatype       | NULL     | Description                                                                                          |
|-----------------|----------------|----------|------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128) | NOT NULL | The owner of the object                                                                              |
| NAME            | VARCHAR2 (128) | NOT NULL | The name of the object that will be lost as a result of undergoing tablespace point-in-time recovery |
| CREATION_TIME   | DATE           | NOT NULL | Creation timestamp of the object                                                                     |
| TABLESPACE_NAME | VARCHAR2 (30)  |          | Name of the tablespace containing the object                                                         |

**See Also:**

*Oracle Database Backup and Recovery User's Guide* for more information about tablespace point-in-time recovery

## 7.284 UNI\_PLUGGABLE\_SET\_CHECK

UNI\_PLUGGABLE\_SET\_CHECK contains pluggable check information.

| Column          | Datatype       | NULL | Description                          |
|-----------------|----------------|------|--------------------------------------|
| OBJ1_OWNER      | VARCHAR2 (128) |      | Owner of object                      |
| OBJ1_NAME       | VARCHAR2 (128) |      | Object 1                             |
| OBJ1_SUBNAME    | VARCHAR2 (128) |      | SubObject1Name                       |
| OBJ1_TYPE       | VARCHAR2 (18)  |      | Object Type                          |
| TS1_NAME        | VARCHAR2 (30)  |      | Tablespace containing Object 1       |
| OBJ2_NAME       | VARCHAR2 (128) |      | Object Name                          |
| OBJ2_SUBNAME    | VARCHAR2 (128) |      | SubObject2Name                       |
| OBJ2_TYPE       | VARCHAR2 (18)  |      | Object Type                          |
| OBJ2_OWNER      | VARCHAR2 (128) |      | Object owner of second object        |
| TS2_NAME        | VARCHAR2 (30)  |      | Tablespace containing Object 1       |
| CONSTRAINT_NAME | VARCHAR2 (128) |      | Name of dependent constraint         |
| REASON          | VARCHAR2 (86)  |      | Reason for Pluggable check violation |
| MESG_ID         | NUMBER         |      | The message ID                       |

## 7.285 UNIFIED\_AUDIT\_TRAIL

When unified auditing is enabled in Oracle Database, the audit records are populated in this new audit trail.

This view displays audit records in tabular form by retrieving the audit records from the audit trail.

**Note:**

This view is populated only in an Oracle Database where unified auditing is enabled.

- See *Oracle Database Security Guide* for more information about unified auditing.
- See *Oracle Database Upgrade Guide* for more information about migrating to unified auditing.

| Column              | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                         |
|---------------------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AUDIT_TYPE          | VARCHAR2 (64)   |      | Type of auditing: <ul style="list-style-type: none"> <li>• Database Vault</li> <li>• Datapump</li> <li>• Direct path API</li> <li>• FineGrainedAudit</li> <li>• KACL_AUDIT</li> <li>• Label Security</li> <li>• Protocol</li> <li>• RMAN_AUDIT</li> <li>• SQL Firewall</li> <li>• Standard</li> <li>• XS</li> </ul> |
| SESSIONID           | NUMBER          |      | Audit session identifier                                                                                                                                                                                                                                                                                            |
| PROXY_SESSIONID     | NUMBER          |      | Audit session identifier of proxying session                                                                                                                                                                                                                                                                        |
| OS_USERNAME         | VARCHAR2 (128)  |      | Name of the operating system user for the database session                                                                                                                                                                                                                                                          |
| USERHOST            | VARCHAR2 (128)  |      | Name of the host machine from which the session was spawned                                                                                                                                                                                                                                                         |
| TERMINAL            | VARCHAR2 (30)   |      | The operating system terminal of the user session                                                                                                                                                                                                                                                                   |
| INSTANCE_ID         | NUMBER          |      | Instance number as specified in the initialization parameter file, init.ora                                                                                                                                                                                                                                         |
| DBID                | NUMBER          |      | Database identifier of the audited database                                                                                                                                                                                                                                                                         |
| AUTHENTICATION_TYPE | VARCHAR2 (1024) |      | Authentication information for the session user<br><b>See: "<a href="#">AUTHENTICATION_TYPE Description</a>"</b>                                                                                                                                                                                                    |
| DBUSERNAME          | VARCHAR2 (128)  |      | Database user name of the user whose actions were audited                                                                                                                                                                                                                                                           |
| DBPROXY_USERNAME    | VARCHAR2 (128)  |      | Proxying user name, in the case of proxy authentication                                                                                                                                                                                                                                                             |
| EXTERNAL_USERID     | VARCHAR2 (1024) |      | External user name, in the case of network or external authentication                                                                                                                                                                                                                                               |
| GLOBAL_USERID       | VARCHAR2 (32)   |      | Global user identifier for the user, for a user logged in as an enterprise user                                                                                                                                                                                                                                     |
| CLIENT_PROGRAM_NAME | VARCHAR2 (84)   |      | Name of the program used for the database session                                                                                                                                                                                                                                                                   |
| DBLINK_INFO         | VARCHAR2 (4000) |      | Value of SYS_CONTEXT ('USERENV', 'DBLINK_INFO'). Valid if the connection was via a database link.                                                                                                                                                                                                                   |
| XS_USER_NAME        | VARCHAR2 (128)  |      | Name of the Real Application Security user                                                                                                                                                                                                                                                                          |
| XS_SESSIONID        | RAW (33)        |      | Identifier of the Real Application Security session                                                                                                                                                                                                                                                                 |
| ENTRY_ID            | NUMBER          |      | Numeric ID for each audit trail entry in the session                                                                                                                                                                                                                                                                |
| STATEMENT_ID        | NUMBER          |      | Numeric ID for each statement run (a statement may cause many actions)                                                                                                                                                                                                                                              |
| EVENT_TIMESTAMP     | TIMESTAMP (6)   |      | Timestamp of the creation of the audit trail entry in the local time zone                                                                                                                                                                                                                                           |
| EVENT_TIMESTAMP_UTC | TIMESTAMP (6)   |      | Timestamp of the creation of the audit trail entry in UTC (Coordinated Universal Time)                                                                                                                                                                                                                              |
| ACTION_NAME         | VARCHAR2 (64)   |      | Name of the action executed by the user. The name should be read in conjunction with the AUDIT_TYPE to understand the real action.                                                                                                                                                                                  |

| Column                | Datatype        | NULL | Description                                                                                                                                   |
|-----------------------|-----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| RETURN_CODE           | NUMBER          |      | Oracle error code generated by the action. Zero if the action succeeded                                                                       |
| OS_PROCESS            | VARCHAR2 (16)   |      | Operating system process identifier of the Oracle database process                                                                            |
| TRANSACTION_ID        | RAW (8)         |      | Transaction identifier of the transaction in which the object is modified                                                                     |
| SCN                   | NUMBER          |      | System change number (SCN) of the creation of the audit trail entry                                                                           |
| EXECUTION_ID          | VARCHAR2 (64)   |      | Execution context identifier for each action                                                                                                  |
| OBJECT_SCHEMA         | VARCHAR2 (128)  |      | Schema name of object affected by the action                                                                                                  |
| OBJECT_NAME           | VARCHAR2 (128)  |      | Name of the object affected by the action                                                                                                     |
| SQL_TEXT              | CLOB            |      | SQL associated with the event                                                                                                                 |
| SQL_BINDS             | CLOB            |      | List of bind variables, if any, associated with <code>SQL_TEXT</code>                                                                         |
| APPLICATION_CONTEXTS  | VARCHAR2 (4000) |      | Semicolon-separated list of Application Context Namespace, Attribute, Value information in (APPCTX_NAMESPACE,APPCTX_ATTRIBUTE=<value>) format |
| CLIENT_IDENTIFIER     | VARCHAR2 (64)   |      | Client identifier in each Oracle session                                                                                                      |
| NEW_SCHEMA            | VARCHAR2 (128)  |      | The schema of the object named in the <code>NEW_NAME</code> column                                                                            |
| NEW_NAME              | VARCHAR2 (128)  |      | New name of object after RENAME, or name of underlying object (for example, CREATE INDEX owner.obj_name ON new_owner.new_name)                |
| OBJECT_EDITION        | VARCHAR2 (128)  |      | Name of the edition containing the audited object                                                                                             |
| SYSTEM_PRIVILEGE_USED | VARCHAR2 (1024) |      | Comma-separated list of system privileges used to execute the action                                                                          |
| SYSTEM_PRIVILEGE      | VARCHAR2 (40)   |      | System privilege granted/revoked by a GRANT/ REVOKE statement                                                                                 |
| AUDIT_OPTION          | VARCHAR2 (40)   |      | AUDIT/NOAUDIT SQL command                                                                                                                     |
| OBJECT_PRIVILEGES     | VARCHAR2 (37)   |      | Object privileges granted/revoked by a GRANT/ REVOKE statement                                                                                |
| ROLE                  | VARCHAR2 (128)  |      | Roles granted or revoked or set by GRANT/ REVOKE/SET ROLE command                                                                             |
| TARGET_USER           | VARCHAR2 (128)  |      | User on whom the GRANT/REVOKE/AUDIT/NOAUDIT statement was executed                                                                            |
| EXCLUDED_USER         | VARCHAR2 (128)  |      | User who was excluded when the AUDIT/NOAUDIT statement was executed                                                                           |
| EXCLUDED_SCHEMA       | VARCHAR2 (128)  |      | Displays the schema of the excluded objects                                                                                                   |
| EXCLUDED_OBJECT       | VARCHAR2 (128)  |      | Displays object excluded from the action                                                                                                      |
| CURRENT_USER          | VARCHAR2 (128)  |      | Effective user for the statement execution                                                                                                    |
| ADDITIONAL_INFO       | VARCHAR2 (4000) |      | Text comment on the audit trail entry, if any                                                                                                 |

| Column                   | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------|-----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UNIFIED_AUDIT_POLICIES   | VARCHAR2 (4000) |      | Lists the audit policies that caused the current audit record. For example, if <code>SELECT ON SCOTT.EMP</code> was configured from policy <code>SCOTT_EMP_POL</code> , for the <code>SELECT</code> event this column will display <code>SCOTT_EMP_POL</code> .<br><br>If more than one policy was configured, the list of policies that caused the event to be recorded in the audit trail are displayed in a comma-separated list.<br><br>This column has a NULL value for mandatory audit records. See <i>Oracle Database Security Guide</i> for information on activities that are mandatorily audited. |
| FGA_POLICY_NAME          | VARCHAR2 (128)  |      | Fine-grained auditing (FGA) policy name that generated this FGA audit record                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| XS_INACTIVITY_TIMEOUT    | NUMBER          |      | Inactivity timeout of the Real Application Security session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| XS_ENTITY_TYPE           | VARCHAR2 (32)   |      | Type of the Real Application Security entity. Possible values are <code>USER</code> , <code>ROLE</code> , <code>ROLESET</code> , <code>SECURITYCLASS</code> , <code>ACL</code> , <code>DATASECURITY</code> , and <code>NSTEMPLATE</code> .                                                                                                                                                                                                                                                                                                                                                                  |
| XS_TARGET_PRINCIPAL_NAME | VARCHAR2 (128)  |      | Target principal name in Real Application Security operations. Possible operations are set verifier, set password, add proxy, remove proxy, switch user, assign user, create session, and grant roles.                                                                                                                                                                                                                                                                                                                                                                                                      |
| XS_PROXY_USER_NAME       | VARCHAR2 (128)  |      | Name of the Real Application Security proxy user                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| XS_DATASEC_POLICY_NAME   | VARCHAR2 (128)  |      | Name of the Real Application Security data security policy enabled or disabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| XS_SCHEMA_NAME           | VARCHAR2 (128)  |      | Name of the schema in enable, disable data security policy and global callback operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| XS_CALLBACK_EVENT_TYPE   | VARCHAR2 (32)   |      | Real Application Security global callback event type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| XS_PACKAGE_NAME          | VARCHAR2 (128)  |      | Real Application Security callback package name for the global callback                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| XS_PROCEDURE_NAME        | VARCHAR2 (128)  |      | Real Application Security callback procedure name for the global callback                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| XS_ENABLED_ROLE          | VARCHAR2 (128)  |      | The role that is enabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| XS_COOKIE                | VARCHAR2 (1024) |      | Real Application Security session cookie                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| XS_NS_NAME               | VARCHAR2 (128)  |      | Name of the Real Application Security session namespace                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| XS_NS_ATTRIBUTE          | VARCHAR2 (4000) |      | Name of the Real Application Security session namespace attribute                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| XS_NS_ATTRIBUTE_OLD_VAL  | VARCHAR2 (4000) |      | The old value of the Real Application Security session namespace attribute                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| XS_NS_ATTRIBUTE_NEW_VAL  | VARCHAR2 (4000) |      | The new value of the Real Application Security session namespace                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| DV_ACTION_CODE           | NUMBER          |      | Numeric action type code for Database Vault                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DV_ACTION_NAME           | VARCHAR2 (128)  |      | Name of the action whose numeric code appears in the <code>DV_ACTION_CODE</code> column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DV_EXTENDED_ACTION_CODE  | NUMBER          |      | Numeric action type code for Database Vault administration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DV GRANTEE               | VARCHAR2 (128)  |      | Name of the user whose Database Vault authorization was modified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Column                   | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------|-----------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DV_RETURN_CODE           | NUMBER          |      | Database Vault specific error code                                                                                                                                                                                                                                                                                                                                                                                                       |
| DV_ACTION_OBJECT_NAME    | VARCHAR2 (128)  |      | The unique name of the Database Vault object that was modified                                                                                                                                                                                                                                                                                                                                                                           |
| DV_RULE_SET_NAME         | VARCHAR2 (128)  |      | The unique name of the rule set that was executing and caused the audit event to trigger                                                                                                                                                                                                                                                                                                                                                 |
| DV_COMMENT               | VARCHAR2 (4000) |      | Text comment on the audit trail entry, providing more information about the statement audited                                                                                                                                                                                                                                                                                                                                            |
| DV_FACTOR_CONTEXT        | VARCHAR2 (4000) |      | An XML document that contains all of the factor identifiers for the current session at the point when the audit event was triggered                                                                                                                                                                                                                                                                                                      |
| DV_OBJECT_STATUS         | VARCHAR2 (1)    |      | Indicates whether a particular Database Vault object is enabled or disabled. For example, if a Database Vault administrator enables or disables a realm, then this event will be audited and the DV_OBJECT_STATUS value will show the status of the realm after the event occurred. Possible values for this column are: <ul style="list-style-type: none"> <li>Y - The object is enabled</li> <li>N - The object is disabled</li> </ul> |
| OLS_POLICY_NAME          | VARCHAR2 (128)  |      | Name of the Oracle Label Security (OLS) policy for which this audit record is generated                                                                                                                                                                                                                                                                                                                                                  |
| OLS GRANTEE              | VARCHAR2 (1024) |      | Name of the user whose OLS authorization was modified                                                                                                                                                                                                                                                                                                                                                                                    |
| OLS_MAX_READ_LABEL       | VARCHAR2 (4000) |      | Maximum read label assigned to a user                                                                                                                                                                                                                                                                                                                                                                                                    |
| OLS_MAX_WRITE_LABEL      | VARCHAR2 (4000) |      | Maximum write label assigned to a user                                                                                                                                                                                                                                                                                                                                                                                                   |
| OLS_MIN_WRITE_LABEL      | VARCHAR2 (4000) |      | Minimum write label assigned to a user                                                                                                                                                                                                                                                                                                                                                                                                   |
| OLS_PRIVILEGES_GRANTED   | VARCHAR2 (128)  |      | OLS privileges assigned to a user or a trusted stored procedure                                                                                                                                                                                                                                                                                                                                                                          |
| OLS_PROGRAM_UNIT_NAME    | VARCHAR2 (128)  |      | Name of the trusted stored procedure whose authorization was modified or was executed                                                                                                                                                                                                                                                                                                                                                    |
| OLS_PRIVILEGES_USED      | VARCHAR2 (128)  |      | OLS privileges used for an event                                                                                                                                                                                                                                                                                                                                                                                                         |
| OLS_STRING_LABEL         | VARCHAR2 (4000) |      | String representation of the OLS label                                                                                                                                                                                                                                                                                                                                                                                                   |
| OLS_LABEL_COMPONENT_TYPE | VARCHAR2 (12)   |      | Type of the OLS label component                                                                                                                                                                                                                                                                                                                                                                                                          |
| OLS_LABEL_COMPONENT_NAME | VARCHAR2 (30)   |      | Name of the OLS label component                                                                                                                                                                                                                                                                                                                                                                                                          |
| OLS_PARENT_GROUP_NAME    | VARCHAR2 (30)   |      | Name of the parent of the OLS group                                                                                                                                                                                                                                                                                                                                                                                                      |
| OLS_OLD_VALUE            | VARCHAR2 (4000) |      | Old value for OLS ALTER events                                                                                                                                                                                                                                                                                                                                                                                                           |
| OLS_NEW_VALUE            | VARCHAR2 (4000) |      | New value for OLS ALTER events                                                                                                                                                                                                                                                                                                                                                                                                           |
| RMAN_SESSION_RECID       | NUMBER          |      | RMAN session identifier. Together with RMAN_SESSION_STAMP uniquely identifies an RMAN job (note that this is not same as user session ID; the value is a recid in controlfile that identifies RMAN job)                                                                                                                                                                                                                                  |
| RMAN_SESSION_STAMP       | NUMBER          |      | Timestamp for the session                                                                                                                                                                                                                                                                                                                                                                                                                |
| RMAN_OPERATION           | VARCHAR2 (20)   |      | The RMAN operation executed by the job. One row will be added for each distinct operation within an RMAN session. For example, a backup job would contain BACKUP in the RMAN_OPERATION column.                                                                                                                                                                                                                                           |

| Column              | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RMAN_OBJECT_TYPE    | VARCHAR2 (20)  |      | <p>Type of objects involved for backup or restore/recover or change/delete/crosscheck commands.</p> <p>It contains one of the following values. If RMAN command does not satisfy one of them, then preference is given in order, from top to bottom of the list:</p> <ul style="list-style-type: none"><li>• DB FULL</li><li>• RECVR AREA</li><li>• DB INCR</li><li>• DATAFILE FULL</li><li>• DATAFILE INCR</li><li>• ARCHIVELOG</li><li>• CONTROLFILE</li><li>• SPFILE</li></ul>                                                                                          |
| RMAN_DEVICE_TYPE    | VARCHAR2 (5)   |      | <p>Device involved in the RMAN job. It may be <code>DISK</code> or <code>SBT_TAPE</code> or <code>*</code> (An <code>*</code> indicates that more than one location is involved).</p> <p>For a backup job, it will be the output device type. For other commands (such as restore or crosscheck), it will be the input device type.</p>                                                                                                                                                                                                                                    |
| DP_TEXT_PARAMETERS1 | VARCHAR2 (512) |      | <p>Parameters during a Data Pump operation that have a text/string value. This may contain the values for:</p> <ul style="list-style-type: none"><li>• ACCESS METHOD</li><li>• DATA OPTIONS</li><li>• DUMPER DIRECTORY</li><li>• JOB_TYPE</li><li>• JOB VERSION</li><li>• MASTER TABLE</li><li>• METADATA_JOB_MODE</li><li>• PARTITION OPTIONS</li><li>• REMOTE LINK</li><li>• SCHEMA</li><li>• TABLE EXISTS</li></ul> <p>For descriptions and more information about the settings that can appear for these Data Pump text parameters, see <a href="#">Table 7-3</a>.</p> |

| Column                         | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DP_BOOLEAN_PARAMETERS1         | VARCHAR2 (512) |      | <p>Parameters during a Data Pump operation that have a boolean value. This may contain the values for:</p> <ul style="list-style-type: none"> <li>• <code>DATA_ONLY</code> - Boolean value for whether or not the operation processed data only (as opposed to metadata only, or metadata and data combined)</li> <li>• <code>DUMPFIL_PRESENT</code> - Denotes whether a dump file exists. Typically, it indicates whether a network export in which no dumpfile is required.</li> <li>• <code>ENCRYPTED</code> - Boolean value for whether or not encryption was used for the operation</li> <li>• <code>JOB_RESTARTED</code> - Boolean that indicates if the export or import job had to be restarted</li> <li>• <code>MASTER_ONLY</code> - Indicates whether the import job imported only the control job table and then stopped the job so that the contents of the control job table can be examined</li> <li>• <code>METADATA_ONLY</code> - Boolean value for whether or not the operation processed metadata only (as opposed to data only, or metadata and data combined)</li> </ul> |
| DP_WARNINGS1                   | VARCHAR2 (512) |      | <p>Contains warnings issued during a Data Pump operation</p> <p>If no warnings were issued, this column contains<br/><code>WARNING(S) ISSUED: No warnings issued.</code></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DIRECT_PATH_NUM_COLUMNS_LOADED | NUMBER         |      | Shows the number of columns that were loaded using the SQL*Loader direct path load method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| RLS_INFO                       | CLOB           |      | <p>Stores virtual private database (VPD), Oracle Label Security (OLS), Real Application Security (RAS), and redaction policy names and predicates separated by a delimiter. In the case of redaction policies, the policy expression is displayed in place of the predicate.</p> <p>To format the output into individual rows, use the <code>DBMS_AUDIT_UTIL.DECODE_RLS_INFO_ATRAIL_UNI</code> function.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| KSACL_USER_NAME                | VARCHAR2 (128) |      | <p>The connecting user name</p> <p>The value in this column is meaningful only when the <code>UNIFIED_AUDIT_TRAIL.RETURN_CODE</code> is 46981, which is the denial-of-service (DoS) error code.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| KSACL_SERVICE_NAME             | VARCHAR2 (512) |      | <p>The target database service name</p> <p>The value in this column is meaningful only when the <code>UNIFIED_AUDIT_TRAIL.RETURN_CODE</code> is 46981, which is the denial-of-service (DoS) error code.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| KSACL_SOURCE_LOCATION          | VARCHAR2 (48)  |      | <p>The source location of the initiating connection</p> <p>The value in this column is meaningful only when the <code>UNIFIED_AUDIT_TRAIL.RETURN_CODE</code> is 46981, which is the denial-of-service (DoS) error code.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PROTOCOL_SESSION_ID            | NUMBER         |      | <p>Oracle XML DB session ID</p> <p>The <code>PROTOCOL_*</code> columns in this view are meaningful when auditing Oracle XML DB protocol (HTTP or FTP) messages.</p> <p>You can use this column to identify audit records from the same Oracle XML DB session.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |



| Column               | Datatype        | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------|-----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROTOCOL_RETURN_CODE | NUMBER          |      | <p>Return code for the Oracle XML DB protocol request</p> <p>This value is logged in the audit records for both the reply message containing the return code and its corresponding request message.</p> <p>For HTTP requests, a return code of 200 (OKAY) or 304 (NOT-MODIFIED) is considered successful, and a return code of 207 means the reply may have multiple components with separate return codes. All other HTTP return codes are considered unsuccessful.</p>                                                               |
| PROTOCOL_ACTION_NAME | VARCHAR2 (32)   |      | <p>Indicates the protocol and method for the Oracle XML DB protocol message</p> <p>This value is of the form <i>protocol-method</i>.</p> <p>Possible values for <i>protocol</i> are HTTP or FTP.</p> <p>Examples: HTTP-GET and FTP-RETR.</p> <p>Note that the HTTP GET and HEAD methods are both logged as HTTP-GET.</p> <p>Unrecognized methods are logged as HTTP-UNKNOWN or FTP-UNKNOWN.</p>                                                                                                                                        |
| PROTOCOL_USERHOST    | VARCHAR2 (128)  |      | IP address of the client                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PROTOCOL_MESSAGE     | VARCHAR2 (4000) |      | Text of the Oracle XML DB protocol message                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| DB_UNIQUE_NAME       | VARCHAR2 (257)  |      | Unique database name of the audited database, which is defined by the DB_UNIQUE_NAME initialization parameter. This value is useful for differentiating between the primary and standby databases in an Oracle Data Guard configuration.                                                                                                                                                                                                                                                                                               |
| OBJECT_TYPE          | VARCHAR2 (23)   |      | Object type of the object being audited                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| FW_ACTION_NAME       | VARCHAR2 (30)   |      | For SQL Firewall audit actions, the name of the action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| FW_RETURN_CODE       | NUMBER          |      | For SQL Firewall audit actions, return code of the SQL execution                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SOURCE               | VARCHAR2 (8)    |      | <p>Source of the audit record:</p> <ul style="list-style-type: none"> <li>• FILE - Refers to records from the operating system spillover files in each database instance</li> <li>• DATABASE - Refers to records from the AUDSYS.AUD\$UNIFIED table</li> </ul>                                                                                                                                                                                                                                                                         |
| SCHEMA               | VARCHAR2 (4000) |      | <p>Schema name</p> <ul style="list-style-type: none"> <li>• If a schema privilege was used to execute the action, this column displays the schema and the SYSTEM_PRIVILEGE_USED column displays the privilege granted on the schema.</li> <li>• If a schema privilege was granted or revoked by a GRANT or REVOKE statement, this column displays the schema and the SYSTEM_PRIVILEGE column displays the privilege that was granted to or revoked from the schema.</li> <li>• Otherwise, the value of this column is null.</li> </ul> |
| DP_CLOB_PARAMETERS1  | CLOB            |      | Parameters used by Data Pump export or import, in JSON format                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

**Table 7-3 Data Pump Text Parameter Descriptions**

| Parameter         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACCESS_METHOD     | <p>The method used to load the data. Settings can be:</p> <ul style="list-style-type: none"> <li><code>AUTOMATIC</code>: Enables Oracle Data Pump to determine the optimal load method</li> <li><code>DIRECT_PATH</code>: Uses the direct path API to pass the data to be loaded.</li> <li><code>EXTERNAL_TABLE</code>: Loads data using the external tables option.</li> <li><code>CONVENTIONAL</code>: Loads the data using SQL <code>INSERT</code> statements</li> </ul>                                                                                                                                                                                                                                                                                                                                                |
| DATA_OPTIONS      | <p>Indicates how certain types of data were handled during import operations. Settings are in bit-mask format, which are as follows:</p> <ul style="list-style-type: none"> <li><code>1 (SKIP_CONSTRAINT_ERRORS)</code>: Specifies that the import operation proceeded even if non-deferred constraint violations were encountered.</li> <li><code>8 (DISABLE_APPEND_HINT)</code>: The import operation did not use the <code>APPEND</code> hint while loading a data object.</li> <li><code>16 (REJECT_ROWS_WITH_REPL_CHAR)</code>: Warnings are issued when the replacement character may be used and an option was added to reject data rows where the replacement character was used during a Data Pump import. This situation can occur if different character sets are used for the export/import process</li> </ul> |
| DUMPER_DIRECTORY  | Not in use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| JOB_TYPE          | Is either <code>EXPORT</code> or <code>IMPORT</code>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| JOB_VERSION       | Specifies the version of database objects that were imported                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| MASTER_TABLE      | <p>Indicates the name of the control job table. By default, it appears as follows for export operations:</p> <p><i>schema_name</i>.SYS_EXPORT_TABLE_<i>n</i></p> <p>For import operations, it appears as follows:</p> <p><i>schema_name</i>.SYS_IMPORT_TABLE_<i>n</i></p> <p>The <i>n</i> represents a numeric value of 01. If 01 is in use, the number is incremented with 02, 03, and so on.</p>                                                                                                                                                                                                                                                                                                                                                                                                                         |
| METADATA_JOB_MODE | Type of export or import operation. For example a table export would be <code>TABLE_EXPORT</code>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PARTITION_OPTIONS | <p>Indicates how table partitions were created during an import operation. Settings can be:</p> <ul style="list-style-type: none"> <li><code>NONE</code>: The tables were created as they existed on the system from which the export operation was performed.</li> <li><code>DEPARTITION</code>: Each partition or subpartition was promoted to a new individual table.</li> <li><code>MERGE</code>: All partitions and subpartitions were merged into one table</li> </ul>                                                                                                                                                                                                                                                                                                                                               |
| REMOTE_LINK       | Indicates that the export was performed from a (source) database identified by a valid database link. The data from the source database instance was written to a dump file set on the connected database instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SCHEMA            | Indicates the schema containing the data that was exported or imported                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TABLE_EXISTS      | <p>Indicates the action that was taken on an import operation when the target table already existed. The values are as follows:</p> <ul style="list-style-type: none"> <li><code>REPLACE</code></li> <li><code>TRUNCATE</code></li> <li><code>SKIP</code></li> <li><code>APPEND</code></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## AUTHENTICATION\_TYPE Description

The `AUTHENTICATION_TYPE` column of `UNIFIED_AUDIT_TRAIL` displays authentication information for the session user.

The value of this column is a string with the following syntax:

```
(TYPE=(auth_string));(CLIENT_ADDRESS=((PROTOCOL=protocol)
(HOST=client_ip_address)(PORT=client_port_number)));
[(LOGON_INFO=((VERIFIER=%s-%s)(CLIENT_CAPABILITIES=%s));]
```

- `(TYPE=(auth_string));`

Indicates the type of authentication for the session user.

Possible values for *auth\_string*:

- `DATABASE` - Username/password authentication
- `DIRECTORY PASSWORD` - Directory-based user authentication
- `NETWORK SERVICE` - Authentication was performed by Oracle Net Services or strong authentication
- `OS` - Operating system external user authentication
- `PROXY` - OCI proxy connection authentication

- `(CLIENT_ADDRESS=((PROTOCOL=protocol)(HOST=client_ip_address)
(PORT=client_port_number)));`

Displays the protocol used by the client, such as `ipc`, `sdp`, `tcp`, or `tcps`, the client IP address, and the client port number.

- `(LOGON_INFO=((VERIFIER=version-rollover_state)
(CLIENT_CAPABILITIES=capability_list)));`

This syntax is displayed only if authentication was completed during gradual database password rollover.

The value of `VERIFIER` comprises the following two values, separated by a hyphen:

- *version* - Indicates the password version (11G or 12C)
- *rollover\_state* - Indicates whether the user was authenticated with the `OLD` password or the `NEW` password

For `CLIENT_CAPABILITIES`, the value of *capability\_list* is a comma-separated list of one or more of the following client capabilities: `O5L_NP`, `O7L_MR`, or `O8L_LI`. See *Oracle Database Net Services Reference* for more information about client capabilities.

### See Also:

- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_AUDIT_MGMT` package
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_AUDIT_UTIL.DECODE_RLS_INFO_ATTRAIL_UNI` function

## 7.286 USABLE\_EDITIONS

USABLE\_EDITIONS describes the usable editions of the current user.

| Column              | Datatype       | NULL     | Description                                 |
|---------------------|----------------|----------|---------------------------------------------|
| EDITION_NAME        | VARCHAR2 (128) | NOT NULL | Name of the edition                         |
| PARENT_EDITION_NAME | VARCHAR2 (128) |          | Name of the parent edition for this edition |



### See Also:

*Oracle Database Development Guide* for more information about editions

## 7.287 USER\_ADDM\_FDG\_BREAKDOWN

USER\_ADDM\_FDG\_BREAKDOWN describes the contribution for each finding from the different instances owned by the current user. Its columns are the same as those in DBA\_ADDM\_FDG\_BREAKDOWN.



### See Also:

["DBA\\_ADDM\\_FDG\\_BREAKDOWN"](#)

## 7.288 USER\_ADDM\_FINDINGS

USER\_ADDM\_FINDINGS displays the ADDM findings discovered by the advisors owned by the current user.

Each row for ADDM tasks in the related USER\_ADVISOR\_FINDINGS view has a corresponding row in this view. Its columns (except for OWNER) are the same as those in DBA\_ADDM\_FINDINGS.



### See Also:

["DBA\\_ADDM\\_FINDINGS"](#)

## 7.289 USER\_ADDM\_INSTANCES

USER\_ADDM\_INSTANCES provides instance-level information for ADDM tasks that finished executing in all instances owned by the current user. Its columns are the same as those in DBA\_ADDM\_INSTANCES.



### See Also:

"DBA\_ADDM\_INSTANCES"

## 7.290 USER\_ADDM\_TASK\_DIRECTIVES

USER\_ADDM\_TASK\_DIRECTIVES displays information about ADDM task directives owned by the current user. Its columns (except for USERNAME and SEQ\_ID) are the same as those in DBA\_ADDM\_TASK\_DIRECTIVES.



### See Also:

"DBA\_ADDM\_TASK\_DIRECTIVES"

## 7.291 USER\_ADDM\_TASKS

USER\_ADDM\_TASKS displays information about the ADDM tasks owned by the current user.

The view contains one row for each row in the related USER\_ADVISOR\_TASKS view that has ADVISOR\_NAME=ADDM and STATUS=COMPLETED. Its columns (except for OWNER) are the same as those in DBA\_ADDM\_TASKS.



### See Also:

"DBA\_ADDM\_TASKS"

## 7.292 USER\_ADVISOR\_ACTIONS

USER\_ADVISOR\_ACTIONS displays information about the actions associated with the recommendations owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_ADVISOR\_ACTIONS.



### See Also:

"DBA\_ADVISOR\_ACTIONS"

## 7.293 USER\_ADVISOR\_DIR\_TASK\_INST

USER\_ADVISOR\_DIR\_TASK\_INST displays information about all task directive instances owned by the current user. Its columns (except for SEQ\_ID and USERNAME) are the same as those in DBA\_ADVISOR\_DIR\_TASK\_INST.



### See Also:

["DBA\\_ADVISOR\\_DIR\\_TASK\\_INST"](#)

## 7.294 USER\_ADVISOR\_EXEC\_PARAMETERS

USER\_ADVISOR\_EXEC\_PARAMETERS displays the parameter values used for past executions of tasks owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_ADVISOR\_EXEC\_PARAMETERS.



### See Also:

["DBA\\_ADVISOR\\_EXEC\\_PARAMETERS"](#)

## 7.295 USER\_ADVISOR\_EXECUTIONS

USER\_ADVISOR\_EXECUTIONS displays metadata information for tasks owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_ADVISOR\_EXECUTIONS.



### See Also:

["DBA\\_ADVISOR\\_EXECUTIONS"](#)

## 7.296 USER\_ADVISOR\_FDG\_BREAKDOWN

USER\_ADVISOR\_FDG\_BREAKDOWN describes the contribution from the different instances to the findings for each ADDM task owned by the current user. Its columns are the same as those in DBA\_ADVISOR\_FDG\_BREAKDOWN.



### See Also:

["DBA\\_ADVISOR\\_FDG\\_BREAKDOWN"](#)

## 7.297 USER\_ADVISOR\_FINDINGS

USER\_ADVISOR\_FINDINGS displays the findings discovered by the advisors owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_ADVISOR\_FINDINGS.



**See Also:**

"DBA\_ADVISOR\_FINDINGS"

## 7.298 USER\_ADVISOR\_JOURNAL

USER\_ADVISOR\_JOURNAL displays the journal entries for the tasks owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_ADVISOR\_JOURNAL.



**See Also:**

"DBA\_ADVISOR\_JOURNAL"

## 7.299 USER\_ADVISOR\_LOG

USER\_ADVISOR\_LOG displays information about the current state of the tasks owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_ADVISOR\_LOG.



**See Also:**

"DBA\_ADVISOR\_LOG"

## 7.300 USER\_ADVISOR\_OBJECTS

USER\_ADVISOR\_OBJECTS displays information about the objects currently referenced by the advisors owned by the current user. Its columns (except for OWNER, ATTR21, and ATTR22) are the same as those in DBA\_ADVISOR\_OBJECTS.



**See Also:**

"DBA\_ADVISOR\_OBJECTS"

## 7.301 USER\_ADVISOR\_PARAMETERS

USER\_ADVISOR\_PARAMETERS displays the task parameters and their current values for the tasks owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_ADVISOR\_PARAMETERS.



**See Also:**

["DBA\\_ADVISOR\\_PARAMETERS"](#)

## 7.302 USER\_ADVISOR\_RATIONALE

USER\_ADVISOR\_RATIONALE displays information about the rationales for the recommendations owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_ADVISOR\_RATIONALE.



**See Also:**

["DBA\\_ADVISOR\\_RATIONALE"](#)

## 7.303 USER\_ADVISOR\_RECOMMENDATIONS

USER\_ADVISOR\_RECOMMENDATIONS displays the results of an analysis of the recommendations owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_ADVISOR\_RECOMMENDATIONS.



**See Also:**

["DBA\\_ADVISOR\\_RECOMMENDATIONS"](#)

## 7.304 USER\_ADVISOR\_SQLA\_REC\_SUM

USER\_ADVISOR\_SQLA\_REC\_SUM displays recommendation rollup information for the workload objects owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_ADVISOR\_SQLA\_REC\_SUM.



**See Also:**

["DBA\\_ADVISOR\\_SQLA\\_REC\\_SUM"](#)



## 7.305 USER\_ADVISOR\_SQLA\_TABLES

`USER_ADVISOR_SQLA_TABLES` displays cross references between the workload statements and the tables referenced in the statement for the current user. Its columns (except for `OWNER`) are the same as those in `DBA_ADVISOR_SQLA_TABLES`.



### See Also:

["DBA\\_ADVISOR\\_SQLA\\_TABLES"](#)

## 7.306 USER\_ADVISOR\_SQLA\_WK\_MAP

`USER_ADVISOR_SQLA_WK_MAP` displays the workload references for the tasks owned by the current user. Its columns (except for `OWNER`) are the same as those in `DBA_ADVISOR_SQLA_WK_MAP`.



### See Also:

["DBA\\_ADVISOR\\_SQLA\\_WK\\_MAP"](#)

## 7.307 USER\_ADVISOR\_SQLA\_WK\_STMTS

`USER_ADVISOR_SQLA_WK_STMTS` displays information about the workload objects owned by the current user after an Access Advisor analysis operation. Its columns (except for `OWNER`) are the same as those in `DBA_ADVISOR_SQLA_WK_STMTS`.



### See Also:

["DBA\\_ADVISOR\\_SQLA\\_WK\\_STMTS"](#)

## 7.308 USER\_ADVISOR\_SQLPLANS

`USER_ADVISOR_SQLPLANS` displays the different SQL execution plans owned by the current user generated as part of an advisor analysis. Its columns are the same as those in `DBA_ADVISOR_SQLPLANS`.



### See Also:

["DBA\\_ADVISOR\\_SQLPLANS"](#)

## 7.309 USER\_ADVISOR\_SQLSTATS

USER\_ADVISOR\_SQLSTATS displays execution statistics owned by the current user for the test-execution of different SQL plans during the advisor analysis. Its columns are the same as those in DBA\_ADVISOR\_SQLSTATS.



### See Also:

["DBA\\_ADVISOR\\_SQLSTATS"](#)

## 7.310 USER\_ADVISOR\_SQLW\_JOURNAL

USER\_ADVISOR\_SQLW\_JOURNAL displays the journal entries for the workload objects owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_ADVISOR\_SQLW\_JOURNAL.



### See Also:

["DBA\\_ADVISOR\\_SQLW\\_JOURNAL"](#)

## 7.311 USER\_ADVISOR\_SQLW\_PARAMETERS

USER\_ADVISOR\_SQLW\_PARAMETERS displays the workload parameters and their current values owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_ADVISOR\_SQLW\_PARAMETERS.



### See Also:

["DBA\\_ADVISOR\\_SQLW\\_PARAMETERS"](#)

## 7.312 USER\_ADVISOR\_SQLW\_STMTS

USER\_ADVISOR\_SQLW\_STMTS displays rows that correspond to the statements in the workload owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_ADVISOR\_SQLW\_STMTS.



### See Also:

["DBA\\_ADVISOR\\_SQLW\\_STMTS"](#)

## 7.313 USER\_ADVISOR\_SQLW\_SUM

USER\_ADVISOR\_SQLW\_SUM displays an aggregated picture of the SQLWkld workload objects owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_ADVISOR\_SQLW\_SUM.



### See Also:

["DBA\\_ADVISOR\\_SQLW\\_SUM"](#)

## 7.314 USER\_ADVISOR\_SQLW\_TABLES

USER\_ADVISOR\_SQLW\_TABLES displays cross references between the workload statements and the tables referenced in the statement. Its columns (except for OWNER) are the same as those in DBA\_ADVISOR\_SQLW\_TABLES.



### See Also:

["DBA\\_ADVISOR\\_SQLW\\_TABLES"](#)

## 7.315 USER\_ADVISOR\_SQLW\_TEMPLATES

USER\_ADVISOR\_SQLW\_TEMPLATES displays an aggregated picture of the SQLWkld template objects owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_ADVISOR\_SQLW\_TEMPLATES.



### See Also:

["DBA\\_ADVISOR\\_SQLW\\_TEMPLATES"](#)

## 7.316 USER\_ADVISOR\_TASKS

USER\_ADVISOR\_TASKS displays information about the tasks owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_ADVISOR\_TASKS.



### See Also:

["DBA\\_ADVISOR\\_TASKS"](#)

## 7.317 USER\_ADVISOR\_TEMPLATES

USER\_ADVISOR\_TEMPLATES displays information about the templates owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_ADVISOR\_TEMPLATES.



**See Also:**

"DBA\_ADVISOR\_TEMPLATES"

## 7.318 USER\_ALL\_TABLES

USER\_ALL\_TABLES describes the object tables and relational tables owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ALL\_TABLES.



**See Also:**

"ALL\_ALL\_TABLES"

## 7.319 USER\_ANALYTIC\_VIEW\_AGGR\_DIMS

USER\_ANALYTIC\_VIEW\_AGGR\_DIMS describes the aggregation function dimensions of the analytic views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_AGGR\_DIMS.



**See Also:**

"ALL\_ANALYTIC\_VIEW\_AGGR\_DIMS"

## 7.320 USER\_ANALYTIC\_VIEW\_AGGR\_FNS

USER\_ANALYTIC\_VIEW\_AGGR\_FNS describes the aggregation functions of the analytic views owned by the current user. Its columns (except for OWNER and ORIGIN\_CON\_ID) are the same as those in ALL\_ANALYTIC\_VIEW\_AGGR\_FNS.



**See Also:**

"ALL\_ANALYTIC\_VIEW\_AGGR\_FNS"

## 7.321 USER\_ANALYTIC\_VIEW\_AGGR\_FNS\_AE

USER\_ANALYTIC\_VIEW\_AGGR\_FNS\_AE describes the aggregation functions of the analytic views (across all editions) owned by the current user. Its columns (except for OWNER and ORIGIN\_CON\_ID) are the same as those in ALL\_ANALYTIC\_VIEW\_AGGR\_FNS\_AE.



### See Also:

["ALL\\_ANALYTIC\\_VIEW\\_AGGR\\_FNS\\_AE"](#)

## 7.322 USER\_ANALYTIC\_VIEW\_AGR\_DIMS

USER\_ANALYTIC\_VIEW\_AGR\_DIMS describes the aggregation function dimensions of the analytic views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_AGR\_DIMS.



### See Also:

["ALL\\_ANALYTIC\\_VIEW\\_AGR\\_DIMS"](#)

## 7.323 USER\_ANALYTIC\_VIEW\_AGR\_DIMS\_AE

USER\_ANALYTIC\_VIEW\_AGR\_DIMS\_AE describes the aggregation function dimensions of the analytic views (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_AGR\_DIMS\_AE.



### See Also:

["ALL\\_ANALYTIC\\_VIEW\\_AGR\\_DIMS\\_AE"](#)

## 7.324 USER\_ANALYTIC\_VIEW\_ATTR\_CLASS

USER\_ANALYTIC\_VIEW\_ATTR\_CLASS describes the attribute classifications of the analytic views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_ATTR\_CLASS.



### See Also:

["ALL\\_ANALYTIC\\_VIEW\\_ATTR\\_CLASS"](#)

## 7.325 USER\_ANALYTIC\_VIEW\_ATTR\_CLS

USER\_ANALYTIC\_VIEW\_ATTR\_CLS is identical to USER\_ANALYTIC\_VIEW\_ATTR\_CLASS.



### See Also:

"USER\_ANALYTIC\_VIEW\_ATTR\_CLASS"

## 7.326 USER\_ANALYTIC\_VIEW\_ATTR\_CLS\_AE

USER\_ANALYTIC\_VIEW\_ATTR\_CLS\_AE describes the attribute classifications of the analytic views (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_ATTR\_CLS\_AE.



### See Also:

"ALL\_ANALYTIC\_VIEW\_ATTR\_CLS\_AE"

## 7.327 USER\_ANALYTIC\_VIEW\_BAS\_MEAS

USER\_ANALYTIC\_VIEW\_BAS\_MEAS is identical to USER\_ANALYTIC\_VIEW\_BASE\_MEAS.



### See Also:

"USER\_ANALYTIC\_VIEW\_BASE\_MEAS"

## 7.328 USER\_ANALYTIC\_VIEW\_BAS\_MEAS\_AE

USER\_ANALYTIC\_VIEW\_BAS\_MEAS\_AE describes the base measures in the analytic views (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_BAS\_MEAS\_AE.



### See Also:

"ALL\_ANALYTIC\_VIEW\_BAS\_MEAS\_AE"

## 7.329 USER\_ANALYTIC\_VIEW\_BASE\_MEAS

USER\_ANALYTIC\_VIEW\_BASE\_MEAS describes the base measures in the analytic views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_BASE\_MEAS.



### See Also:

["ALL\\_ANALYTIC\\_VIEW\\_BASE\\_MEAS"](#)

## 7.330 USER\_ANALYTIC\_VIEW\_CALC\_MEAS

USER\_ANALYTIC\_VIEW\_CALC\_MEAS describes the calculated measures in the analytic views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_CALC\_MEAS.



### See Also:

["ALL\\_ANALYTIC\\_VIEW\\_CALC\\_MEAS"](#)

## 7.331 USER\_ANALYTIC\_VIEW\_CLASS

USER\_ANALYTIC\_VIEW\_CLASS describes the classifications of the analytic views owned by the current user. Its columns (except for OWNER) are the same as those in USER\_ANALYTIC\_VIEW\_CLASS.



### See Also:

["ALL\\_ANALYTIC\\_VIEW\\_CLASS"](#)

## 7.332 USER\_ANALYTIC\_VIEW\_CLASS\_AE

USER\_ANALYTIC\_VIEW\_CLASS\_AE describes the classifications of the analytic views (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_CLASS\_AE.



### See Also:

["ALL\\_ANALYTIC\\_VIEW\\_CLASS\\_AE"](#)

## 7.333 USER\_ANALYTIC\_VIEW\_CLC\_MEAS

USER\_ANALYTIC\_VIEW\_CLC\_MEAS is identical to USER\_ANALYTIC\_VIEW\_CALC\_MEAS.



### See Also:

"USER\_ANALYTIC\_VIEW\_CALC\_MEAS"

## 7.334 USER\_ANALYTIC\_VIEW\_CLC\_MEAS\_AE

USER\_ANALYTIC\_VIEW\_CLC\_MEAS\_AE describes the calculated measures in the analytic views (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_CLC\_MEAS\_AE.



### See Also:

"ALL\_ANALYTIC\_VIEW\_CLC\_MEAS\_AE"

## 7.335 USER\_ANALYTIC\_VIEW\_COLUMNS

USER\_ANALYTIC\_VIEW\_COLUMNS describes the columns of the analytic views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_COLUMNS.



### See Also:

"ALL\_ANALYTIC\_VIEW\_COLUMNS"

## 7.336 USER\_ANALYTIC\_VIEW\_COLUMNS\_AE

USER\_ANALYTIC\_VIEW\_COLUMNS\_AE describes the columns of the analytic views (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_COLUMNS\_AE.



### See Also:

"ALL\_ANALYTIC\_VIEW\_COLUMNS\_AE"



## 7.337 USER\_ANALYTIC\_VIEW\_DIM\_ATTRS

USER\_ANALYTIC\_VIEW\_DIM\_ATTRS is identical to USER\_ANALYTIC\_VIEW\_DIM\_ATTRS.



### See Also:

"USER\_ANALYTIC\_VIEW\_DIM\_ATTRS"

## 7.338 USER\_ANALYTIC\_VIEW\_DIM\_ATTRS\_AE

USER\_ANALYTIC\_VIEW\_DIM\_ATTRS\_AE describes the attributes of the attribute dimensions in the analytic views (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_DIM\_ATTRS\_AE.



### See Also:

"ALL\_ANALYTIC\_VIEW\_DIM\_ATTRS\_AE"

## 7.339 USER\_ANALYTIC\_VIEW\_DIM\_ATTRS

USER\_ANALYTIC\_VIEW\_DIM\_ATTRS describes the attributes of the attribute dimensions in the analytic views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_DIM\_ATTRS.



### See Also:

"ALL\_ANALYTIC\_VIEW\_DIM\_ATTRS"

## 7.340 USER\_ANALYTIC\_VIEW\_DIM\_CLASS

USER\_ANALYTIC\_VIEW\_DIM\_CLASS describes the classifications of the attribute dimensions in the analytic views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_DIM\_CLASS.



### See Also:

"ALL\_ANALYTIC\_VIEW\_DIM\_CLASS"

## 7.341 USER\_ANALYTIC\_VIEW\_DIM\_CLS

USER\_ANALYTIC\_VIEW\_DIM\_CLS is identical to USER\_ANALYTIC\_VIEW\_DIM\_CLASS.



### See Also:

"USER\_ANALYTIC\_VIEW\_DIM\_CLASS"

## 7.342 USER\_ANALYTIC\_VIEW\_DIM\_CLS\_AE

USER\_ANALYTIC\_VIEW\_DIM\_CLS\_AE describes the classifications of the attribute dimensions in the analytic views (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_DIM\_CLS\_AE.



### See Also:

"ALL\_ANALYTIC\_VIEW\_DIM\_CLS\_AE"

## 7.343 USER\_ANALYTIC\_VIEW\_DIMENSIONS

USER\_ANALYTIC\_VIEW\_DIMENSIONS describes the attribute dimensions in the analytic views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_DIMENSIONS.



### See Also:

"ALL\_ANALYTIC\_VIEW\_DIMENSIONS"

## 7.344 USER\_ANALYTIC\_VIEW\_DIMS

USER\_ANALYTIC\_VIEW\_DIMS is identical to USER\_ANALYTIC\_VIEW\_DIMENSIONS.



### See Also:

"USER\_ANALYTIC\_VIEW\_DIMENSIONS"

## 7.345 USER\_ANALYTIC\_VIEW\_DIMS\_AE

USER\_ANALYTIC\_VIEW\_DIMS\_AE describes the attribute dimensions in the analytic views (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_DIMS\_AE.



### See Also:

["ALL\\_ANALYTIC\\_VIEW\\_DIMS\\_AE"](#)

## 7.346 USER\_ANALYTIC\_VIEW\_FACT\_COLS

USER\_ANALYTIC\_VIEW\_FACT\_COLS describes the fact columns of the analytic views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_FACT\_COLS.



### See Also:

["ALL\\_ANALYTIC\\_VIEW\\_FACT\\_COLS"](#)

## 7.347 USER\_ANALYTIC\_VIEW\_FCT\_COLS

USER\_ANALYTIC\_VIEW\_FCT\_COLS is identical to USER\_ANALYTIC\_VIEW\_FACT\_COLS.



### See Also:

["USER\\_ANALYTIC\\_VIEW\\_FACT\\_COLS"](#)

## 7.348 USER\_ANALYTIC\_VIEW\_FCT\_COLS\_AE

USER\_ANALYTIC\_VIEW\_FCT\_COLS\_AE describes the fact columns of the analytic views (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_FCT\_COLS\_AE.



### See Also:

["ALL\\_ANALYTIC\\_VIEW\\_FCT\\_COLS\\_AE"](#)

## 7.349 USER\_ANALYTIC\_VIEW\_HIER\_CLASS

USER\_ANALYTIC\_VIEW\_HIER\_CLASS describes the classifications of the hierarchies in the analytic views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_HIER\_CLASS.



### See Also:

"ALL\_ANALYTIC\_VIEW\_HIER\_CLASS"

## 7.350 USER\_ANALYTIC\_VIEW\_HIER\_CLS

USER\_ANALYTIC\_VIEW\_HIER\_CLS is identical to USER\_ANALYTIC\_VIEW\_HIER\_CLASS.



### See Also:

"USER\_ANALYTIC\_VIEW\_HIER\_CLASS"

## 7.351 USER\_ANALYTIC\_VIEW\_HIER\_CLS\_AE

USER\_ANALYTIC\_VIEW\_HIER\_CLS\_AE describes the classifications of the hierarchies in the analytic views (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_HIER\_CLS\_AE.



### See Also:

"ALL\_ANALYTIC\_VIEW\_HIER\_CLS\_AE"

## 7.352 USER\_ANALYTIC\_VIEW\_HIERS

USER\_ANALYTIC\_VIEW\_HIERS describes the hierarchies in the analytic views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_HIERS.



### See Also:

"ALL\_ANALYTIC\_VIEW\_HIERS"

## 7.353 USER\_ANALYTIC\_VIEW\_HIERS\_AE

USER\_ANALYTIC\_VIEW\_HIERS\_AE describes the hierarchies in the analytic views (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_HIERS\_AE.



### See Also:

["ALL\\_ANALYTIC\\_VIEW\\_HIERS\\_AE"](#)

## 7.354 USER\_ANALYTIC\_VIEW\_KEYS

USER\_ANALYTIC\_VIEW\_KEYS describes the key columns of the attribute dimensions in the analytic views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_KEYS.



### See Also:

["ALL\\_ANALYTIC\\_VIEW\\_KEYS"](#)

## 7.355 USER\_ANALYTIC\_VIEW\_KEYS\_AE

USER\_ANALYTIC\_VIEW\_KEYS\_AE describes the key columns of the attribute dimensions in the analytic views (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_KEYS\_AE.



### See Also:

["ALL\\_ANALYTIC\\_VIEW\\_KEYS\\_AE"](#)

## 7.356 USER\_ANALYTIC\_VIEW\_LEVEL\_CLASS

USER\_ANALYTIC\_VIEW\_LEVEL\_CLASS describes the level classifications of the analytic views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_LEVEL\_CLASS.



### See Also:

["ALL\\_ANALYTIC\\_VIEW\\_LEVEL\\_CLASS"](#)

## 7.357 USER\_ANALYTIC\_VIEW\_LEVELS

USER\_ANALYTIC\_VIEW\_LEVELS describes the levels in the hierarchies in the analytic views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_LEVELS.



### See Also:

"ALL\_ANALYTIC\_VIEW\_LEVELS"

## 7.358 USER\_ANALYTIC\_VIEW\_LEVELS\_AE

USER\_ANALYTIC\_VIEW\_LEVELS\_AE describes the levels in the hierarchies in the analytic views (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_LEVELS\_AE.



### See Also:

"ALL\_ANALYTIC\_VIEW\_LEVELS\_AE"

## 7.359 USER\_ANALYTIC\_VIEW\_LVL\_CLS

USER\_ANALYTIC\_VIEW\_LVL\_CLS is identical to USER\_ANALYTIC\_VIEW\_LEVEL\_CLASS.



### See Also:

"USER\_ANALYTIC\_VIEW\_LEVEL\_CLASS"

## 7.360 USER\_ANALYTIC\_VIEW\_LVL\_CLS\_AE

USER\_ANALYTIC\_VIEW\_LVL\_CLS\_AE describes the level classifications of the analytic views (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_LVL\_CLS\_AE.



### See Also:

"ALL\_ANALYTIC\_VIEW\_LVL\_CLS\_AE"

## 7.361 USER\_ANALYTIC\_VIEW\_LVLGRPS

USER\_ANALYTIC\_VIEW\_LVLGRPS describes the analytic view measure and level groups of the analytic views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_LVLGRPS.



### See Also:

"ALL\_ANALYTIC\_VIEW\_LVLGRPS"

## 7.362 USER\_ANALYTIC\_VIEW\_LVLGRPS\_AE

USER\_ANALYTIC\_VIEW\_LVLGRPS\_AE describes the analytic view measure and level groups of the analytic views (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_LVLGRPS\_AE.



### See Also:

"ALL\_ANALYTIC\_VIEW\_LVLGRPS\_AE"

## 7.363 USER\_ANALYTIC\_VIEW\_MEAS\_CLASS

USER\_ANALYTIC\_VIEW\_MEAS\_CLASS describes the classifications of the measures of the analytic views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_MEAS\_CLASS.



### See Also:

"ALL\_ANALYTIC\_VIEW\_MEAS\_CLASS"

## 7.364 USER\_ANALYTIC\_VIEW\_MEAS\_CLS

USER\_ANALYTIC\_VIEW\_MEAS\_CLS is identical to USER\_ANALYTIC\_VIEW\_MEAS\_CLASS.



### See Also:

"USER\_ANALYTIC\_VIEW\_MEAS\_CLASS"

## 7.365 USER\_ANALYTIC\_VIEW\_MEAS\_CLS\_AE

USER\_ANALYTIC\_VIEW\_MEAS\_CLS\_AE describes the classifications of the measures of the analytic views (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEW\_MEAS\_CLS\_AE.



### See Also:

"ALL\_ANALYTIC\_VIEW\_MEAS\_CLS\_AE"

## 7.366 USER\_ANALYTIC\_VIEWS

USER\_ANALYTIC\_VIEWS describes the analytic views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEWS.



### See Also:

"ALL\_ANALYTIC\_VIEWS"

## 7.367 USER\_ANALYTIC\_VIEWS\_AE

USER\_ANALYTIC\_VIEWS\_AE describes the analytic views (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ANALYTIC\_VIEWS\_AE.



### See Also:

"ALL\_ANALYTIC\_VIEWS\_AE"

## 7.368 USER\_ANNOTATION\_VALUES

USER\_ANNOTATION\_VALUES displays the values for schema annotations owned by the current user. Its columns (except for ANNOTATION\_OWNER) are the same as those in ALL\_ANNOTATION\_VALUES.

The annotation owner is the same as the owner of the annotated object.



### Note:

This view is available starting with Oracle Database 23ai.



**See Also:**

"ALL\_ANNOTATION\_VALUES"

## 7.369 USER\_ANNOTATIONS

USER\_ANNOTATIONS displays schema annotations owned by the current user. Its columns (except for ANNOTATION\_OWNER) are the same as those in ALL\_ANNOTATIONS.

The annotation owner is the same as the owner of the annotated object.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_ANNOTATIONS"

## 7.370 USER\_ANNOTATIONS\_USAGE

USER\_ANNOTATIONS\_USAGE provides usage information about schema annotations owned by the current user. Its columns (except for ANNOTATION\_OWNER) are the same as those in ALL\_ANNOTATIONS\_USAGE.

The annotation owner is the same as the owner of the annotated object.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_ANNOTATIONS\_USAGE"

## 7.371 USER\_APPLICATION\_ROLES

USER\_APPLICATION\_ROLES describes all the roles for the current user that have authorization policy functions defined.

Its columns are the same as those in DBA\_APPLICATION\_ROLES.

**See Also:**

["DBA\\_APPLICATION\\_ROLES"](#)

## 7.372 USER\_APPLY\_ERROR

`USER_APPLY_ERROR` displays information about the error transactions generated by apply processes visible to the current user. Its columns (except for `SOURCE_ROOT_NAME`) are the same as those in `ALL_APPLY_ERROR`.

**See Also:**

["ALL\\_APPLY\\_ERROR"](#)

## 7.373 USER\_AQ\_AGENT\_PRIVS

`USER_AQ_AGENT_PRIVS` displays information about the registered AQ agents that are mapped to the current user. Its columns (except for `DB_USERNAME`) are the same as those in `DBA_AQ_AGENT_PRIVS`.

**See Also:**

["DBA\\_AQ\\_AGENT\\_PRIVS"](#)

## 7.374 USER\_ARGUMENTS

`USER_ARGUMENTS` lists the arguments of the functions and procedures that are owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_ARGUMENTS`.

**See Also:**

- ["ALL\\_ARGUMENTS"](#)
- ["USER\\_PROCEDURES"](#) for information about the functions and procedures that are owned by the current user

## 7.375 USER\_ASSEMBLIES

USER\_ASSEMBLIES provides information about all assemblies owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ASSEMBLIES.



**See Also:**

"ALL\_ASSEMBLIES"

## 7.376 USER\_ASSOCIATIONS

USER\_ASSOCIATIONS describes user-defined statistics associated with objects owned by the current user. Its columns are the same as those in ALL\_ASSOCIATIONS.



**See Also:**

"ALL\_ASSOCIATIONS"

## 7.377 USER\_ATTRIBUTE\_DIM\_ATTR\_CLASS

USER\_ATTRIBUTE\_DIM\_ATTR\_CLASS describes the attribute classifications of the attribute dimensions owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ATTRIBUTE\_DIM\_ATTR\_CLASS.



**See Also:**

"ALL\_ATTRIBUTE\_DIM\_ATTR\_CLASS"

## 7.378 USER\_ATTRIBUTE\_DIM\_ATTR\_CLS

USER\_ATTRIBUTE\_DIM\_ATTR\_CLS is identical to USER\_ATTRIBUTE\_DIM\_ATTR\_CLASS.



**See Also:**

"USER\_ATTRIBUTE\_DIM\_ATTR\_CLASS"

## 7.379 USER\_ATTRIBUTE\_DIM\_ATTR\_CLS\_AE

USER\_ATTRIBUTE\_DIM\_ATTR\_CLS\_AE describes the attribute classifications of the attribute dimensions (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ATTRIBUTE\_DIM\_ATTR\_CLS\_AE.



### See Also:

"ALL\_ATTRIBUTE\_DIM\_ATTR\_CLS\_AE"

## 7.380 USER\_ATTRIBUTE\_DIM\_ATTRS

USER\_ATTRIBUTE\_DIM\_ATTRS describes the attributes of the attribute dimensions owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ATTRIBUTE\_DIM\_ATTRS.



### See Also:

"ALL\_ATTRIBUTE\_DIM\_ATTRS"

## 7.381 USER\_ATTRIBUTE\_DIM\_ATTRS\_AE

USER\_ATTRIBUTE\_DIM\_ATTRS\_AE describes the attributes of the attribute dimensions (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ATTRIBUTE\_DIM\_ATTRS\_AE.



### See Also:

"ALL\_ATTRIBUTE\_DIM\_ATTRS\_AE"

## 7.382 USER\_ATTRIBUTE\_DIM\_CLASS

USER\_ATTRIBUTE\_DIM\_CLASS describes the classifications of the attribute dimensions owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ATTRIBUTE\_DIM\_CLASS.



### See Also:

"ALL\_ATTRIBUTE\_DIM\_CLASS"

## 7.383 USER\_ATTRIBUTE\_DIM\_CLASS\_AE

USER\_ATTRIBUTE\_DIM\_CLASS\_AE describes the classifications of the attribute dimensions (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ATTRIBUTE\_DIM\_CLASS\_AE.



### See Also:

"ALL\_ATTRIBUTE\_DIM\_CLASS\_AE"

## 7.384 USER\_ATTRIBUTE\_DIM\_JN\_PTHS

USER\_ATTRIBUTE\_DIM\_JN\_PTHS is identical to USER\_ATTRIBUTE\_DIM\_JOIN\_PATHS.



### See Also:

"USER\_ATTRIBUTE\_DIM\_JOIN\_PATHS"

## 7.385 USER\_ATTRIBUTE\_DIM\_JN\_PTHS\_AE

USER\_ATTRIBUTE\_DIM\_JN\_PTHS\_AE describes the join paths for the attribute dimensions (across all editions) owned by the current user. Its columns are the same as those in ALL\_ATTRIBUTE\_DIM\_JN\_PTHS\_AE.



### See Also:

"ALL\_ATTRIBUTE\_DIM\_JN\_PTHS\_AE"

## 7.386 USER\_ATTRIBUTE\_DIM\_JOIN\_PATHS

USER\_ATTRIBUTE\_DIM\_JOIN\_PATHS describes the join paths for the attribute dimensions owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ATTRIBUTE\_DIM\_JOIN\_PATHS.



### See Also:

"ALL\_ATTRIBUTE\_DIM\_JOIN\_PATHS"

## 7.387 USER\_ATTRIBUTE\_DIM\_KEYS

USER\_ATTRIBUTE\_DIM\_KEYS describes the keys of the attribute dimensions owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ATTRIBUTE\_DIM\_KEYS.



**See Also:**

"ALL\_ATTRIBUTE\_DIM\_KEYS"

## 7.388 USER\_ATTRIBUTE\_DIM\_KEYS\_AE

USER\_ATTRIBUTE\_DIM\_KEYS\_AE describes the keys of the attribute dimensions (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ATTRIBUTE\_DIM\_KEYS\_AE.



**See Also:**

"ALL\_ATTRIBUTE\_DIM\_KEYS\_AE"

## 7.389 USER\_ATTRIBUTE\_DIM\_LEVEL\_ATTRS

USER\_ATTRIBUTE\_DIM\_LEVEL\_ATTRS describes the attributes of the levels of the attribute dimensions owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ATTRIBUTE\_DIM\_LEVEL\_ATTRS.



**See Also:**

"ALL\_ATTRIBUTE\_DIM\_LEVEL\_ATTRS"

## 7.390 USER\_ATTRIBUTE\_DIM\_LEVELS

USER\_ATTRIBUTE\_DIM\_LEVELS describes the levels of the attribute dimensions owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ATTRIBUTE\_DIM\_LEVELS.



**See Also:**

"ALL\_ATTRIBUTE\_DIM\_LEVELS"

## 7.391 USER\_ATTRIBUTE\_DIM\_LEVELS\_AE

USER\_ATTRIBUTE\_DIM\_LEVELS\_AE describes the levels of the attribute dimensions (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ATTRIBUTE\_DIM\_LEVELS\_AE.



### See Also:

"ALL\_ATTRIBUTE\_DIM\_LEVELS\_AE"

## 7.392 USER\_ATTRIBUTE\_DIM\_LVL\_ATTRS

USER\_ATTRIBUTE\_DIM\_LVL\_ATTRS is identical to USER\_ATTRIBUTE\_DIM\_LEVEL\_ATTRS.



### See Also:

"USER\_ATTRIBUTE\_DIM\_LEVEL\_ATTRS"

## 7.393 USER\_ATTRIBUTE\_DIM\_LVL\_ATTRS\_AE

USER\_ATTRIBUTE\_DIM\_LVL\_ATTRS\_AE describes the attributes of the levels of the attribute dimensions (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ATTRIBUTE\_DIM\_LVL\_ATTRS\_AE.



### See Also:

"ALL\_ATTRIBUTE\_DIM\_LVL\_ATTRS\_AE"

## 7.394 USER\_ATTRIBUTE\_DIM\_LVL\_CLASS

USER\_ATTRIBUTE\_DIM\_LVL\_CLASS describes the level classifications of the attribute dimensions owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ATTRIBUTE\_DIM\_LVL\_CLASS.



### See Also:

"ALL\_ATTRIBUTE\_DIM\_LVL\_CLASS"

## 7.395 USER\_ATTRIBUTE\_DIM\_LVL\_CLS

USER\_ATTRIBUTE\_DIM\_LVL\_CLS is identical to USER\_ATTRIBUTE\_DIM\_LVL\_CLASS.



### See Also:

["USER\\_ATTRIBUTE\\_DIM\\_LVL\\_CLASS"](#)

## 7.396 USER\_ATTRIBUTE\_DIM\_LVL\_CLS\_AE

USER\_ATTRIBUTE\_DIM\_LVL\_CLS\_AE describes the level classifications of the attribute dimensions (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ATTRIBUTE\_DIM\_LVL\_CLS\_AE.



### See Also:

["ALL\\_ATTRIBUTE\\_DIM\\_LVL\\_CLS\\_AE"](#)

## 7.397 USER\_ATTRIBUTE\_DIM\_ORD\_ATTRS

USER\_ATTRIBUTE\_DIM\_ORD\_ATTRS is identical to USER\_ATTRIBUTE\_DIM\_ORDER\_ATTRS.



### See Also:

["USER\\_ATTRIBUTE\\_DIM\\_ORDER\\_ATTRS"](#)

## 7.398 USER\_ATTRIBUTE\_DIM\_ORD\_ATTRS\_AE

USER\_ATTRIBUTE\_DIM\_ORD\_ATTRS\_AE describes the order attributes of the attribute dimensions (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ATTRIBUTE\_DIM\_ORD\_ATTRS\_AE.



### See Also:

["ALL\\_ATTRIBUTE\\_DIM\\_ORD\\_ATTRS\\_AE"](#)



## 7.399 USER\_ATTRIBUTE\_DIM\_ORDER\_ATTRS

`USER_ATTRIBUTE_DIM_ORDER_ATTRS` describes the order attributes of the attribute dimensions owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_ATTRIBUTE_DIM_ORDER_ATTRS`.



### See Also:

["ALL\\_ATTRIBUTE\\_DIM\\_ORDER\\_ATTRS"](#)

## 7.400 USER\_ATTRIBUTE\_DIM\_TABLES

`USER_ATTRIBUTE_DIM_TABLES` describes the tables used by the attribute dimensions owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_ATTRIBUTE_DIM_TABLES`.



### See Also:

["ALL\\_ATTRIBUTE\\_DIM\\_TABLES"](#)

## 7.401 USER\_ATTRIBUTE\_DIM\_TABLES\_AE

`USER_ATTRIBUTE_DIM_TABLES_AE` describes the tables used by the attribute dimensions (across all editions) owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_ATTRIBUTE_DIM_TABLES_AE`.



### See Also:

["ALL\\_ATTRIBUTE\\_DIM\\_TABLES\\_AE"](#)

## 7.402 USER\_ATTRIBUTE\_DIMENSIONS

`USER_ATTRIBUTE_DIMENSIONS` describes the attribute dimensions owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_ATTRIBUTE_DIMENSIONS`.



### See Also:

["ALL\\_ATTRIBUTE\\_DIMENSIONS"](#)

## 7.403 USER\_ATTRIBUTE\_DIMENSIONS\_AE

USER\_ATTRIBUTE\_DIMENSIONS\_AE describes the attribute dimensions (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ATTRIBUTE\_DIMENSIONS\_AE.



### See Also:

"ALL\_ATTRIBUTE\_DIMENSIONS\_AE"

## 7.404 USER\_ATTRIBUTE\_TRANSFORMATIONS

USER\_ATTRIBUTE\_TRANSFORMATIONS describes the transformation functions for the transformations owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ATTRIBUTE\_TRANSFORMATIONS.



### See Also:

"ALL\_ATTRIBUTE\_TRANSFORMATIONS"

## 7.405 USER\_AUDIT\_OBJECT

USER\_AUDIT\_OBJECT displays audit trail records for the objects accessible to the current user. Its columns are the same as those in DBA\_AUDIT\_OBJECT.



### Note:

This view is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored and are viewable with this view. See *Oracle Database Security Guide* for more information about how this desupport works.

## 7.406 USER\_AUDIT\_POLICIES

USER\_AUDIT\_POLICIES describes the fine-grained auditing policies on the tables and views owned by the current user. Its columns (except for OBJECT\_SCHEMA) are the same as those in ALL\_AUDIT\_POLICIES.

### Note:

This view is populated only in an Oracle Database where unified auditing is not enabled. When unified auditing is enabled in Oracle Database, the audit records are populated in the new audit trail and can be viewed from UNIFIED\_AUDIT\_TRAIL.

- See *Oracle Database Security Guide* for more information about unified auditing.
- See *Oracle Database Upgrade Guide* for more information about migrating to unified auditing.

### See Also:

"ALL\_AUDIT\_POLICIES"

## 7.407 USER\_AUDIT\_POLICY\_COLUMNS

USER\_AUDIT\_POLICY\_COLUMNS describes the fine-grained auditing policy columns on the tables and views owned by the current user. Its columns are the same as those in ALL\_AUDIT\_POLICY\_COLUMNS.

### Note:

This view is populated only in an Oracle Database where unified auditing is not enabled. When unified auditing is enabled in Oracle Database, the audit records are populated in the new audit trail and can be viewed from UNIFIED\_AUDIT\_TRAIL.

- See *Oracle Database Security Guide* for more information about unified auditing.
- See *Oracle Database Upgrade Guide* for more information about migrating to unified auditing.

### See Also:

"ALL\_AUDIT\_POLICY\_COLUMNS"

## 7.408 USER\_AUDIT\_SESSION

USER\_AUDIT\_SESSION displays the audit trail records concerning connections and disconnections of the current user. Its columns are the same as those in DBA\_AUDIT\_SESSION.

### Note:

This view is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored and are viewable with this view. See *Oracle Database Security Guide* for more information about how this desupport works.

## 7.409 USER\_AUDIT\_STATEMENT

USER\_AUDIT\_STATEMENT displays audit trail entries for the GRANT, REVOKE, AUDIT, NOAUDIT, and ALTER SYSTEM statements issued by the current user.

Its columns are the same as those in "DBA\_AUDIT\_STATEMENT".

### Note:

This view is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored and are viewable with this view. See *Oracle Database Security Guide* for more information about how this desupport works.

## 7.410 USER\_AUDIT\_TRAIL

USER\_AUDIT\_TRAIL displays the standard audit trail entries related to the current user.

Its columns are the same as those in "DBA\_AUDIT\_TRAIL".

The view displays audit records generated by actions performed by the user and audit records generated by actions performed on the user's schema objects.

### Note:

This view is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored and are viewable with this view. See *Oracle Database Security Guide* for more information about how this desupport works.

## 7.411 USER\_AW\_PS

USER\_AW\_PS describes the page spaces in the analytic workspaces owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_AW\_PS.



**See Also:**

"ALL\_AW\_PS"

## 7.412 USER\_AWS

USER\_AWS describes the analytic workspaces owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_AWS.



**See Also:**

"ALL\_AWS"

## 7.413 USER\_BASE\_TABLE\_MVIEWS

USER\_BASE\_TABLE\_MVIEWS describes the materialized views using materialized view logs owned by the current user. Its columns are the same as those in ALL\_BASE\_TABLE\_MVIEWS.



**See Also:**

"ALL\_BASE\_TABLE\_MVIEWS"

## 7.414 USER\_BLOCKCHAIN\_ROW\_VERSION\_COLS

USER\_BLOCKCHAIN\_ROW\_VERSION\_COLS displays information about row versioned columns in the blockchain tables owned by the current user. Its columns are the same as those in ALL\_BLOCKCHAIN\_ROW\_VERSION\_COLS.



**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_BLOCKCHAIN\\_ROW\\_VERSION\\_COLS"](#)

## 7.415 USER\_BLOCKCHAIN\_ROW\_VERSION\_HISTORY

USER\_BLOCKCHAIN\_ROW\_VERSION\_HISTORY provides a history of row versions in the blockchain tables owned by the current user. Its columns (except for SCHEMA\_NAME) are the same as those in ALL\_BLOCKCHAIN\_ROW\_VERSION\_HISTORY.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_BLOCKCHAIN\\_ROW\\_VERSION\\_HISTORY"](#)

## 7.416 USER\_BLOCKCHAIN\_TABLE\_CHAINS

USER\_BLOCKCHAIN\_TABLE\_CHAINS displays system chain information for the blockchain tables owned by the current user. Its columns (except for SCHEMA\_NAME) are the same as those in ALL\_BLOCKCHAIN\_TABLE\_CHAINS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_BLOCKCHAIN\\_TABLE\\_CHAINS"](#)

## 7.417 USER\_BLOCKCHAIN\_TABLE\_EPOCHS

USER\_BLOCKCHAIN\_TABLE\_EPOCHS displays epoch information for the blockchain tables owned by the current user. Its columns (except for SCHEMA\_NAME) are the same as those in ALL\_BLOCKCHAIN\_TABLE\_EPOCHS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_BLOCKCHAIN\_TABLE\_EPOCHS"

## 7.418 USER\_BLOCKCHAIN\_TABLE\_HASH\_COL\_ORDER

USER\_BLOCKCHAIN\_TABLE\_HASH\_COL\_ORDER displays information about columns used to compute the cryptographic hash in the blockchain tables owned by the current user. Its columns (except for SCHEMA\_NAME) are the same as those in ALL\_BLOCKCHAIN\_TABLE\_HASH\_COL\_ORDER.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_BLOCKCHAIN\_TABLE\_HASH\_COL\_ORDER"

## 7.419 USER\_BLOCKCHAIN\_TABLES

USER\_BLOCKCHAIN\_TABLES describes the blockchain tables owned by the current user. Its columns (except for SCHEMA\_NAME) are the same as those in ALL\_BLOCKCHAIN\_TABLES.

**See Also:**

"ALL\_BLOCKCHAIN\_TABLES"

## 7.420 USER\_CATALOG

USER\_CATALOG lists tables, views, clusters, synonyms, and sequences owned by the current user. Its columns are the same as those in ALL\_CATALOG.



### See Also:

"ALL\_CATALOG"

## 7.421 USER\_CERTIFICATES

USER\_CERTIFICATES displays the certificates added by the current user which are used for signature verification for blockchain tables. Its columns (except USER\_NAME) are the same as those in ALL\_CERTIFICATES.



### See Also:

"ALL\_CERTIFICATES"

## 7.422 USER\_CHANGE\_NOTIFICATION\_REGS

USER\_CHANGE\_NOTIFICATION\_REGS describes the change notification registrations owned by the current user. Its columns (except for USERNAME) are the same as those in DBA\_CHANGE\_NOTIFICATION\_REGS.



### See Also:

"DBA\_CHANGE\_NOTIFICATION\_REGS"

## 7.423 USER\_CLU\_COLUMNS

USER\_CLU\_COLUMNS maps columns in the current user's tables to cluster columns. Its columns are the same as those in DBA\_CLU\_COLUMNS.



### See Also:

"DBA\_CLU\_COLUMNS"



## 7.424 USER\_CLUSTER\_HASH\_EXPRESSIONS

USER\_CLUSTER\_HASH\_EXPRESSIONS lists hash functions for the hash clusters owned by the current user. Its columns are the same as those in ALL\_CLUSTER\_HASH\_EXPRESSIONS.



### See Also:

"ALL\_CLUSTER\_HASH\_EXPRESSIONS"

## 7.425 USER\_CLUSTERING\_DIMENSIONS

USER\_CLUSTERING\_DIMENSIONS describes dimension tables associated with tables with an attribute clustering clause owned by the user. Its columns (except for OWNER) are the same as those in ALL\_CLUSTERING\_DIMENSIONS.



### See Also:

- "ALL\_CLUSTERING\_DIMENSIONS"
- *Oracle Database Data Warehousing Guide* for information about attribute clustering with zone maps

## 7.426 USER\_CLUSTERING\_JOINS

USER\_CLUSTERING\_JOINS describes joins to the dimension tables associated with tables with an attribute clustering clause owned by the user. Its columns (except for OWNER) are the same as those in ALL\_CLUSTERING\_JOINS.



### See Also:

- "ALL\_CLUSTERING\_JOINS"
- *Oracle Database Data Warehousing Guide* for information about attribute clustering with zone maps

## 7.427 USER\_CLUSTERING\_KEYS

USER\_CLUSTERING\_KEYS describes clustering keys for tables with an attribute clustering clause owned by the user. Its columns are the same as those in ALL\_CLUSTERING\_KEYS.



### See Also:

- ["ALL\\_CLUSTERING\\_KEYS"](#)
- *Oracle Database Data Warehousing Guide* for information about attribute clustering with zone maps

## 7.428 USER\_CLUSTERING\_TABLES

USER\_CLUSTERING\_TABLES describes the tables with an attribute clustering clause owned by the user. Its columns are the same as those in ALL\_CLUSTERING\_TABLES.



### See Also:

- ["ALL\\_CLUSTERING\\_TABLES"](#)
- *Oracle Database Data Warehousing Guide* for information about attribute clustering with zone maps

## 7.429 USER\_CLUSTERS

USER\_CLUSTERS describes all the clusters owned by the current user. Its columns are the same as those in ALL\_CLUSTERS.



### See Also:

- ["ALL\\_CLUSTERS"](#)

## 7.430 USER\_CODE\_ROLE\_PRIVS

USER\_CODE\_ROLE\_PRIVS describes all the roles that are associated with program units owned by current user. Its columns (except for OWNER) are the same as those in ALL\_CODE\_ROLE\_PRIVS.



### See Also:

- ["ALL\\_CODE\\_ROLE\\_PRIVS"](#)

## 7.431 USER\_COL\_COMMENTS

USER\_COL\_COMMENTS displays comments on the columns of the tables and views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_COL\_COMMENTS.



See Also:

["ALL\\_COL\\_COMMENTS"](#)

## 7.432 USER\_COL\_PENDING\_STATS

USER\_COL\_PENDING\_STATS describes the pending statistics of the columns owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_COL\_PENDING\_STATS.



See Also:

["ALL\\_COL\\_PENDING\\_STATS"](#)

## 7.433 USER\_COL\_PRIVS

USER\_COL\_PRIVS describes the column object grants for which the current user is the object owner, grantor, or grantee. Its columns are the same as those in DBA\_COL\_PRIVS.



See Also:

["DBA\\_COL\\_PRIVS"](#)

## 7.434 USER\_COL\_PRIVS\_MADE

USER\_COL\_PRIVS\_MADE describes the column object grants for which the current user is the object owner. Its columns (except for OWNER) are the same as those in ALL\_COL\_PRIVS\_MADE.



See Also:

["ALL\\_COL\\_PRIVS\\_MADE"](#)

## 7.435 USER\_COL\_PRIVS\_RECD

USER\_COL\_PRIVS\_RECD describes the column object grants for which the current user is the grantee. Its columns (except for GRANTEE) are the same as those in ALL\_COL\_PRIVS\_RECD.



**See Also:**

["ALL\\_COL\\_PRIVS\\_RECD"](#)

## 7.436 USER\_COLL\_TYPES

USER\_COLL\_TYPES describes named collection types (VARRAYs, nested tables, object tables, and so on) in the current user's schema. Its columns are the same as those in ALL\_COLL\_TYPES.



**See Also:**

["ALL\\_COLL\\_TYPES"](#)

## 7.437 USER\_COMPARISON

USER\_COMPARISON displays information about the comparison objects owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_COMPARISON.



**See Also:**

["DBA\\_COMPARISON"](#)

## 7.438 USER\_COMPARISON\_COLUMNS

USER\_COMPARISON\_COLUMNS displays information about the columns for the comparison objects owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_COMPARISON\_COLUMNS.



**See Also:**

["DBA\\_COMPARISON\\_COLUMNS"](#)

## 7.439 USER\_COMPARISON\_ROW\_DIF

`USER_COMPARISON_ROW_DIF` displays information about the differing rows in the comparison scans owned by the current user. Its columns are the same as those in `DBA_COMPARISON_ROW_DIF`.



### See Also:

["DBA\\_COMPARISON\\_ROW\\_DIF"](#)

## 7.440 USER\_COMPARISON\_SCAN

`USER_COMPARISON_SCAN` displays information about the comparison scans owned by the current user. Its columns (except for `OWNER`) are the same as those in `DBA_COMPARISON_SCAN`.



### See Also:

["DBA\\_COMPARISON\\_SCAN"](#)

## 7.441 USER\_COMPARISON\_SCAN\_VALUES

`USER_COMPARISON_SCAN_VALUES` displays information about the values for the comparison scans owned by the current user. Its columns (except for `OWNER`) are the same as those in `DBA_COMPARISON_SCAN_VALUES`.



### See Also:

["DBA\\_COMPARISON\\_SCAN\\_VALUES"](#)

## 7.442 USER\_CONS\_COLUMNS

`USER_CONS_COLUMNS` describes columns that are owned by the current user and that are specified in constraint definitions. Its columns are the same as those in `ALL_CONS_COLUMNS`.



### See Also:

["ALL\\_CONS\\_COLUMNS"](#)

## 7.443 USER\_CONS\_OBJ\_COLUMNS

USER\_CONS\_OBJ\_COLUMNS displays information about the types that object columns (or attributes) or collection elements have been constrained to, in the tables owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_CONS\_OBJ\_COLUMNS.



**See Also:**

["ALL\\_CONS\\_OBJ\\_COLUMNS"](#)

## 7.444 USER\_CONSTRAINTS

USER\_CONSTRAINTS describes all constraint definitions on tables owned by the current user. Its columns are the same as those in ALL\_CONSTRAINTS.



**See Also:**

["ALL\\_CONSTRAINTS"](#)

## 7.445 USER\_CQ\_NOTIFICATION\_QUERIES

USER\_CQ\_NOTIFICATION\_QUERIES describes the registered queries for the CQ notifications owned by the current user. Its columns (except for USERNAME) are the same as those in DBA\_CQ\_NOTIFICATION\_QUERIES.



**See Also:**

["DBA\\_CQ\\_NOTIFICATION\\_QUERIES"](#)

## 7.446 USER\_CREDENTIALS

USER\_CREDENTIALS displays credentials owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_CREDENTIALS.



**See Also:**

["ALL\\_CREDENTIALS"](#)

## 7.447 USER\_CUBE\_ATTR\_VISIBILITY

USER\_CUBE\_ATTR\_VISIBILITY describes the OLAP attributes visible for the dimensions, hierarchies, and levels owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_CUBE\_ATTR\_VISIBILITY.



### See Also:

"ALL\_CUBE\_ATTR\_VISIBILITY"

## 7.448 USER\_CUBE\_ATTRIBUTES

USER\_CUBE\_ATTRIBUTES describes the attributes for the OLAP cube dimensions owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_CUBE\_ATTRIBUTES.



### See Also:

"ALL\_CUBE\_ATTRIBUTES"

## 7.449 USER\_CUBE\_BUILD\_PROCESSES

USER\_CUBE\_BUILD\_PROCESSES describes the OLAP build processes and maintenance scripts owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_CUBE\_BUILD\_PROCESSES.



### See Also:

"ALL\_CUBE\_BUILD\_PROCESSES"

## 7.450 USER\_CUBE\_CALCULATED\_MEMBERS

USER\_CUBE\_CALCULATED\_MEMBERS describes the calculated members for the OLAP cube dimensions owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_CUBE\_CALCULATED\_MEMBERS.



### See Also:

"ALL\_CUBE\_CALCULATED\_MEMBERS"

## 7.451 USER\_CUBE\_DIM\_LEVELS

USER\_CUBE\_DIM\_LEVELS describes the OLAP dimension levels owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_CUBE\_DIM\_LEVELS.



**See Also:**

["ALL\\_CUBE\\_DIM\\_LEVELS"](#)

## 7.452 USER\_CUBE\_DIM\_MODELS

USER\_CUBE\_DIM\_MODELS describes the models for the OLAP dimensions owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_CUBE\_DIM\_MODELS.



**See Also:**

["ALL\\_CUBE\\_DIM\\_MODELS"](#)

## 7.453 USER\_CUBE\_DIM\_VIEW\_COLUMNS

USER\_CUBE\_DIM\_VIEW\_COLUMNS describes the columns of the relational views of the OLAP cube dimensions owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_CUBE\_DIM\_VIEW\_COLUMNS.



**See Also:**

["ALL\\_CUBE\\_DIM\\_VIEW\\_COLUMNS"](#)

## 7.454 USER\_CUBE\_DIM\_VIEWS

USER\_CUBE\_DIM\_VIEWS describes the relational views of the OLAP dimensions owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_CUBE\_DIM\_VIEWS.



**See Also:**

["ALL\\_CUBE\\_DIM\\_VIEWS"](#)



## 7.455 USER\_CUBE\_DIMENSIONALITY

`USER_CUBE_DIMENSIONALITY` describes the dimension order for the OLAP cubes owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_CUBE_DIMENSIONALITY`.



**See Also:**

["ALL\\_CUBE\\_DIMENSIONALITY"](#)

## 7.456 USER\_CUBE\_DIMENSIONS

`USER_CUBE_DIMENSIONS` describes the OLAP cube dimensions owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_CUBE_DIMENSIONS`.



**See Also:**

["ALL\\_CUBE\\_DIMENSIONS"](#)

## 7.457 USER\_CUBE\_HIER\_LEVELS

`USER_CUBE_HIER_LEVELS` describes the hierarchy levels for the OLAP cube dimensions owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_CUBE_HIER_LEVELS`.



**See Also:**

["ALL\\_CUBE\\_HIER\\_LEVELS"](#)

## 7.458 USER\_CUBE\_HIER\_VIEW\_COLUMNS

`USER_CUBE_HIER_VIEW_COLUMNS` describes the columns of the relational hierarchy views of the OLAP cube dimensions owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_CUBE_HIER_VIEW_COLUMNS`.



**See Also:**

["ALL\\_CUBE\\_HIER\\_VIEW\\_COLUMNS"](#)

## 7.459 USER\_CUBE\_HIER\_VIEWS

USER\_CUBE\_HIER\_VIEWS describes the hierarchies for the OLAP cube dimensions owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_CUBE\_HIER\_VIEWS.



**See Also:**

["ALL\\_CUBE\\_HIER\\_VIEWS"](#)

## 7.460 USER\_CUBE\_HIERARCHIES

USER\_CUBE\_HIERARCHIES describes the OLAP dimension hierarchies owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_CUBE\_HIERARCHIES.



**See Also:**

["ALL\\_CUBE\\_HIERARCHIES"](#)

## 7.461 USER\_CUBE\_MEASURES

USER\_CUBE\_MEASURES describes the measures for the OLAP cubes owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_CUBE\_MEASURES.



**See Also:**

["ALL\\_CUBE\\_MEASURES"](#)

## 7.462 USER\_CUBE\_NAMED\_BUILD\_SPECS

USER\_CUBE\_NAMED\_BUILD\_SPECS describes the OLAP cube named build specifications in the database that are owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_CUBE\_NAMED\_BUILD\_SPECS.



**See Also:**

["ALL\\_CUBE\\_NAMED\\_BUILD\\_SPECS"](#)

## 7.463 USER\_CUBE\_SUB\_PARTITION\_LEVELS

USER\_CUBE\_SUB\_PARTITION\_LEVELS describes the OLAP secondary partition levels in the database that are owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_CUBE\_SUB\_PARTITION\_LEVELS.



**See Also:**

"ALL\_CUBE\_SUB\_PARTITION\_LEVELS"

## 7.464 USER\_CUBE\_VIEW\_COLUMNS

USER\_CUBE\_VIEW\_COLUMNS describes the columns of relational views of OLAP cubes owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_CUBE\_VIEW\_COLUMNS.



**See Also:**

"ALL\_CUBE\_VIEW\_COLUMNS"

## 7.465 USER\_CUBE\_VIEWS

USER\_CUBE\_VIEWS describes the relational views of the OLAP cubes owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_CUBE\_VIEWS.



**See Also:**

"ALL\_CUBE\_VIEWS"

## 7.466 USER\_CUBES

USER\_CUBES describes the OLAP cubes owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_CUBES.



**See Also:**

"ALL\_CUBES"

## 7.467 USER\_DATAPUMP\_JOBS

USER\_DATAPUMP\_JOBS displays the Data Pump jobs owned by the current user. Its columns (except for OWNER\_NAME) are the same as those in DBA\_DATAPUMP\_JOBS.



**See Also:**

"DBA\_DATAPUMP\_JOBS"

## 7.468 USER\_DB\_LINKS

USER\_DB\_LINKS describes the database links owned by the current user. Its columns are the same as those in ALL\_DB\_LINKS except that it does not have the OWNER column.

It also displays an additional column, PASSWORD, which is no longer used and for which nothing is returned. The PASSWORD column is maintained for backward compatibility only.



**See Also:**

"ALL\_DB\_LINKS"

## 7.469 USER\_DBFS\_HS

USER\_DBFS\_HS shows all Database File System (DBFS) hierarchical stores owned by the current user. Its columns (except for STOREOWNER) are the same as those in DBA\_DBFS\_HS.



**See Also:**

"DBA\_DBFS\_HS"

## 7.470 USER\_DBFS\_HS\_COMMANDS

USER\_DBFS\_HS\_COMMANDS shows all the registered store commands for all Database File system (DBFS) hierarchical stores owned by current user. Its columns (except for STOREOWNER) are the same as those in DBA\_DBFS\_HS\_COMMANDS.



**See Also:**

"DBA\_DBFS\_HS\_COMMANDS"

## 7.471 USER\_DBFS\_HS\_FILES

USER\_DBFS\_HS\_FILES displays files in the Database File System (DBFS) hierarchical store owned by the current user and their location on the back-end device.

| Column         | Datatype        | NULL | Description                                       |
|----------------|-----------------|------|---------------------------------------------------|
| PATH           | VARCHAR2 (1024) |      | Path name of the file                             |
| SEQUENCENUMBER | NUMBER          |      | Sequence number of this piece of the file         |
| STARTOFFSET    | NUMBER          |      | Begin offset of this piece in the tarball         |
| ENDOFFSET      | NUMBER          |      | End offset of this piece in the tarball           |
| TARBALLID      | NUMBER          |      | Tarball ID                                        |
| BACKUPFILENAME | VARCHAR2 (256)  |      | File on back end in which this tarball is located |
| TARSTARTOFFSET | NUMBER          |      | Begin offset of this tarball in the backup file   |
| TARENDOFFSET   | NUMBER          |      | End offset of this tarball in the backup file     |

## 7.472 USER\_DBFS\_HS\_FIXED\_PROPERTIES

USER\_DBFS\_HS\_FIXED\_PROPERTIES shows non-modifiable properties of all Database File System (DBFS) hierarchical stores owned by current user. Its columns (except for STORE\_OWNER) are the same as those in DBA\_DBFS\_HS\_FIXED\_PROPERTIES.



**See Also:**

"DBA\_DBFS\_HS\_FIXED\_PROPERTIES"

## 7.473 USER\_DBFS\_HS\_PROPERTIES

USER\_DBFS\_HS\_PROPERTIES shows modifiable properties of all Database File System (DBFS) hierarchical stores owned by current user. Its columns (except for STOREOWNER) are the same as those in DBA\_DBFS\_HS\_PROPERTIES.



**See Also:**

"DBA\_DBFS\_HS\_PROPERTIES"

## 7.474 USER\_DDL\_REGS

USER\_DDL\_REGS displays DDL notification registrations that apply to tables owned by the current user. Its columns (except for USERNAME) are the same as those in DBA\_DDL\_REGS.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

"DBA\_DDL\_REGS"

## 7.475 USER\_DEPENDENCIES

USER\_DEPENDENCIES describes dependencies between procedures, packages, functions, package bodies, and triggers owned by the current user, including dependencies on views created without any database links. Its columns are the same as those in ALL\_DEPENDENCIES.



### See Also:

"ALL\_DEPENDENCIES"

## 7.476 USER\_DIM\_ATTRIBUTES

USER\_DIM\_ATTRIBUTES describes the relationship between dimension levels and functionally dependent columns in the current user's schema.

The level columns and the dependent column must be in the same table. This view's columns are the same as those in ALL\_DIM\_ATTRIBUTES.



### See Also:

"ALL\_DIM\_ATTRIBUTES"

## 7.477 USER\_DIM\_CHILD\_OF

USER\_DIM\_CHILD\_OF describes a hierarchical relationship of 1 to  $n$  between pairs of levels in dimensions owned by the current user. Its columns are the same as those in ALL\_DIM\_CHILD\_OF.



### See Also:

"ALL\_DIM\_CHILD\_OF"

## 7.478 USER\_DIM\_HIERARCHIES

USER\_DIM\_HIERARCHIES describes the dimension hierarchies owned by the current user. Its columns are the same as those in ALL\_DIM\_HIERARCHIES.



### See Also:

"ALL\_DIM\_HIERARCHIES"

## 7.479 USER\_DIM\_JOIN\_KEY

USER\_DIM\_JOIN\_KEY describes the join between two dimension tables owned by the current user. The join is always specified between a parent dimension level column and a child column. This view's columns are the same as those in ALL\_DIM\_JOIN\_KEY.



### See Also:

"ALL\_DIM\_JOIN\_KEY"

## 7.480 USER\_DIM\_LEVEL\_KEY

USER\_DIM\_LEVEL\_KEY describes columns of dimension levels owned by the current user. This view's columns are the same as those in ALL\_DIM\_LEVEL\_KEY.



### See Also:

"ALL\_DIM\_LEVEL\_KEY"

## 7.481 USER\_DIM\_LEVELS

USER\_DIM\_LEVELS describes the levels of dimensions owned by the current user. All columns of a dimension level must come from the same relation. This view's columns are the same as those in ALL\_DIM\_LEVELS.



### See Also:

"ALL\_DIM\_LEVELS"

## 7.482 USER\_DIMENSIONS

USER\_DIMENSIONS describes dimension objects in the user's schema. Its columns are the same as those in ALL\_DIMENSIONS.



### See Also:

"ALL\_DIMENSIONS"

## 7.483 USER\_DOMAIN\_COLS

USER\_DOMAIN\_COLS describes columns of the data use case domains owned by the current user. Its columns are the same as those in ALL\_DOMAIN\_COLS.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

"ALL\_DOMAIN\_COLS"



## 7.484 USER\_DOMAIN\_CONSTRAINTS

USER\_DOMAIN\_CONSTRAINTS describes constraint definitions on the data use case domains owned by the current user. Its columns are the same as those in ALL\_DOMAIN\_CONSTRAINTS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_DOMAIN\_CONSTRAINTS"

## 7.485 USER\_DOMAINS

USER\_DOMAINS describes the data use case domains owned by the current user. Its columns are the same as those in ALL\_DOMAINS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_DOMAINS"

## 7.486 USER\_EDITED\_TYPES

USER\_EDITED\_TYPES lists the types that are editioned by default for the current user. Its columns (except for SCHEMA) are the same as those in DBA\_EDITED\_TYPES.

**See Also:**

"DBA\_EDITED\_TYPES"

## 7.487 USER\_EDITIONING\_VIEW\_COLS

`USER_EDITIONING_VIEW_COLS` describes the relationship between the columns of the editioning views owned by the current user and the table columns to which they map. Its columns (except for `OWNER`) are the same as those in `ALL_EDITIONING_VIEW_COLS`.



### See Also:

["ALL\\_EDITIONING\\_VIEW\\_COLS"](#)

## 7.488 USER\_EDITIONING\_VIEW\_COLS\_AE

`USER_EDITIONING_VIEW_COLS_AE` describes the relationship between the columns of the editioning views (across all editions) owned by the current user and the table columns to which they map. Its columns (except for `OWNER`) are the same as those in `ALL_EDITIONING_VIEW_COLS_AE`.



### See Also:

["ALL\\_EDITIONING\\_VIEW\\_COLS\\_AE"](#)

## 7.489 USER\_EDITIONING\_VIEWS

`USER_EDITIONING_VIEWS` describes the editioning views owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_EDITIONING_VIEWS`.



### See Also:

["ALL\\_EDITIONING\\_VIEWS"](#)

## 7.490 USER\_EDITIONING\_VIEWS\_AE

`USER_EDITIONING_VIEWS_AE` describes the editioning views (across all editions) owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_EDITIONING_VIEWS_AE`.



### See Also:

["ALL\\_EDITIONING\\_VIEWS\\_AE"](#)

## 7.491 USER\_ENCRYPTED\_COLUMNS

USER\_ENCRYPTED\_COLUMNS maintains encryption algorithm information for all encrypted columns in all tables in the user's schema. Its columns (except for OWNER) are the same as those in ALL\_ENCRYPTED\_COLUMNS.



**See Also:**

"ALL\_ENCRYPTED\_COLUMNS"

## 7.492 USER\_EPG\_DAD\_AUTHORIZATION

USER\_EPG\_DAD\_AUTHORIZATION describes the DADs that are authorized to use the user's privileges. Its columns (except for USERNAME) are the same as those in DBA\_EPG\_DAD\_AUTHORIZATION.



**See Also:**

"DBA\_EPG\_DAD\_AUTHORIZATION"

## 7.493 USER\_ERROR\_TRANSLATIONS

USER\_ERROR\_TRANSLATIONS describes all error translations owned by the user. Its columns (except for OWNER) are the same as those in ALL\_ERROR\_TRANSLATIONS.



**See Also:**

"ALL\_ERROR\_TRANSLATIONS"

## 7.494 USER\_ERRORS

USER\_ERRORS describes the current errors on the stored objects owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ERRORS.



**See Also:**

"ALL\_ERRORS"

## 7.495 USER\_ERRORS\_AE

USER\_ERRORS\_AE describes the current errors on the stored objects (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_ERRORS\_AE.



**See Also:**

["ALL\\_ERRORS\\_AE"](#)

## 7.496 USER\_EVALUATION\_CONTEXT\_TABLES

USER\_EVALUATION\_CONTEXT\_TABLES describes the tables in the rule evaluation contexts owned by the current user. Its columns (except for EVALUATION\_CONTEXT\_OWNER) are the same as those in ALL\_EVALUATION\_CONTEXT\_TABLES.



**See Also:**

["ALL\\_EVALUATION\\_CONTEXT\\_TABLES"](#)

## 7.497 USER\_EVALUATION\_CONTEXT\_VARS

USER\_EVALUATION\_CONTEXT\_VARS describes the variables in the rule evaluation contexts owned by the current user. Its columns (except for EVALUATION\_CONTEXT\_OWNER) are the same as those in ALL\_EVALUATION\_CONTEXT\_VARS.



**See Also:**

["ALL\\_EVALUATION\\_CONTEXT\\_VARS"](#)

## 7.498 USER\_EVALUATION\_CONTEXTS

USER\_EVALUATION\_CONTEXTS describes the rule evaluation contexts owned by the current user. Its columns (except for EVALUATION\_CONTEXT\_OWNER) are the same as those in ALL\_EVALUATION\_CONTEXTS.



**See Also:**

["ALL\\_EVALUATION\\_CONTEXTS"](#)

## 7.499 USER\_EXPRESSION\_STATISTICS

`USER_EXPRESSION_STATISTICS` provides expression usage tracking statistics for tables owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_EXPRESSION_STATISTICS`.



### See Also:

["ALL\\_EXPRESSION\\_STATISTICS"](#)

## 7.500 USER\_EXTENTS

`USER_EXTENTS` describes the extents comprising the segments owned by the current user's objects. Its columns (except for `OWNER`, `FILE_ID`, `BLOCK_ID`, and `RELATIVE_FNO`) are the same as those in `DBA_EXTENTS`.



### See Also:

["DBA\\_EXTENTS"](#)

## 7.501 USER\_EXTERNAL\_LOCATIONS

`USER_EXTERNAL_LOCATIONS` describes the locations (data sources) of the external tables owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_EXTERNAL_LOCATIONS`.



### See Also:

["ALL\\_EXTERNAL\\_LOCATIONS"](#)

## 7.502 USER\_EXTERNAL\_TABLES

`USER_EXTERNAL_TABLES` describes the external tables owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_EXTERNAL_TABLES`.



### See Also:

["ALL\\_EXTERNAL\\_TABLES"](#)

## 7.503 USER\_FLASHBACK\_ARCHIVE

USER\_FLASHBACK\_ARCHIVE describes flashback data archives, which consist of multiple tablespaces and historic data from all transactions against tracked tables.

The content of this view depends on the privileges of the user who queries it, as follows:

- If the user has the FLASHBACK\_ARCHIVE ADMINISTER system privilege, then USER\_FLASHBACK\_ARCHIVE describes the flashback archives for all users who have been granted the FLASHBACK\_ARCHIVE object privilege.
- If the user does not have the FLASHBACK\_ARCHIVE ADMINISTER system privilege, then USER\_FLASHBACK\_ARCHIVE describes flashback archives for which the current user has been granted the FLASHBACK\_ARCHIVE object privilege.

The columns of the USER\_FLASHBACK\_ARCHIVE view are the same as those in DBA\_FLASHBACK\_ARCHIVE.



**See Also:**

["DBA\\_FLASHBACK\\_ARCHIVE"](#)

## 7.504 USER\_FLASHBACK\_ARCHIVE\_TABLES

USER\_FLASHBACK\_ARCHIVE\_TABLES displays information about the tables owned by the current user that are enabled for Flashback Archive. Its columns are the same as those in DBA\_FLASHBACK\_ARCHIVE\_TABLES.



**See Also:**

["DBA\\_FLASHBACK\\_ARCHIVE\\_TABLES"](#)

## 7.505 USER\_FLASHBACK\_TXN\_REPORT

USER\_FLASHBACK\_TXN\_REPORT displays information about the compensating transactions owned by the current user that have been committed in the database. Its columns (except for USERNAME) are the same as those in DBA\_FLASHBACK\_TXN\_REPORT.



**See Also:**

["DBA\\_FLASHBACK\\_TXN\\_REPORT"](#)

## 7.506 USER\_FLASHBACK\_TXN\_STATE

USER\_FLASHBACK\_TXN\_STATE displays information about the compensating status of the transactions owned by the current user. Its columns (except for USERNAME) are the same as those in DBA\_FLASHBACK\_TXN\_STATE.



**See Also:**

"DBA\_FLASHBACK\_TXN\_STATE"

## 7.507 USER\_FREE\_SPACE

USER\_FREE\_SPACE describes the free extents in the tablespaces accessible to the current user. Its columns are the same as those in DBA\_FREE\_SPACE.



**See Also:**

"DBA\_FREE\_SPACE"

## 7.508 USER\_GOLDENGATE\_PRIVILEGES

USER\_GOLDENGATE\_PRIVILEGES displays details about Oracle GoldenGate privileges. Its columns (except for USERNAME) are the same as those in ALL\_GOLDENGATE\_PRIVILEGES.



**See Also:**

"ALL\_GOLDENGATE\_PRIVILEGES"

## 7.509 USER\_HEAT\_MAP\_SEG\_HISTOGRAM

USER\_HEAT\_MAP\_SEG\_HISTOGRAM displays segment access information for segments owned by the user. Its columns (except for OWNER) are the same as those in ALL\_HEAT\_MAP\_SEG\_HISTOGRAM.



**See Also:**

"ALL\_HEAT\_MAP\_SEG\_HISTOGRAM"

## 7.510 USER\_HEAT\_MAP\_SEGMENT

USER\_HEAT\_MAP\_SEGMENT displays the latest segment access time for all segments owned by the user. Its columns (except for OWNER) are the same as those in ALL\_HEAT\_MAP\_SEGMENT.



**See Also:**

["ALL\\_HEAT\\_MAP\\_SEGMENT"](#)

## 7.511 USER\_HIER\_CLASS

USER\_HIER\_CLASS describes the classifications of the hierarchies owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_HIER\_CLASS.



**See Also:**

["ALL\\_HIER\\_CLASS"](#)

## 7.512 USER\_HIER\_CLASS\_AE

USER\_HIER\_CLASS\_AE describes the classifications of the hierarchies (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_HIER\_CLASS\_AE.



**See Also:**

["ALL\\_HIER\\_CLASS\\_AE"](#)

## 7.513 USER\_HIER\_COLUMNS

USER\_HIER\_COLUMNS describes the columns of the hierarchies owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_HIER\_COLUMNS.



**See Also:**

["ALL\\_HIER\\_COLUMNS"](#)



## 7.514 USER\_HIER\_COLUMNS\_AE

USER\_HIER\_COLUMNS\_AE describes the columns of the hierarchies (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_HIER\_COLUMNS\_AE.



### See Also:

["ALL\\_HIER\\_COLUMNS\\_AE"](#)

## 7.515 USER\_HIER\_HIER\_ATTR\_CLASS

USER\_HIER\_HIER\_ATTR\_CLASS describes the classifications of the hierarchical attributes of the hierarchies owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_HIER\_HIER\_ATTR\_CLASS.



### See Also:

["ALL\\_HIER\\_HIER\\_ATTR\\_CLASS"](#)

## 7.516 USER\_HIER\_HIER\_ATTR\_CLASS\_AE

USER\_HIER\_HIER\_ATTR\_CLASS\_AE describes the classifications of the hierarchical attributes of the hierarchies (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_HIER\_HIER\_ATTR\_CLASS\_AE.



### See Also:

["ALL\\_HIER\\_HIER\\_ATTR\\_CLASS\\_AE"](#)

## 7.517 USER\_HIER\_HIER\_ATTRIBUTES

USER\_HIER\_HIER\_ATTRIBUTES describes the hierarchical attributes of the hierarchies owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_HIER\_HIER\_ATTRIBUTES.



### See Also:

["ALL\\_HIER\\_HIER\\_ATTRIBUTES"](#)

## 7.518 USER\_HIER\_HIER\_ATTRIBUTES\_AE

USER\_HIER\_HIER\_ATTRIBUTES\_AE describes the hierarchical attributes of the hierarchies (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_HIER\_HIER\_ATTRIBUTES\_AE.



### See Also:

"ALL\_HIER\_HIER\_ATTRIBUTES\_AE"

## 7.519 USER\_HIER\_JOIN\_PATHS

USER\_HIER\_JOIN\_PATHS describes the join paths for the hierarchies owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_HIER\_JOIN\_PATHS.



### See Also:

"ALL\_HIER\_JOIN\_PATHS"

## 7.520 USER\_HIER\_JOIN\_PATHS\_AE

USER\_HIER\_JOIN\_PATHS\_AE describes the join paths for the hierarchies (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_HIER\_JOIN\_PATHS\_AE.



### See Also:

"ALL\_HIER\_JOIN\_PATHS\_AE"

## 7.521 USER\_HIER\_LEVEL\_ID\_ATTRS

USER\_HIER\_LEVEL\_ID\_ATTRS describes the attributes that uniquely identify members of the levels of the hierarchies owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_HIER\_LEVEL\_ID\_ATTRS.



### See Also:

"ALL\_HIER\_LEVEL\_ID\_ATTRS"

## 7.522 USER\_HIER\_LEVEL\_ID\_ATTRS\_AE

USER\_HIER\_LEVEL\_ID\_ATTRS\_AE describes the attributes that uniquely identify members of the levels of the hierarchies (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_HIER\_LEVEL\_ID\_ATTRS\_AE.



**See Also:**

["ALL\\_HIER\\_LEVEL\\_ID\\_ATTRS\\_AE"](#)

## 7.523 USER\_HIER\_LEVELS

USER\_HIER\_LEVELS describes the levels of the hierarchies owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_HIER\_LEVELS.



**See Also:**

["ALL\\_HIER\\_LEVELS"](#)

## 7.524 USER\_HIER\_LEVELS\_AE

USER\_HIER\_LEVELS\_AE describes the levels of the hierarchies (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_HIER\_LEVELS\_AE.



**See Also:**

["ALL\\_HIER\\_LEVELS\\_AE"](#)

## 7.525 USER\_HIERARCHIES

USER\_HIERARCHIES describes the hierarchies owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_HIERARCHIES.



**See Also:**

["ALL\\_HIERARCHIES"](#)

## 7.526 USER\_HIERARCHIES\_AE

USER\_HIERARCHIES\_AE describes the hierarchies (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_HIERARCHIES\_AE.



### See Also:

"ALL\_HIERARCHIES\_AE"

## 7.527 USER\_HIST\_SAGAS

USER\_HIST\_SAGAS provides a history of the completed sagas owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_HIST\_SAGAS.

This view displays sagas that were either initiated in the current PDB or joined by participants in the current PDB.

Completed sagas are retained in this view for the length of time specified by the SAGA\_HIST\_RETENTION initialization parameter. The default is 30 days.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

- "ALL\_HIST\_SAGAS"
- "SAGA\_HIST\_RETENTION"

## 7.528 USER\_HISTOGRAMS

USER\_HISTOGRAMS is a synonym for USER\_TAB\_HISTOGRAMS.



### See Also:

"USER\_TAB\_HISTOGRAMS"

## 7.529 USER\_HIVE\_COLUMNS

USER\_HIVE\_COLUMNS describes all Hive columns owned by the current user in a Hive metastore. Its columns are the same as those in ALL\_HIVE\_COLUMNS.



**See Also:**

"ALL\_HIVE\_COLUMNS"

## 7.530 USER\_HIVE\_DATABASES

USER\_HIVE\_DATABASES describes all the Hive schemas owned by the current user in a Hadoop cluster. Its columns are the same as those in ALL\_HIVE\_DATABASES.



**See Also:**

"ALL\_HIVE\_DATABASES"

## 7.531 USER\_HIVE\_PART\_KEY\_COLUMNS

USER\_HIVE\_PART\_KEY\_COLUMNS provides information about all Hive table partition columns owned by the current user in the database. Its columns are the same as those in ALL\_HIVE\_PART\_KEY\_COLUMNS.



**See Also:**

"ALL\_HIVE\_PART\_KEY\_COLUMNS"

## 7.532 USER\_HIVE\_TAB\_PARTITIONS

USER\_HIVE\_TAB\_PARTITIONS provides information about all Hive table partitions owned by the current user in the database. Its columns are the same as those in ALL\_HIVE\_TAB\_PARTITIONS.



**See Also:**

"ALL\_HIVE\_TAB\_PARTITIONS"

## 7.533 USER\_HIVE\_TABLES

USER\_HIVE\_TABLES provides information about all the Hive tables owned by the current user in the Hive metastore. Its columns are the same as those in ALL\_HIVE\_TABLES.



### See Also:

"ALL\_HIVE\_TABLES"

## 7.534 USER\_HOST\_ACES

USER\_HOST\_ACES describes the status of access control entries for the current user to access network hosts through PL/SQL network utility packages.

Its columns (except for ACE\_ORDER, START\_DATE, END\_DATE, GRANT\_TYPE, INVERTED\_PRINCIPAL, PRINCIPAL, PRINCIPAL\_TYPE, and STATUS) are the same as those in DBA\_HOST\_ACES.



### See Also:

"DBA\_HOST\_ACES"

## 7.535 USER\_IDENTIFIERS

USER\_IDENTIFIERS displays information about the identifiers in the stored objects owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_IDENTIFIERS.



### See Also:

"ALL\_IDENTIFIERS"

## 7.536 USER\_ILMDATAMOVEMENTPOLICIES

USER\_ILMDATAMOVEMENTPOLICIES contains information specific to data movement-related attributes of an Automatic Data Optimization policy for a user. Its columns are the same as those in DBA\_ILMDATAMOVEMENTPOLICIES.



### Note:

Automatic Data Optimization is supported in Oracle Database 12c Release 2 multitenant environments.

**See Also:**

"DBA\_ILMDATAMOVEMENTPOLICIES"

## 7.537 USER\_ILMEVALUATIONDETAILS

USER\_ILMEVALUATIONDETAILS displays details on evaluation of Automatic Data Optimization policies considered for Automatic Data Optimization tasks for a user.

It also shows the job name that executes the policy, in case the policy was selected for execution. If the policy was not selected for execution, this view provides a reason. Its columns are the same as those in DBA\_ILMEVALUATIONDETAILS.

**Note:**

Automatic Data Optimization is supported in Oracle Database 12c Release 2 multitenant environments.

**See Also:**

"DBA\_ILMEVALUATIONDETAILS"

## 7.538 USER\_ILMOBJECTS

USER\_ILMOBJECTS displays all the Automatic Data Optimization policies and objects for a user.

Many objects inherit policies via their parent objects or because they were created in a particular tablespace. This view provides a mapping between the policies and objects and indicates whether a policy is inherited by an object or is directly specified on it. Its columns are the same as those in DBA\_ILMOBJECTS.

**Note:**

Automatic Data Optimization is supported in Oracle Database 12c Release 2 multitenant environments.

**See Also:**

"DBA\_ILMOBJECTS"

## 7.539 USER\_ILMPOLICIES

USER\_ILMPOLICIES displays details about Automatic Data Optimization policies owned by the user.

The view contains common details relevant to all types of Automatic Data Optimization policies, not just details relevant to the data movement-related Automatic Data Optimization policies. Its columns are the same as those in DBA\_ILMPOLICIES.

**Note:**

Automatic Data Optimization is supported in Oracle Database 12c Release 2 multitenant environments.

**See Also:**

["DBA\\_ILMPOLICIES"](#)

## 7.540 USER\_ILMRESULTS

USER\_ILMRESULTS displays information on data movement-related Automatic Data Optimization jobs for tasks created by the user.

Its columns are the same as those in DBA\_ILMRESULTS.

**Note:**

Automatic Data Optimization is supported in Oracle Database 12c Release 2 multitenant environments.

**See Also:**

["DBA\\_ILMRESULTS"](#)



## 7.541 USER\_ILMTASKS

USER\_ILMTASKS displays information on Automatic Data Optimization tasks created by a user. Its columns are the same as those in DBA\_ILMTASKS.



### Note:

Automatic Data Optimization is supported in Oracle Database 12c Release 2 multitenant environments.



### See Also:

"DBA\_ILMTASKS"

## 7.542 USER\_IM\_EXPRESSIONS

USER\_IM\_EXPRESSIONS provides information about the list of expressions (SYS\_IME virtual columns) that are currently enabled for in-memory storage in schemas owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_IM\_EXPRESSIONS.

Typically, you can query this view after invoking the DBMS\_INMEMORY\_ADMIN.IME\_CAPTURE\_EXPRESSIONS PL/SQL procedure to see the list of hot expressions added to tables owned by you across the database.

Based on this view, you can:

- Populate expressions on a particular table immediately
- Drop certain expressions that are marked for in-memory but not desired by you



### See Also:

"DBA\_IM\_EXPRESSIONS"

## 7.543 USER\_IMMUTABLE\_ROW\_VERSION\_COLS

USER\_IMMUTABLE\_ROW\_VERSION\_COLS displays information about row versioned columns in the immutable tables owned by the current user. Its columns are the same as those in ALL\_IMMUTABLE\_ROW\_VERSION\_COLS.



### Note:

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_IMMUTABLE\\_ROW\\_VERSION\\_COLS"](#)

## 7.544 USER\_IMMUTABLE\_ROW\_VERSION\_HISTORY

USER\_IMMUTABLE\_ROW\_VERSION\_HISTORY provides a history of row versions in the immutable tables owned by the current user. Its columns (except for SCHEMA\_NAME) are the same as those in ALL\_IMMUTABLE\_ROW\_VERSION\_HISTORY.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_IMMUTABLE\\_ROW\\_VERSION\\_HISTORY"](#)

## 7.545 USER\_IMMUTABLE\_TABLE\_COLUMNS

USER\_IMMUTABLE\_TABLE\_COLUMNS displays information about columns valid in each epoch in the immutable tables owned by the current user. Its columns (except for SCHEMA\_NAME) are the same as those in ALL\_IMMUTABLE\_TABLE\_COLUMNS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_IMMUTABLE\\_TABLE\\_COLUMNS"](#)

## 7.546 USER\_IMMUTABLE\_TABLE\_EPOCHS

USER\_IMMUTABLE\_TABLE\_EPOCHS displays epoch information for the immutable tables owned by the current user. Its columns (except for SCHEMA\_NAME) are the same as those in ALL\_IMMUTABLE\_TABLE\_EPOCHS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_IMMUTABLE\_TABLE\_EPOCHS"

## 7.547 USER\_IMMUTABLE\_TABLES

USER\_IMMUTABLE\_TABLES describes the immutable tables owned by the current user. Its columns (except for SCHEMA\_NAME) are the same as those in ALL\_IMMUTABLE\_TABLES.

**See Also:**

"ALL\_IMMUTABLE\_TABLES"

## 7.548 USER\_INCOMPLETE\_SAGAS

USER\_INCOMPLETE\_SAGAS describes the incomplete sagas owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_INCOMPLETE\_SAGAS.

This view displays sagas that were either initiated in the current PDB or joined by participants in the current PDB.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_INCOMPLETE\_SAGAS"

## 7.549 USER\_IND\_COLUMNS

USER\_IND\_COLUMNS describes the columns of the indexes owned by the current user and columns of indexes on tables owned by the current user.

Its columns (except for INDEX\_OWNER and TABLE\_OWNER) are the same as those in "ALL\_IND\_COLUMNS".

## 7.550 USER\_IND\_EXPRESSIONS

USER\_IND\_EXPRESSIONS describes expressions of function-based indexes on tables owned by the current user. Its columns (except for INDEX\_OWNER and TABLE\_OWNER) are the same as those in ALL\_IND\_EXPRESSIONS.



**See Also:**

"ALL\_IND\_EXPRESSIONS"

## 7.551 USER\_IND\_PARTITIONS

USER\_IND\_PARTITIONS displays, for each index partition owned by the current user, the partition-level partitioning information, the storage parameters for the partition, and various partition statistics generated by the DBMS\_STATS package. Its columns are the same as those in ALL\_IND\_PARTITIONS.



**See Also:**

"ALL\_IND\_PARTITIONS"

## 7.552 USER\_IND\_PENDING\_STATS

USER\_IND\_PENDING\_STATS describes pending statistics for all tables, partitions, and subpartitions owned by the current user and collected using the DBMS\_STATS package. Its columns (except for OWNER) are the same as those in ALL\_IND\_PENDING\_STATS.



**See Also:**

"ALL\_IND\_PENDING\_STATS"

## 7.553 USER\_IND\_STATISTICS

`USER_IND_STATISTICS` displays optimizer statistics for the indexes on the tables owned by the current user and collected using the `DBMS_STATS` package. Its columns (except for `OWNER`) are the same as those in `ALL_IND_STATISTICS`.



**See Also:**

["ALL\\_IND\\_STATISTICS"](#)

## 7.554 USER\_IND\_SUBPARTITIONS

`USER_IND_SUBPARTITIONS` displays, for each index subpartition owned by the current user, the subpartition-level partitioning information, the storage parameters for the subpartition, and various subpartition statistics generated by the `DBMS_STATS` package.

Its columns are the same as those in ["ALL\\_IND\\_SUBPARTITIONS"](#).

## 7.555 USER\_INDEXES

`USER_INDEXES` describes indexes owned by the current user. To gather statistics for this view, use the `DBMS_STATS` package. This view supports parallel partitioned index scans. Its columns (except for `OWNER`) are the same as those in `ALL_INDEXES`.



**See Also:**

["ALL\\_INDEXES"](#)

## 7.556 USER\_INDEXTYPE\_ARRAYTYPES

`USER_INDEXTYPE_ARRAYTYPES` displays information about the array types specified by the indextypes owned by the current user. Its columns are the same as those in `ALL_INDEXTYPE_ARRAYTYPES`.



**See Also:**

["ALL\\_INDEXTYPE\\_ARRAYTYPES"](#)

## 7.557 USER\_INDEXTYPE\_COMMENTS

USER\_INDEXTYPE\_COMMENTS displays comments for the user-defined indextypes owned by the current user. Its columns are the same as those in ALL\_INDEXTYPE\_COMMENTS.



**See Also:**

["ALL\\_INDEXTYPE\\_COMMENTS"](#)

## 7.558 USER\_INDEXTYPE\_OPERATORS

USER\_INDEXTYPE\_OPERATORS lists all the operators supported by indextypes owned by the current user. Its columns are the same as those in ALL\_INDEXTYPE\_OPERATORS.



**See Also:**

["ALL\\_INDEXTYPE\\_OPERATORS"](#)

## 7.559 USER\_INDEXTYPES

USER\_INDEXTYPES describes the indextypes owned by the current user. Its columns are the same as those in ALL\_INDEXTYPES.



**See Also:**

["ALL\\_INDEXTYPES"](#)

## 7.560 USER\_INTERNAL\_TRIGGERS

USER\_INTERNAL\_TRIGGERS describes the internal triggers on all tables owned by the current user. Its columns are the same as those in ALL\_INTERNAL\_TRIGGERS.



**See Also:**

["ALL\\_INTERNAL\\_TRIGGERS"](#).

## 7.561 USER\_JAVA\_ARGUMENTS

USER\_JAVA\_ARGUMENTS displays argument information about the stored Java classes owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_JAVA\_ARGUMENTS.



**See Also:**

["ALL\\_JAVA\\_ARGUMENTS"](#)

## 7.562 USER\_JAVA\_CLASSES

USER\_JAVA\_CLASSES displays class level information about the stored Java classes owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_JAVA\_CLASSES.



**See Also:**

["ALL\\_JAVA\\_CLASSES"](#)

## 7.563 USER\_JAVA\_COMPILER\_OPTIONS

USER\_JAVA\_COMPILER\_OPTIONS displays information about the native compiler options owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_JAVA\_COMPILER\_OPTIONS.



**See Also:**

["ALL\\_JAVA\\_COMPILER\\_OPTIONS"](#)

## 7.564 USER\_JAVA\_DERIVATIONS

USER\_JAVA\_DERIVATIONS displays mapping information about Java source objects and their derived Java class objects and Java resource objects for the Java classes owned by the current user.

Its columns (except for OWNER) are the same as those in ALL\_JAVA\_DERIVATIONS.



**See Also:**

["ALL\\_JAVA\\_DERIVATIONS"](#)

## 7.565 USER\_JAVA\_FIELDS

USER\_JAVA\_FIELDS displays field information about the stored Java classes owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_JAVA\_FIELDS.



**See Also:**

["ALL\\_JAVA\\_FIELDS"](#)

## 7.566 USER\_JAVA\_IMPLEMENTES

USER\_JAVA\_IMPLEMENTES describes interfaces implemented by the stored Java classes owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_JAVA\_IMPLEMENTES.



**See Also:**

["ALL\\_JAVA\\_IMPLEMENTES"](#)

## 7.567 USER\_JAVA\_INNERS

USER\_JAVA\_INNERS displays information about inner classes referred to by the stored Java classes owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_JAVA\_INNERS.



**See Also:**

["ALL\\_JAVA\\_INNERS"](#)

## 7.568 USER\_JAVA\_LAYOUTS

USER\_JAVA\_LAYOUTS displays class layout information about the stored Java classes owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_JAVA\_LAYOUTS.



**See Also:**

["ALL\\_JAVA\\_LAYOUTS"](#)



## 7.569 USER\_JAVA\_METHODS

`USER_JAVA_METHODS` displays method information about the stored Java classes owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_JAVA_METHODS`.



**See Also:**

["ALL\\_JAVA\\_METHODS"](#)

## 7.570 USER\_JAVA\_NCOMPS

`USER_JAVA_NCOMPS` displays `ncomp`-related information about the Java classes owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_JAVA_NCOMPS`.



**See Also:**

["ALL\\_JAVA\\_NCOMPS"](#)

## 7.571 USER\_JAVA\_POLICY

`USER_JAVA_POLICY` describes Java security permissions for the current user. Its columns are the same as those in `DBA_JAVA_POLICY`.



**See Also:**

["DBA\\_JAVA\\_POLICY"](#)

## 7.572 USER\_JAVA\_RESOLVERS

`USER_JAVA_RESOLVERS` displays information about resolvers of the Java classes owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_JAVA_RESOLVERS`.



**See Also:**

["ALL\\_JAVA\\_RESOLVERS"](#)

## 7.573 USER\_JAVA\_THROWS

`USER_JAVA_THROWS` displays information about exceptions thrown from methods of the Java classes owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_JAVA_THROWS`.



**See Also:**

["ALL\\_JAVA\\_THROWS"](#)

## 7.574 USER\_JOBS

`USER_JOBS` describes the jobs owned by the current user. Its columns are the same as those in `DBA_JOBS`.



**See Also:**

["DBA\\_JOBS"](#)

## 7.575 USER\_JOIN\_IND\_COLUMNS

`USER_JOIN_IND_COLUMNS` describes all join conditions owned by the current user. Its columns are the same as those in `ALL_JOIN_IND_COLUMNS`.



**See Also:**

["ALL\\_JOIN\\_IND\\_COLUMNS"](#)

## 7.576 USER\_JOINGROUPS

`USER_JOINGROUPS` describes join groups belonging to the user. A join group is a user-created object that consists of two or more columns that can be meaningfully joined. The maximum number of columns that can be included in a join group is 255. The `USER_JOINGROUPS` columns (except for `JOINGROUP_OWNER`) are the same as those in `DBA_JOINGROUPS`.

In certain queries, join groups enable the database to eliminate the performance overhead of decompressing and hashing column values. Join groups require an In-Memory column store (IM column store).

 **See Also:**

- ["DBA\\_JOINGROUPS"](#)
- *Oracle Database In-Memory Guide* for an introduction to join groups
- *Oracle Database SQL Language Reference* for information about creating a join group using the `CREATE INMEMORY JOIN GROUP` statement

## 7.577 USER\_JSON\_COLLECTION\_TABLES

`USER_JSON_COLLECTION_TABLES` describes JSON collection tables owned by the current user. Its columns are the same as those in `ALL_JSON_COLLECTION_TABLES`.

 **Note:**

This view is available starting with Oracle Database 23ai.

 **See Also:**

["ALL\\_JSON\\_COLLECTION\\_TABLES"](#)

## 7.578 USER\_JSON\_COLLECTION\_VIEWS

`USER_JSON_COLLECTION_VIEWS` describes JSON collection views owned by the current user. Its columns are the same as those in `ALL_JSON_COLLECTION_VIEWS`.

 **Note:**

This view is available starting with Oracle Database 23ai, Release Update 23.6.

 **See Also:**

["ALL\\_JSON\\_COLLECTION\\_VIEWS"](#)

## 7.579 USER\_JSON\_COLLECTIONS

USER\_JSON\_COLLECTIONS describes JSON collections owned by the current user. Its columns are the same as those in ALL\_JSON\_COLLECTIONS.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

["ALL\\_JSON\\_COLLECTIONS"](#)

## 7.580 USER\_JSON\_COLUMNS

USER\_JSON\_COLUMNS provides information on the JavaScript Object Notation (JSON) columns for which the user is the owner. Its columns (except for OWNER) are the same as those in ALL\_JSON\_COLUMNS.



### See Also:

- ["ALL\\_JSON\\_COLUMNS"](#)
- *Oracle Database JSON Developer's Guide* for more information about using JSON with Oracle Database

## 7.581 USER\_JSON\_DATAGUIDE\_FIELDS

USER\_JSON\_DATAGUIDE\_FIELDS extracts the path and type information from all the data guides in the current user's schema, which are the data guides returned to the user by the USER\_JSON\_DATAGUIDE view. Its columns (except for OWNER) are the same as those in ALL\_JSON\_DATAGUIDE\_FIELDS.



### See Also:

["ALL\\_JSON\\_DATAGUIDE\\_FIELDS"](#)

## 7.582 USER\_JSON\_DATAGUIDES

`USER_JSON_DATAGUIDES` provides information on the JavaScript Object Notation (JSON) columns owned by the current user that have data guide enabled. Its columns (except for `OWNER`) are the same as those in `ALL_JSON_DATAGUIDES`.



### See Also:

["ALL\\_JSON\\_DATAGUIDES"](#)

## 7.583 USER\_JSON\_DOMAIN\_SCHEMA\_COLUMNS

`USER_JSON_DOMAIN_SCHEMA_COLUMNS` describes JSON schema constraints on columns of data use case domains owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_JSON_DOMAIN_SCHEMA_COLUMNS`.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

["ALL\\_JSON\\_DOMAIN\\_SCHEMA\\_COLUMNS"](#)

## 7.584 USER\_JSON\_DUALITY\_VIEW\_LINKS

`USER_JSON_DUALITY_VIEW_LINKS` describes the links associated with the JSON-relational duality views owned by the current user. Its columns (except for `VIEW_OWNER`) are the same as those in `ALL_JSON_DUALITY_VIEW_LINKS`.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

["ALL\\_JSON\\_DUALITY\\_VIEW\\_LINKS"](#)

## 7.585 USER\_JSON\_DUALITY\_VIEW\_TAB\_COLS

USER\_JSON\_DUALITY\_VIEW\_TAB\_COLS describes the table columns associated with the JSON-relational duality views owned by the current user. Its columns (except for VIEW\_OWNER) are the same as those in ALL\_JSON\_DUALITY\_VIEW\_TAB\_COLS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_JSON\_DUALITY\_VIEW\_TAB\_COLS"

## 7.586 USER\_JSON\_DUALITY\_VIEW\_TABS

USER\_JSON\_DUALITY\_VIEW\_TABS describes the tables associated with the JSON-relational duality views owned by the current user. Its columns (except for VIEW\_OWNER) are the same as those in ALL\_JSON\_DUALITY\_VIEW\_TABS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_JSON\_DUALITY\_VIEW\_TABS"

## 7.587 USER\_JSON\_DUALITY\_VIEWS

USER\_JSON\_DUALITY\_VIEWS describes the JSON-relational duality views owned by the current user. Its columns (except for VIEW\_OWNER) are the same as those in ALL\_JSON\_DUALITY\_VIEWS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_JSON\\_DUALITY\\_VIEWS"](#)

## 7.588 USER\_JSON\_INDEXES

`USER_JSON_INDEXES` describes indexes on JSON data that are owned by the current user. Its columns (except for `INDEX_OWNER`) are the same as those in `ALL_JSON_INDEXES`.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_JSON\\_INDEXES"](#)

## 7.589 USER\_JSON\_SCHEMA\_COLUMNS

`USER_JSON_SCHEMA_COLUMNS` describes JSON schema constraints on columns in tables owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_JSON_SCHEMA_COLUMNS`.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_JSON\\_SCHEMA\\_COLUMNS"](#)

## 7.590 USER\_KAFKA\_APPLICATIONS

USER\_KAFKA\_APPLICATIONS describes Oracle SQL Access to Kafka (OSAK) applications owned by the current user. Its columns (except for OWNER and CLUSTER\_ID) are the same as those in DBA\_KAFKA\_APPLICATIONS.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

- ["DBA\\_KAFKA\\_APPLICATIONS"](#)
- ["DBMS\\_KAFKA\\_APPLICATIONS"](#)



### See Also:

["DBA\\_KAFKA\\_APPLICATIONS"](#)

## 7.591 USER\_KAFKA\_CLUSTERS

USER\_KAFKA\_CLUSTERS describes the Oracle SQL Access to Kafka (OSAK) clusters that are owned by the current user or for which the current user has READ access. Its columns (except for OWNER and GRANTEE) are the same as those in DBA\_KAFKA\_CLUSTERS.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

- ["DBA\\_KAFKA\\_CLUSTERS"](#)
- ["DBMS\\_KAFKA\\_CLUSTERS"](#) for information about viewing all registered OSAK clusters in the database



## 7.592 USER\_KAFKA\_LOAD\_METRICS

USER\_KAFKA\_LOAD\_METRICS displays metrics for DBMS\_KAFKA.EXECUTE\_LOAD\_APP operations on tables owned by the current user. Its columns (except for OWNER and CLUSTER\_ID) are the same as those in DBA\_KAFKA\_LOAD\_METRICS.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

- "DBA\_KAFKA\_LOAD\_METRICS"
- "DBMS\_KAFKA\_LOAD\_METRICS"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_KAFKA.EXECUTE\_LOAD\_APP procedure

## 7.593 USER\_KAFKA\_MESSAGES

USER\_KAFKA\_MESSAGES displays messages logged by Oracle SQL Access to Kafka (OSAK) applications owned by the current user.

| Column           | Datatype        | NULL     | Description                                                                                                                                          |
|------------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| CLUSTER_NAME     | VARCHAR2 (30)   | NOT NULL | Name of the OSAK cluster associated with the application                                                                                             |
| APPLICATION_NAME | VARCHAR2 (30)   |          | Application name (also used as the Kafka group name)                                                                                                 |
| VIEW_NAME        | VARCHAR2 (128)  |          | Name of the view associated with the application                                                                                                     |
| MESSAGE_TYPE     | VARCHAR2 (20)   |          | Message type. Possible values: <ul style="list-style-type: none"> <li>• BADFILE</li> <li>• LOGFILE</li> <li>• NETWORK</li> <li>• ROLLBACK</li> </ul> |
| MESSAGE_TS       | TIMESTAMP (6)   |          | Timestamp for when the message was logged                                                                                                            |
| MESSAGE          | VARCHAR2 (4000) |          | Message text                                                                                                                                         |



### Note:

This view is available starting with Oracle Database 23ai.

**See Also:**

"DBMS\_KAFKA\_MESSAGES"

## 7.594 USER\_KAFKA\_OPS

USER\_KAFKA\_OPS describes operations for Oracle SQL Access to Kafka (OSAK) views owned by the current user. Its columns (except for OWNER and CLUSTER\_ID) are the same as those in DBA\_KAFKA\_OPS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- "DBA\_KAFKA\_OPS"
- "DBMS\_KAFKA\_OPS"

## 7.595 USER\_KAFKA\_OPS\_RESULTS

USER\_KAFKA\_OPS\_RESULTS displays the results of operations for Oracle SQL Access to Kafka (OSAK) views owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_KAFKA\_OPS\_RESULTS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

- "DBA\_KAFKA\_OPS\_RESULTS"
- "DBMS\_KAFKA\_OPS\_RESULTS"

## 7.596 USER\_KAFKA\_PARTITIONS

USER\_KAFKA\_PARTITIONS describes partitions for Kafka topics associated with Oracle SQL Access to Kafka (OSAK) views owned by the current user. Its columns (except for OWNER and CLUSTER\_ID) are the same as those in DBA\_KAFKA\_PARTITIONS.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

- ["DBA\\_KAFKA\\_PARTITIONS"](#)
- ["DBMS\\_KAFKA\\_PARTITIONS"](#)

## 7.597 USER\_LIBRARIES

USER\_LIBRARIES describes the libraries owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_LIBRARIES.



### See Also:

["ALL\\_LIBRARIES"](#)

## 7.598 USER\_LOB\_PARTITIONS

USER\_LOB\_PARTITIONS displays the LOB partitions contained in the tables owned by the current user. Its columns are the same as those in ALL\_LOB\_PARTITIONS.



### See Also:

["ALL\\_LOB\\_PARTITIONS"](#)

## 7.599 USER\_LOB\_SUBPARTITIONS

USER\_LOB\_SUBPARTITIONS displays partition-level attributes of the LOB data subpartitions owned by the current user. Its columns are the same as those in ALL\_LOB\_SUBPARTITIONS.

DBA\_LOB\_TEMPLATES describes all LOB subpartition templates in the database.

**See Also:**

["ALL\\_LOB\\_SUBPARTITIONS"](#)

## 7.600 USER\_LOB\_TEMPLATES

USER\_LOB\_TEMPLATES describes the LOB subpartition templates owned by the current user. Its columns (except for USER\_NAME) are the same as those in ALL\_LOB\_TEMPLATES.

**See Also:**

["ALL\\_LOB\\_TEMPLATES"](#)

## 7.601 USER\_LOBS

USER\_LOBS displays the user's CLOBs and BLOBs contained in the user's tables. BFILEs are stored outside the database, so they are not described by this view. This view's columns are the same as those in ALL\_LOBS.

**See Also:**

["ALL\\_LOBS"](#)

## 7.602 USER\_LOG\_GROUP\_COLUMNS

USER\_LOG\_GROUP\_COLUMNS describes columns that are owned by the current user and that are specified in log groups. Its columns are the same as those in ALL\_LOG\_GROUP\_COLUMNS.

**See Also:**

["ALL\\_LOG\\_GROUP\\_COLUMNS"](#)

## 7.603 USER\_LOG\_GROUPS

USER\_LOG\_GROUPS describes log group definitions on tables owned by the current user. Its columns are the same as those in ALL\_LOG\_GROUPS.

**See Also:**

["ALL\\_LOG\\_GROUPS"](#)

## 7.604 USER\_MEASURE\_FOLDER\_CONTENTS

USER\_MEASURE\_FOLDER\_CONTENTS describes the contents of the OLAP measure folders owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_MEASURE\_FOLDER\_CONTENTS.



**See Also:**

"ALL\_MEASURE\_FOLDER\_CONTENTS"

## 7.605 USER\_MEASURE\_FOLDER\_SUBFOLDERS

USER\_MEASURE\_FOLDER\_SUBFOLDERS describes the OLAP measure folders contained within the OLAP measure folders owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_MEASURE\_FOLDER\_SUBFOLDERS.



**See Also:**

"ALL\_MEASURE\_FOLDER\_SUBFOLDERS"

## 7.606 USER\_MEASURE\_FOLDERS

USER\_MEASURE\_FOLDERS describes the OLAP measure folders owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_MEASURE\_FOLDERS.



**See Also:**

"ALL\_MEASURE\_FOLDERS"

## 7.607 USER\_METADATA\_PROPERTIES

USER\_METADATA\_PROPERTIES describes OLAP metadata properties in the current user's schema. Its columns (except for OWNER) are the same as those in ALL\_METADATA\_PROPERTIES.



**See Also:**

"ALL\_METADATA\_PROPERTIES"

## 7.608 USER\_METHOD\_PARAMS

USER\_METHOD\_PARAMS describes the method parameters of the object types owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_METHOD\_PARAMS.



### See Also:

"ALL\_METHOD\_PARAMS"

## 7.609 USER\_METHOD\_RESULTS

USER\_METHOD\_RESULTS describes the method results of the object types owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_METHOD\_RESULTS.



### See Also:

"ALL\_METHOD\_RESULTS"

## 7.610 USER\_MINING\_MODEL\_ATTRIBUTES

USER\_MINING\_MODEL\_ATTRIBUTES describes the machine learning model attributes owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_MINING\_MODEL\_ATTRIBUTES.



### See Also:

"ALL\_MINING\_MODEL\_ATTRIBUTES"

## 7.611 USER\_MINING\_MODEL\_PARTITIONS

USER\_MINING\_MODEL\_PARTITIONS describes the user's own model partitions. Its columns (except OWNER) are the same as those in ALL\_MINING\_MODEL\_PARTITIONS.



### Note:

The USER\_MINING\_MODEL\_PARTITIONS view is available in Oracle Database 12c Release 2 and later.

**See Also:**

["ALL\\_MINING\\_MODEL\\_PARTITIONS"](#)

## 7.612 USER\_MINING\_MODEL\_SETTINGS

USER\_MINING\_MODEL\_SETTINGS describes the machine learning model settings owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_MINING\_MODEL\_SETTINGS.

**See Also:**

["ALL\\_MINING\\_MODEL\\_SETTINGS"](#)

## 7.613 USER\_MINING\_MODEL\_VIEWS

USER\_MINING\_MODEL\_VIEWS describes the user's own model views. Its columns (except OWNER) are the same as those in ALL\_MINING\_MODEL\_VIEWS.

**See Also:**

["ALL\\_MINING\\_MODEL\\_VIEWS"](#)

## 7.614 USER\_MINING\_MODEL\_XFORMS

USER\_MINING\_MODEL\_XFORMS describes the user-specified transformations embedded with the user's own models. Its columns (except OWNER) are the same as those in ALL\_MINING\_MODEL\_XFORMS.

**See Also:**

["ALL\\_MINING\\_MODEL\\_XFORMS"](#)

## 7.615 USER\_MINING\_MODELS

`USER_MINING_MODELS` describes the machine learning models owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_MINING_MODELS`.



### See Also:

["ALL\\_MINING\\_MODELS"](#)

## 7.616 USER\_MLE\_ENV\_IMPORTS

`USER_MLE_ENV_IMPORTS` describes import name to module mappings in the Oracle Database Multilingual Engine (MLE) environments owned by the current user. Its columns (except for `ENV_OWNER`) are the same as those in `ALL_MLE_ENV_IMPORTS`.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

["ALL\\_MLE\\_ENV\\_IMPORTS"](#)

## 7.617 USER\_MLE\_ENVS

`USER_MLE_ENVS` describes the Oracle Database Multilingual Engine (MLE) environments owned by the current user. Its columns (except for `ENV_OWNER`) are the same as those in `ALL_MLE_ENVS`.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

["ALL\\_MLE\\_ENVS"](#)



## 7.618 USER\_MLE\_MODULES

USER\_MLE\_MODULES describes the Oracle Database Multilingual Engine (MLE) modules owned by the current user. Its columns (except for MODULE\_OWNER) are the same as those in ALL\_MLE\_MODULES.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_MLE\_MODULES"

## 7.619 USER\_MLE\_PROCEDURES

USER\_MLE\_PROCEDURES describes the Oracle Database Multilingual Engine (MLE) functions and procedures owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_MLE\_PROCEDURES.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_MLE\_PROCEDURES"

## 7.620 USER\_MVIEW\_AGGREGATES

USER\_MVIEW\_AGGREGATES describes the grouping functions (aggregated measures) that appear in the SELECT list of aggregated materialized views owned by the current user. Its columns are the same as those in ALL\_MVIEW\_AGGREGATES.

**See Also:**

"ALL\_MVIEW\_AGGREGATES"

## 7.621 USER\_MVIEW\_ANALYSIS

USER\_MVIEW\_ANALYSIS describes all materialized views owned by the current user that potentially support query rewrite and that provide additional information for analysis by applications. Its columns are the same as those in ALL\_MVIEW\_ANALYSIS.



### Note:

This view excludes materialized views that reference remote tables or that include references to non-static values such as SYSDATE or USER. This view also excludes materialized views that were created as snapshots before Oracle8i and that were never altered to enable query rewrite.



### See Also:

"ALL\_MVIEW\_ANALYSIS"

## 7.622 USER\_MVIEW\_COMMENTS

USER\_MVIEW\_COMMENTS displays comments on the materialized views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_MVIEW\_COMMENTS.



### See Also:

"ALL\_MVIEW\_COMMENTS"

## 7.623 USER\_MVIEW\_DETAIL\_LOGICAL\_PARTITION

USER\_MVIEW\_DETAIL\_LOGICAL\_PARTITION displays freshness information, with respect to logical partition change tracking (LPCT) detail partitions, for the materialized views owned by the current user. Its columns are the same as those in ALL\_MVIEW\_DETAIL\_LOGICAL\_PARTITION.



### See Also:

"ALL\_MVIEW\_DETAIL\_LOGICAL\_PARTITION"

## 7.624 USER\_MVIEW\_DETAIL\_PARTITION

USER\_MVIEW\_DETAIL\_PARTITION displays freshness information, with respect to partition change tracking (PCT) detail partitions, for the materialized views owned by the current user. Its columns are the same as those in ALL\_MVIEW\_DETAIL\_PARTITION.



### See Also:

"ALL\_MVIEW\_DETAIL\_PARTITION"

## 7.625 USER\_MVIEW\_DETAIL\_RELATIONS

USER\_MVIEW\_DETAIL\_RELATIONS represents the named detail relations that are either in the FROM list of a materialized view, or that are indirectly referenced through views in the FROM list. Its columns are the same as those in ALL\_MVIEW\_DETAIL\_RELATIONS.



### See Also:

"ALL\_MVIEW\_DETAIL\_RELATIONS"

## 7.626 USER\_MVIEW\_DETAIL\_SUBPARTITION

USER\_MVIEW\_DETAIL\_SUBPARTITION displays freshness information, with respect to partition change tracking (PCT) detail subpartitions, for the materialized views owned by the current user. Its columns are the same as those in ALL\_MVIEW\_DETAIL\_SUBPARTITION.



### See Also:

"ALL\_MVIEW\_DETAIL\_SUBPARTITION"

## 7.627 USER\_MVIEW\_JOINS

USER\_MVIEW\_JOINS describes a join between two columns in the WHERE clause of a subquery that defines a materialized view. Its columns are the same as those in ALL\_MVIEW\_JOINS.



### See Also:

"ALL\_MVIEW\_JOINS"

## 7.628 USER\_MVIEW\_KEYS

USER\_MVIEW\_KEYS describes the columns or expressions in the `SELECT` list upon which materialized views in the current user's schema are based. Its columns are the same as those in `ALL_MVIEW_KEYS`.



**See Also:**

["ALL\\_MVIEW\\_KEYS"](#)

## 7.629 USER\_MVIEW\_LOGS

USER\_MVIEW\_LOGS describes all materialized view logs owned by the current user. Its columns are the same as those in `ALL_MVIEW_LOGS`.



**See Also:**

["ALL\\_MVIEW\\_LOGS"](#)

## 7.630 USER\_MVIEW\_REFRESH\_TIMES

USER\_MVIEW\_REFRESH\_TIMES describes refresh times of the materialized views owned by the current user. Its columns are the same as those in `ALL_MVIEW_REFRESH_TIMES`.



**See Also:**

["ALL\\_MVIEW\\_REFRESH\\_TIMES"](#)

## 7.631 USER\_MVIEWS

USER\_MVIEWS describes all materialized views owned by the current user. Its columns are the same as those in `ALL_MVIEWS`.



**See Also:**

["ALL\\_MVIEWS"](#)

## 7.632 USER\_MVREF\_CHANGE\_STATS

USER\_MVREF\_CHANGE\_STATS displays the change data load information on the master tables associated with a refresh run for all the materialized views in the database that are accessible to the current user. Its columns are the same as those in DBA\_MVREF\_CHANGE\_STATS.



### See Also:

"DBA\_MVREF\_CHANGE\_STATS"

## 7.633 USER\_MVREF\_RUN\_STATS

USER\_MVREF\_RUN\_STATS has information about each refresh run for the materialized views accessible for the current database user, with each run being identified by the REFRESH\_ID. The information includes timing statistics related to the run and the parameters specified in that run.

Its columns (except for RUN\_OWNER) are the same as those in DBA\_MVREF\_RUN\_STATS.



### See Also:

"DBA\_MVREF\_RUN\_STATS"

## 7.634 USER\_MVREF\_STATS

USER\_MVREF\_STATS shows the REFRESH\_ID associated with each refresh run of each materialized view for the database that is accessible to the current user. It also provides some basic timing statistics related to that materialized view's refresh in that run.

Its columns (except for MV\_OWNER) are the same as those in DBA\_MVREF\_STATS.



### See Also:

"DBA\_MVREF\_STATS"

## 7.635 USER\_MVREF\_STATS\_PARAMS

USER\_MVREF\_STATS\_PARAMS displays the refresh statistics properties associated with each materialized view accessible to the current user. These properties can be modified with the DBMS\_MVIEW\_STATS.SET\_MVREF\_STATS\_PARAMS procedure.

Its columns are the same as those in DBA\_MVREF\_STATS\_PARAMS.

**See Also:**

["DBA\\_MVREF\\_STATS\\_PARAMS"](#)

## 7.636 USER\_MVREF\_STATS\_SYS\_DEFAULTS

USER\_MVREF\_STATS\_SYS\_DEFAULTS displays the system-wide defaults for the refresh history statistics properties for materialized views accessible to the current user. These values can be altered with the SET\_SYSTEM\_DEFAULTS procedure by a database administrator.

Its columns are the same as those in DBA\_MVREF\_STATS\_SYS\_DEFAULTS.

This view contains exactly two rows corresponding to the collection-level and retention-period properties; their initial values are TYPICAL and 31 respectively.

**See Also:**

["DBA\\_MVREF\\_STATS\\_SYS\\_DEFAULTS"](#)

## 7.637 USER\_MVREF\_STMT\_STATS

USER\_MVREF\_STMT\_STATS shows information associated with each refresh statement of a materialized view accessible to the current user in a refresh run.

Its columns are the same as those in DBA\_MVREF\_STMT\_STATS.

**See Also:**

["DBA\\_MVREF\\_STMT\\_STATS"](#)

## 7.638 USER\_NESTED\_TABLE\_COLS

USER\_NESTED\_TABLE\_COLS describes the columns of the nested tables owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_NESTED\_TABLE\_COLS.

To gather statistics for this view, use the DBMS\_STATS package.

**See Also:**

["ALL\\_NESTED\\_TABLE\\_COLS"](#)

## 7.639 USER\_NESTED\_TABLES

USER\_NESTED\_TABLES describes the nested tables in tables owned by the current user. Its columns are the same as those in ALL\_NESTED\_TABLES.



### See Also:

["ALL\\_NESTED\\_TABLES"](#)

## 7.640 USER\_NETWORK\_ACL\_PRIVILEGES

USER\_NETWORK\_ACL\_PRIVILEGES describes the status of the network privileges for the current user to access network hosts.



### Note:

This USER\_NETWORK\_ACL\_PRIVILEGES view is deprecated in Oracle Database 12c Release 1 (12.1). Oracle recommends that you use the USER\_HOST\_ACES view, instead.

| Column     | Datatype        | NULL     | Description                                                                                  |
|------------|-----------------|----------|----------------------------------------------------------------------------------------------|
| HOST       | VARCHAR2 (1000) | NOT NULL | Network host                                                                                 |
| LOWER_PORT | NUMBER (5)      |          | Lower bound of the port range                                                                |
| UPPER_PORT | NUMBER (5)      |          | Upper bound of the port range                                                                |
| PRIVILEGE  | CHAR (128)      |          | Network privilege                                                                            |
| STATUS     | VARCHAR2 (7)    |          | Privilege status: <ul style="list-style-type: none"><li>• DENIED</li><li>• GRANTED</li></ul> |



### See Also:

["USER\\_HOST\\_ACES"](#)

## 7.641 USER\_OBJ\_AUDIT\_OPTS

USER\_OBJ\_AUDIT\_OPTS describes auditing options on all objects owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_OBJ\_AUDIT\_OPTS.



### Note:

This view is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored and are viewable with this view. See *Oracle Database Security Guide* for more information about how this desupport works.



### See Also:

"DBA\_OBJ\_AUDIT\_OPTS"

## 7.642 USER\_OBJ\_COLATTRS

USER\_OBJ\_COLATTRS describes object columns and attributes contained in the tables owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_OBJ\_COLATTRS.



### See Also:

"ALL\_OBJ\_COLATTRS"

## 7.643 USER\_OBJECT\_SIZE

USER\_OBJECT\_SIZE lists the sizes, in bytes, of various PL/SQL objects. Its columns are the same as those in DBA\_OBJECT\_SIZE.



### See Also:

"DBA\_OBJECT\_SIZE"



## 7.644 USER\_OBJECT\_TABLES

USER\_OBJECT\_TABLES describes the object tables owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_OBJECT\_TABLES.



**See Also:**

"ALL\_OBJECT\_TABLES"

## 7.645 USER\_OBJECT\_USAGE

USER\_OBJECT\_USAGE displays statistics about index usage gathered from the database for the indexes owned by the current user.

You can use this view to monitor index usage. All indexes owned by the current user that have been used at least once can be monitored and displayed in this view. Its columns (except for OWNER) are the same as those in DBA\_OBJECT\_USAGE.



**See Also:**

"DBA\_OBJECT\_USAGE"

## 7.646 USER\_OBJECTS

USER\_OBJECTS describes all objects owned by the current user. Its columns (except for OWNER), are the same as those in ALL\_OBJECTS.



**See Also:**

"ALL\_OBJECTS"

## 7.647 USER\_OBJECTS\_AE

USER\_OBJECTS\_AE describes the objects (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_OBJECTS\_AE.



**See Also:**

"ALL\_OBJECTS\_AE"

## 7.648 USER\_OGG\_AUTO\_CAPTURED\_TABLES

USER\_OGG\_AUTO\_CAPTURED\_TABLES describes the tables owned by the current user that are enabled for Oracle GoldenGate automatic capture. Its columns (except for OWNER) are the same as those in DBA\_OGG\_AUTO\_CAPTURED\_TABLES.



**See Also:**

["DBA\\_OGG\\_AUTO\\_CAPTURED\\_TABLES"](#)

## 7.649 USER\_OPANCILLARY

USER\_OPANCILLARY provides ancillary information for operators owned by the current user. Its columns are the same as those in ALL\_OPANCILLARY.



**See Also:**

["ALL\\_OPANCILLARY"](#)

## 7.650 USER\_OPARGUMENTS

USER\_OPARGUMENTS provides argument information for operator bindings owned by the current user. Its columns are the same as those in ALL\_OPARGUMENTS.



**See Also:**

["ALL\\_OPARGUMENTS"](#)

## 7.651 USER\_OPBINDINGS

USER\_OPBINDINGS describes the binding functions and methods on the operators owned by the current user. Its columns are the same as those in ALL\_OPBINDINGS.



**See Also:**

["ALL\\_OPBINDINGS"](#)

## 7.652 USER\_OPERATOR\_COMMENTS

USER\_OPERATOR\_COMMENTS displays comments for the user-defined operators owned by the current user. Its columns are the same as those in ALL\_OPERATOR\_COMMENTS.



**See Also:**

"ALL\_OPERATOR\_COMMENTS"

## 7.653 USER\_OPERATORS

USER\_OPERATORS describes all operators owned by the current user. Its columns are the same as those in ALL\_OPERATORS.



**See Also:**

"ALL\_OPERATORS"

## 7.654 USER\_OUTLINE\_HINTS

USER\_OUTLINE\_HINTS describes the set of hints stored in the outlines owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_OUTLINE\_HINTS.



**See Also:**

"DBA\_OUTLINE\_HINTS"

## 7.655 USER\_OUTLINES

USER\_OUTLINES describes the stored outlines owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_OUTLINES.



**See Also:**

"DBA\_OUTLINES"

## 7.656 USER\_PARALLEL\_EXECUTE\_CHUNKS

USER\_PARALLEL\_EXECUTE\_CHUNKS displays the chunks for tasks created by the current user. Its columns (except for TASK\_OWNER) are the same as those in DBA\_PARALLEL\_EXECUTE\_CHUNKS.



**See Also:**

["DBA\\_PARALLEL\\_EXECUTE\\_CHUNKS"](#)

## 7.657 USER\_PARALLEL\_EXECUTE\_TASKS

USER\_PARALLEL\_EXECUTE\_TASKS displays the tasks created by the current user. Its columns (except for TASK\_OWNER) are the same as those in DBA\_PARALLEL\_EXECUTE\_TASKS.



**See Also:**

["DBA\\_PARALLEL\\_EXECUTE\\_TASKS"](#)

## 7.658 USER\_PART\_COL\_STATISTICS

USER\_PART\_COL\_STATISTICS displays column statistics and histogram information for the table partitions owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_PART\_COL\_STATISTICS.



**See Also:**

["ALL\\_PART\\_COL\\_STATISTICS"](#)

## 7.659 USER\_PART\_HISTOGRAMS

USER\_PART\_HISTOGRAMS displays the histogram data (endpoints per histogram) for the histograms on the table partitions owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_PART\_HISTOGRAMS.



**See Also:**

["ALL\\_PART\\_HISTOGRAMS"](#)

## 7.660 USER\_PART\_INDEXES

USER\_PART\_INDEXES displays the object-level partitioning information for the partitioned indexes owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_PART\_INDEXES.



### See Also:

"ALL\_PART\_INDEXES"

## 7.661 USER\_PART\_KEY\_COLUMNS

USER\_PART\_KEY\_COLUMNS describes the partitioning key columns for the partitioned objects owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_PART\_KEY\_COLUMNS.



### See Also:

"ALL\_PART\_KEY\_COLUMNS"

## 7.662 USER\_PART\_LOBS

USER\_PART\_LOBS displays table-level information about the partitioned LOBs owned by the current user, including default attributes for LOB data partitions. Its columns (except for TABLE\_OWNER) are the same as those in ALL\_PART\_LOBS.



### See Also:

"ALL\_PART\_LOBS"

## 7.663 USER\_PART\_TABLES

USER\_PART\_TABLES displays the object-level partitioning information for the partitioned tables owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_PART\_TABLES.



### See Also:

"ALL\_PART\_TABLES"

## 7.664 USER\_PARTIAL\_DROP\_TABS

USER\_PARTIAL\_DROP\_TABS describes all tables in the schema of the current user that have partially completed DROP COLUMN operations. Its columns are the same as those in ALL\_PARTIAL\_DROP\_TABS.



### See Also:

["ALL\\_PARTIAL\\_DROP\\_TABS"](#)

## 7.665 USER\_PASSWORD\_LIMITS

USER\_PASSWORD\_LIMITS describes the password profile parameters that are assigned to the user.

| Column        | Datatype      | NULL     | Description                   |
|---------------|---------------|----------|-------------------------------|
| RESOURCE_NAME | VARCHAR2 (32) | NOT NULL | Name of the password resource |
| LIMIT         | VARCHAR2 (40) |          | Value of the resource limit   |

## 7.666 USER\_PENDING\_CONV\_TABLES

USER\_PENDING\_CONV\_TABLES describes the pending conversion tables owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_PENDING\_CONV\_TABLES.



### See Also:

["ALL\\_PENDING\\_CONV\\_TABLES"](#)

## 7.667 USER\_PG\_EDGE\_RELATIONSHIPS

USER\_PG\_EDGE\_RELATIONSHIPS describes edge relationships in the property graphs owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_PG\_EDGE\_RELATIONSHIPS.



### Note:

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_PG\_EDGE\_RELATIONSHIPS"

## 7.668 USER\_PG\_ELEMENT\_LABELS

USER\_PG\_ELEMENT\_LABELS describes labels for the element tables in the property graphs owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_PG\_ELEMENT\_LABELS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_PG\_ELEMENT\_LABELS"

## 7.669 USER\_PG\_ELEMENTS

USER\_PG\_ELEMENTS describes element tables in the property graphs owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_PG\_ELEMENTS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_PG\_ELEMENTS"

## 7.670 USER\_PG\_KEYS

USER\_PG\_KEYS describes key columns in the property graphs owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_PG\_KEYS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_PG\_KEYS"

## 7.671 USER\_PG\_LABEL\_PROPERTIES

USER\_PG\_LABEL\_PROPERTIES describes properties in the property graphs owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_PG\_LABEL\_PROPERTIES.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_PG\_LABEL\_PROPERTIES"

## 7.672 USER\_PG\_LABELS

USER\_PG\_LABELS describes labels in the property graphs owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_PG\_LABELS.

**Note:**

This view is available starting with Oracle Database 23ai.



**See Also:**["ALL\\_PG\\_LABELS"](#)

## 7.673 USER\_PG\_PROP\_DEFINITIONS

USER\_PG\_PROP\_DEFINITIONS describes columns and expressions exposed as properties in the property graphs owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_PG\_PROP\_DEFINITIONS.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**["ALL\\_PG\\_PROP\\_DEFINITIONS"](#)

## 7.674 USER\_PLSQL\_COLL\_TYPES

USER\_PLSQL\_COLL\_TYPES describes the user's own named PL/SQL collection types. Its columns (except for OWNER and CHAR\_USED) are the same as those in ALL\_PLSQL\_COLL\_TYPES.

**See Also:**["ALL\\_PLSQL\\_COLL\\_TYPES"](#)

## 7.675 USER\_PLSQL\_OBJECT\_SETTINGS

USER\_PLSQL\_OBJECT\_SETTINGS displays information about the compiler settings for the stored objects owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_PLSQL\_OBJECT\_SETTINGS.

**See Also:**["ALL\\_PLSQL\\_OBJECT\\_SETTINGS"](#)

## 7.676 USER\_PLSQL\_TYPE\_ATTRS

USER\_PLSQL\_TYPE\_ATTRS describes the attributes of the user's own PL/SQL types. Its columns (except for OWNER and CHAR\_USED) are the same as those in ALL\_PLSQL\_TYPE\_ATTRS.



**See Also:**

"ALL\_PLSQL\_TYPE\_ATTRS"

## 7.677 USER\_PLSQL\_TYPES

USER\_PLSQL\_TYPES describes the user's own PL/SQL types. Its columns (except for OWNER) are the same as those in ALL\_PLSQL\_TYPES.



**See Also:**

"ALL\_PLSQL\_TYPES"

## 7.678 USER\_POLICIES

USER\_POLICIES describes all Oracle Virtual Private Database (VPD) security policies associated with objects owned by the current user. Its columns (except for OBJECT\_OWNER and EDITION\_NAME) are the same as those in ALL\_POLICIES.



**See Also:**

"ALL\_POLICIES"

## 7.679 USER\_POLICY\_ATTRIBUTES

USER\_POLICY\_ATTRIBUTES lists the attribute associations {Namespaces, Attributes} of all context-sensitive and shared-context sensitive Oracle Virtual Private Database (VPD) policies for synonyms, tables, or views owned by the user.

Its columns are the same as those in ALL\_POLICY\_ATTRIBUTES.



**See Also:**

"ALL\_POLICY\_ATTRIBUTES"

## 7.680 USER\_POLICY\_CONTEXTS

USER\_POLICY\_CONTEXTS describes the driving contexts defined for the synonyms, tables, and views owned by the current user. Its columns (except for OBJECT\_OWNER) are the same as those in ALL\_POLICY\_CONTEXTS.



**See Also:**

["ALL\\_POLICY\\_CONTEXTS"](#)

## 7.681 USER\_POLICY\_GROUPS

USER\_POLICY\_GROUPS describes the policy groups defined for the synonyms, tables, and views owned by the current user. Its columns (except for OBJECT\_OWNER) are the same as those in ALL\_POLICY\_GROUPS.



**See Also:**

["ALL\\_POLICY\\_GROUPS"](#)

## 7.682 USER\_PRIVATE\_TEMP\_TABLES

USER\_PRIVATE\_TEMP\_TABLES describes the private temporary tables in the current session. Its columns (except for INST\_ID) are the same as those in DBA\_PRIVATE\_TEMP\_TABLES.



**See Also:**

["DBA\\_PRIVATE\\_TEMP\\_TABLES"](#)

## 7.683 USER\_PRIVILEGE\_MAP

USER\_PRIVILEGE\_MAP shows privilege (auditing option) type codes for object privileges that can be granted on a user.

This table can be used to map privilege type numbers to type names.

| Column    | Datatype      | NULL     | Description                                     |
|-----------|---------------|----------|-------------------------------------------------|
| PRIVILEGE | NUMBER        | NOT NULL | A numeric privilege (auditing option) type code |
| NAME      | VARCHAR2 (40) | NOT NULL | Name of the type of privilege (auditing option) |

## 7.684 USER\_PROCEEDURES

`USER_PROCEEDURES` lists all functions and procedures that are owned by the current user, along with their associated properties. Its columns (except `OWNER`) are the same as those in `ALL_PROCEEDURES`.

### See Also:

- ["ALL\\_PROCEEDURES"](#)
- ["USER\\_ARGUMENTS"](#) for information about the arguments of the functions and procedures owned by the current user

## 7.685 USER\_PROPERTY\_GRAPHs

`USER_PROPERTY_GRAPHs` describes the property graphs owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_PROPERTY_GRAPHs`.

### Note:

This view is available starting with Oracle Database 23ai.

### See Also:

["ALL\\_PROPERTY\\_GRAPHs"](#)

## 7.686 USER\_PROXIES

`USER_PROXIES` displays information about connections the current user is allowed to proxy. Its columns (except for `PROXY`) are the same as those in `DBA_PROXIES`.

### See Also:

["DBA\\_PROXIES"](#)

## 7.687 USER\_QUEUE\_EVENT\_STREAMS

`USER_QUEUE_EVENT_STREAMS` describes the Transactional Event Queue (TxEventQ) event streams owned by the current user. Its columns are the same as those in `ALL_QUEUE_EVENT_STREAMS`.



**See Also:**

["ALL\\_QUEUE\\_EVENT\\_STREAMS"](#)

## 7.688 USER\_QUEUE\_SCHEDULES

`USER_QUEUE_SCHEDULES` describes the propagation schedules whose source queues are owned by the current user. Its columns (except for `SCHEMA`) are the same as those in `ALL_QUEUE_SCHEDULES`.



**See Also:**

["ALL\\_QUEUE\\_SCHEDULES"](#)

## 7.689 USER\_QUEUE\_SUBSCRIBERS

`USER_QUEUE_SUBSCRIBERS` displays the list of subscribers on queues that are under the current user's schema. Its columns (except for `OWNER`) are the same as those in `ALL_QUEUE_SUBSCRIBERS`.



**See Also:**

["ALL\\_QUEUE\\_SUBSCRIBERS"](#)

## 7.690 USER\_QUEUE\_TABLES

`USER_QUEUE_TABLES` describes the queues in the queue tables created in the current user's schema. Its columns (except for `OWNER`) are the same as those in `ALL_QUEUE_TABLES`.



**See Also:**

["ALL\\_QUEUE\\_TABLES"](#)

## 7.691 USER\_QUEUES

USER\_QUEUES describes the operational characteristics of every queue in the user's schema. Its columns (except for OWNER) are the same as those in ALL\_QUEUES.



### See Also:

- ["ALL\\_QUEUES"](#)
- *Oracle Database Advanced Queuing User's Guide* for more information about these views and Advanced Queuing

## 7.692 USER\_RECYCLEBIN

USER\_RECYCLEBIN displays information about the recycle bin owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_RECYCLEBIN.



### See Also:

- ["DBA\\_RECYCLEBIN"](#)

## 7.693 USER\_REFRESH

USER\_REFRESH describes all refresh groups owned by the current user. Its columns are the same as those in ALL\_REFRESH.



### See Also:

- ["ALL\\_REFRESH"](#)

## 7.694 USER\_REFRESH\_CHILDREN

USER\_REFRESH\_CHILDREN lists all the objects in refresh groups owned by the current user. Its columns are the same as those in ALL\_REFRESH\_CHILDREN.



### See Also:

- ["ALL\\_REFRESH\\_CHILDREN"](#)

## 7.695 USER\_REFS

USER\_REFS describes the REF columns and REF attributes in the object type columns of tables owned by the current user. Its columns are the same as those in ALL\_REFS.



**See Also:**

["ALL\\_REFS"](#)

## 7.696 USER\_REGISTERED\_MVIEWS

USER\_REGISTERED\_MVIEWS describes all registered materialized views (registered at a master site or a master materialized view site) owned by the current user. Its columns are the same as those in ALL\_REGISTERED\_MVIEWS.



**See Also:**

["ALL\\_REGISTERED\\_MVIEWS"](#)

## 7.697 USER\_REGISTRY

USER\_REGISTRY displays information about the components owned by the current user that are loaded into the component registry. Its columns are the same as those in DBA\_REGISTRY.



**See Also:**

["DBA\\_REGISTRY"](#)

## 7.698 USER\_RESOURCE\_LIMITS

USER\_RESOURCE\_LIMITS displays the resource limits for the current user.

| Column        | Datatype      | NULL     | Description                   |
|---------------|---------------|----------|-------------------------------|
| RESOURCE_NAME | VARCHAR2 (32) | NOT NULL | Name of the resource          |
| LIMIT         | VARCHAR2 (40) |          | Limit placed on this resource |

## 7.699 USER\_RESUMABLE

USER\_RESUMABLE displays the resumable statements executed by the current user. Its columns (except for USER\_ID) are the same as those in DBA\_RESUMABLE.



**See Also:**

"DBA\_RESUMABLE"

## 7.700 USER\_REWRITE\_EQUIVALENCES

USER\_REWRITE\_EQUIVALENCES describes the rewrite equivalences owned by the current user. Its columns are the same as those in ALL\_REWRITE\_EQUIVALENCES.



**See Also:**

"ALL\_REWRITE\_EQUIVALENCES"

## 7.701 USER\_ROLE\_PRIVS

USER\_ROLE\_PRIVS describes the roles granted to the current user.

| Column          | Datatype       | NULL | Description                                                                                                                                                                                                                                  |
|-----------------|----------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USERNAME        | VARCHAR2 (128) |      | Name of the user, or PUBLIC                                                                                                                                                                                                                  |
| GRANTED_ROLE    | VARCHAR2 (128) |      | Name of the role granted to the user                                                                                                                                                                                                         |
| ADMIN_OPTION    | VARCHAR2 (3)   |      | Indicates whether the grant was with the ADMIN OPTION (YES) or not (NO)                                                                                                                                                                      |
| DELEGATE_OPTION | VARCHAR2 (3)   |      | Indicates whether the grant was with the DELEGATE OPTION (YES) or not (NO)                                                                                                                                                                   |
| DEFAULT_ROLE    | VARCHAR2 (3)   |      | Indicates whether the role is designated as a DEFAULT ROLE for the user (YES) or not (NO)                                                                                                                                                    |
| OS_GRANTED      | VARCHAR2 (3)   |      | Indicates whether the role was granted by the operating system (YES) or not (NO); occurs if the OS_ROLES initialization parameter is true                                                                                                    |
| COMMON          | VARCHAR2 (3)   |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"><li>• YES if the role was granted commonly (CONTAINER=ALL was used)</li><li>• NO if the role was granted locally (CONTAINER=ALL was not used)</li></ul> |
| INHERITED       | VARCHAR2 (3)   |      | Indicates whether the grant was inherited from another container (YES) or not (NO)                                                                                                                                                           |



**See Also:**

["DBA\\_ROLE\\_PRIVS"](#)

## 7.702 USER\_RSRC\_CONSUMER\_GROUP\_PRIVS

USER\_RSRC\_CONSUMER\_GROUP\_PRIVS displays information about the resource consumer groups to which the current user is assigned. Its columns (except for GRANTEE) are the same as those in DBA\_RSRC\_CONSUMER\_GROUP\_PRIVS.

**See Also:**

["DBA\\_RSRC\\_CONSUMER\\_GROUP\\_PRIVS"](#)

## 7.703 USER\_RSRC\_MANAGER\_SYSTEM\_PRIVS

USER\_RSRC\_MANAGER\_SYSTEM\_PRIVS displays information about the users who are granted system privileges for the DBMS\_RESOURCE\_MANAGER package. Its columns (except for GRANTEE) are the same as those in DBA\_RSRC\_MANAGER\_SYSTEM\_PRIVS.

**See Also:**

["DBA\\_RSRC\\_MANAGER\\_SYSTEM\\_PRIVS"](#)

## 7.704 USER\_RULE\_SET\_RULES

USER\_RULE\_SET\_RULES describes the rules in the rule sets owned by the current user. Its columns (except for RULE\_SET\_OWNER) are the same as those in ALL\_RULE\_SET\_RULES.

**See Also:**

["ALL\\_RULE\\_SET\\_RULES"](#)

## 7.705 USER\_RULE\_SETS

USER\_RULE\_SETS describes the rule sets owned by the current user. Its columns (except for RULE\_SET\_OWNER) are the same as those in ALL\_RULE\_SETS.



### See Also:

"ALL\_RULE\_SETS"

## 7.706 USER\_RULES

USER\_RULES describes the rules owned by the current user. Its columns (except for RULE\_OWNER) are the same as those in ALL\_RULES.



### See Also:

"ALL\_RULES"

## 7.707 USER\_SAGA\_BROKERS

USER\_SAGA\_BROKERS displays the saga brokers owned by the current user. Its columns are the same as those in ALL\_SAGA\_BROKERS.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

"ALL\_SAGA\_BROKERS"

## 7.708 USER\_SAGA\_DETAILS

USER\_SAGA\_DETAILS displays details for sagas owned by the current user. Its columns are the same as those in ALL\_SAGA\_DETAILS.



### Note:

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_SAGA\\_DETAILS"](#)

## 7.709 USER\_SAGA\_ERRORS

`USER_SAGA_ERRORS` describes errors generated by the sagas owned by the current user. Its columns are the same as those in `ALL_SAGA_ERRORS`.

This view displays sagas that were either initiated in the current PDB or joined by participants in the current PDB.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_SAGA\\_ERRORS"](#)

## 7.710 USER\_SAGA\_FINALIZATION

`USER_SAGA_FINALIZATION` displays information about pending finalization actions for sagas owned by the current user. Its columns are the same as those in `ALL_SAGA_FINALIZATION`.

This view displays one row for each unique reservable table updated as part of a participant transaction for sagas that were either initiated in the current PDB or joined by participants in the current PDB.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_SAGA\\_FINALIZATION"](#)

## 7.711 USER\_SAGA\_PARTICIPANT\_SET

USER\_SAGA\_PARTICIPANT\_SET displays information about saga participants for sagas owned by the current user. Its columns are the same as those in ALL\_SAGA\_PARTICIPANT\_SET.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_SAGA\\_PARTICIPANT\\_SET"](#)

## 7.712 USER\_SAGA\_PARTICIPANTS

USER\_SAGA\_PARTICIPANTS describes the saga participants owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SAGA\_PARTICIPANTS.

This view displays sagas that were either initiated in the current PDB or joined by participants or coordinators in the current PDB.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

["ALL\\_SAGA\\_PARTICIPANTS"](#)

## 7.713 USER\_SAGA\_PENDING

USER\_SAGA\_PENDING describes the pending sagas owned by the current user. Its columns are the same as those in ALL\_SAGA\_PENDING.

This view displays sagas that were initiated in the current PDB.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_SAGA\_PENDING"

## 7.714 USER\_SAGAS

USER\_SAGAS describes the active sagas owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SAGAS.

This view displays sagas that were either initiated in the current PDB or joined by participants in the current PDB.

**Note:**

This view displays active sagas. Completed sagas are displayed in the USER\_HIST\_SAGAS view.

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"ALL\_SAGAS"

## 7.715 USER\_SCHEDULER\_CHAIN\_RULES

USER\_SCHEDULER\_CHAIN\_RULES displays information about the rules for the chains owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SCHEDULER\_CHAIN\_RULES.

**See Also:**

"ALL\_SCHEDULER\_CHAIN\_RULES"

## 7.716 USER\_SCHEDULER\_CHAIN\_STEPS

USER\_SCHEDULER\_CHAIN\_STEPS displays information about the defined steps of the chains owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SCHEDULER\_CHAIN\_STEPS.



### See Also:

"ALL\_SCHEDULER\_CHAIN\_STEPS"

## 7.717 USER\_SCHEDULER\_CHAINS

USER\_SCHEDULER\_CHAINS displays information about the chains owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SCHEDULER\_CHAINS.



### See Also:

"ALL\_SCHEDULER\_CHAINS"

## 7.718 USER\_SCHEDULER\_CREDENTIALS

USER\_SCHEDULER\_CREDENTIALS displays information about the credentials owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SCHEDULER\_CREDENTIALS.



### Note:

This view is deprecated in favor of the USER\_CREDENTIALS view. Oracle recommends that you use USER\_CREDENTIALS instead. USER\_SCHEDULER\_CREDENTIALS is retained for backward compatibility only.



### See Also:

- "USER\_CREDENTIALS"
- "ALL\_SCHEDULER\_CREDENTIALS"

## 7.719 USER\_SCHEDULER\_DB\_DESTS

USER\_SCHEDULER\_DB\_DESTS displays information about the destination objects owned by the current user pointing to remote databases. Its columns (except for OWNER) are the same as those in ALL\_SCHEDULER\_DB\_DESTS.



### See Also:

"ALL\_SCHEDULER\_DB\_DESTS"

## 7.720 USER\_SCHEDULER\_DESTS

USER\_SCHEDULER\_DESTS displays information about the destination objects for jobs owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SCHEDULER\_DESTS.



### See Also:

"ALL\_SCHEDULER\_DESTS"

## 7.721 USER\_SCHEDULER\_FILE\_WATCHERS

USER\_SCHEDULER\_FILE\_WATCHERS displays information about the Scheduler file watch requests owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SCHEDULER\_FILE\_WATCHERS.



### See Also:

"ALL\_SCHEDULER\_FILE\_WATCHERS"

## 7.722 USER\_SCHEDULER\_GROUP\_MEMBERS

USER\_SCHEDULER\_GROUP\_MEMBERS displays information about the members of the Scheduler object groups owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SCHEDULER\_GROUP\_MEMBERS.



### See Also:

"ALL\_SCHEDULER\_GROUP\_MEMBERS"

## 7.723 USER\_SCHEDULER\_GROUPS

USER\_SCHEDULER\_GROUPS displays information about the Scheduler object groups owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SCHEDULER\_GROUPS.



### See Also:

"ALL\_SCHEDULER\_GROUPS"

## 7.724 USER\_SCHEDULER\_INCOMPAT\_MEMBER

USER\_SCHEDULER\_INCOMPAT\_MEMBER displays all Scheduler incompatibility resource objects members owned by the current user. Its columns are the same as those in ALL\_SCHEDULER\_INCOMPAT\_MEMBER.



### See Also:

"ALL\_SCHEDULER\_INCOMPAT\_MEMBER"

## 7.725 USER\_SCHEDULER\_INCOMPATS

USER\_SCHEDULER\_INCOMPATS displays all Scheduler incompatibility resource objects owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SCHEDULER\_INCOMPATS.



### See Also:

"ALL\_SCHEDULER\_INCOMPATS"

## 7.726 USER\_SCHEDULER\_JOB\_ARGS

USER\_SCHEDULER\_JOB\_ARGS displays information about the arguments of the Scheduler jobs owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SCHEDULER\_JOB\_ARGS.



### See Also:

"ALL\_SCHEDULER\_JOB\_ARGS"



## 7.727 USER\_SCHEDULER\_JOB\_DESTS

USER\_SCHEDULER\_JOB\_DESTS displays information about the state of the jobs owned by the current user at each of their destinations. Its columns (except for OWNER) are the same as those in ALL\_SCHEDULER\_JOB\_DESTS.



### See Also:

"ALL\_SCHEDULER\_JOB\_DESTS"

## 7.728 USER\_SCHEDULER\_JOB\_LOG

USER\_SCHEDULER\_JOB\_LOG displays log information for the Scheduler jobs owned by the current user. Its columns are the same as those in ALL\_SCHEDULER\_JOB\_LOG.



### See Also:

"ALL\_SCHEDULER\_JOB\_LOG"

## 7.729 USER\_SCHEDULER\_JOB\_RUN\_DETAILS

USER\_SCHEDULER\_JOB\_RUN\_DETAILS displays log run details for the Scheduler jobs owned by the current user. Its columns are the same as those in ALL\_SCHEDULER\_JOB\_RUN\_DETAILS.



### See Also:

"ALL\_SCHEDULER\_JOB\_RUN\_DETAILS"

## 7.730 USER\_SCHEDULER\_JOBS

USER\_SCHEDULER\_JOBS displays information about the Scheduler jobs owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SCHEDULER\_JOBS.



### See Also:

"ALL\_SCHEDULER\_JOBS"

## 7.731 USER\_SCHEDULER\_NOTIFICATIONS

USER\_SCHEDULER\_NOTIFICATIONS displays information about the E-mail notifications for the jobs owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SCHEDULER\_NOTIFICATIONS.



**See Also:**

["ALL\\_SCHEDULER\\_NOTIFICATIONS"](#)

## 7.732 USER\_SCHEDULER\_PROGRAM\_ARGS

USER\_SCHEDULER\_PROGRAM\_ARGS displays information about the arguments of the Scheduler programs owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SCHEDULER\_PROGRAM\_ARGS.



**See Also:**

["ALL\\_SCHEDULER\\_PROGRAM\\_ARGS"](#)

## 7.733 USER\_SCHEDULER\_PROGRAMS

USER\_SCHEDULER\_PROGRAMS displays information about the Scheduler programs owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SCHEDULER\_PROGRAMS.



**See Also:**

["ALL\\_SCHEDULER\\_PROGRAMS"](#)

## 7.734 USER\_SCHEDULER\_REMOTE\_JOBSTATE

USER\_SCHEDULER\_REMOTE\_JOBSTATE displays information about the state of the jobs owned by the current user at remote databases. Its columns (except for OWNER) are the same as those in ALL\_SCHEDULER\_REMOTE\_JOBSTATE.



**See Also:**

["ALL\\_SCHEDULER\\_REMOTE\\_JOBSTATE"](#)

## 7.735 USER\_SCHEDULER\_RESOURCES

USER\_SCHEDULER\_RESOURCES displays all scheduler resource objects in the database from the schema of the current user. Its columns (except for OWNER) are the same as those in ALL\_SCHEDULER\_RESOURCES.



### See Also:

["ALL\\_SCHEDULER\\_RESOURCES"](#)

## 7.736 USER\_SCHEDULER\_RSC\_CONSTRAINTS

USER\_SCHEDULER\_RSC\_CONSTRAINTS lists all Oracle Scheduler resource constraint members owned by the current user. Its columns are the same as those in ALL\_SCHEDULER\_RSC\_CONSTRAINTS.



### See Also:

["ALL\\_SCHEDULER\\_RSC\\_CONSTRAINTS"](#)

## 7.737 USER\_SCHEDULER\_RUNNING\_CHAINS

USER\_SCHEDULER\_RUNNING\_CHAINS displays information about the chain steps of the running chains owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SCHEDULER\_RUNNING\_CHAINS.



### See Also:

["ALL\\_SCHEDULER\\_RUNNING\\_CHAINS"](#)

## 7.738 USER\_SCHEDULER\_RUNNING\_JOBS

USER\_SCHEDULER\_RUNNING\_JOBS displays information about the running Scheduler jobs owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SCHEDULER\_RUNNING\_JOBS.



### See Also:

["ALL\\_SCHEDULER\\_RUNNING\\_JOBS"](#)

## 7.739 USER\_SCHEDULER\_SCHEDULES

`USER_SCHEDULER_SCHEDULES` displays information about the Scheduler schedules owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_SCHEDULER_SCHEDULES`.



### See Also:

["ALL\\_SCHEDULER\\_SCHEDULES"](#)

## 7.740 USER\_SCHEMA\_PRIVS

`USER_SCHEMA_PRIVS` describes schema privileges granted to the current user.

| Column       | Datatype       | NULL | Description                                                                                                                                                                                                                                            |
|--------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USERNAME     | VARCHAR2 (128) |      | Name of the user, or <code>PUBLIC</code>                                                                                                                                                                                                               |
| PRIVILEGE    | VARCHAR2 (40)  |      | Schema privilege                                                                                                                                                                                                                                       |
| SCHEMA       | VARCHAR2 (128) |      | Schema on which the privilege was granted                                                                                                                                                                                                              |
| ADMIN_OPTION | VARCHAR2 (3)   |      | Indicates whether the grant was with the <code>ADMIN</code> option (YES) or not (NO)                                                                                                                                                                   |
| COMMON       | VARCHAR2 (3)   |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"><li>• YES if the privilege was granted commonly (CONTAINER=ALL was used)</li><li>• NO if the privilege was granted locally (CONTAINER=ALL was not used)</li></ul> |
| INHERITED    | VARCHAR2 (3)   |      | Indicates whether the grant was inherited from another container (YES) or not (NO)                                                                                                                                                                     |



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

["DBA\\_SCHEMA\\_PRIVS"](#)

## 7.741 USER\_SEC\_RELEVANT\_COLS

USER\_SEC\_RELEVANT\_COLS describes the security relevant columns of the security policies for the tables and views owned by the current user. Its columns (except for OBJECT\_OWNER) are the same as those in ALL\_SEC\_RELEVANT\_COLS.



### See Also:

["ALL\\_SEC\\_RELEVANT\\_COLS"](#)

## 7.742 USER\_SECONDARY\_OBJECTS

USER\_SECONDARY\_OBJECTS provides information about secondary objects associated with domain indexes owned by the current user. Its columns are the same as those in ALL\_SECONDARY\_OBJECTS.

This view is only relevant in the context of domain indexes.



### See Also:

["ALL\\_SECONDARY\\_OBJECTS"](#)

## 7.743 USER\_SEGMENTS

USER\_SEGMENTS describes the storage allocated for the segments owned by the current user's objects. Its columns (except for OWNER, HEADER\_FILE, HEADER\_BLOCK, and RELATIVE\_FNO) are the same as those in DBA\_SEGMENTS.



### See Also:

["DBA\\_SEGMENTS"](#)

## 7.744 USER\_SEQUENCES

USER\_SEQUENCES describes all sequences owned by the current user. Its columns are the same as those in ALL\_SEQUENCES.



### See Also:

["ALL\\_SEQUENCES"](#)

## 7.745 USER\_SODA\_COLLECTIONS

USER\_SODA\_COLLECTIONS describes the Simple Oracle Document Access (SODA) collections owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_SODA\_COLLECTIONS.



**See Also:**

"DBA\_SODA\_COLLECTIONS"

## 7.746 USER\_SOURCE

USER\_SOURCE describes the text source of the stored objects owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SOURCE.



**See Also:**

"ALL\_SOURCE"

## 7.747 USER\_SOURCE\_AE

USER\_SOURCE\_AE describes the text source of the stored objects (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SOURCE\_AE.



**See Also:**

"ALL\_SOURCE\_AE"

## 7.748 USER\_SQL\_TRANSLATION\_PROFILES

USER\_SQL\_TRANSLATION\_PROFILES describes all SQL translation profiles owned by the user. Its columns (except for OWNER) are the same as those in ALL\_SQL\_TRANSLATION\_PROFILES.



**See Also:**

"ALL\_SQL\_TRANSLATION\_PROFILES"

## 7.749 USER\_SQL\_TRANSLATIONS

USER\_SQL\_TRANSLATIONS describes all SQL translations owned by the user. Its columns (except for OWNER) are the same as those in ALL\_SQL\_TRANSLATIONS.



**See Also:**

["ALL\\_SQL\\_TRANSLATIONS"](#)

## 7.750 USER\_SQLJ\_TYPE\_ATTRS

USER\_SQLJ\_TYPE\_ATTRS describes the attributes of the SQLJ object types owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SQLJ\_TYPE\_ATTRS.



**See Also:**

["ALL\\_SQLJ\\_TYPE\\_ATTRS"](#)

## 7.751 USER\_SQLJ\_TYPE\_METHODS

USER\_SQLJ\_TYPE\_METHODS describes the methods of the SQLJ object types owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SQLJ\_TYPE\_METHODS.



**See Also:**

["ALL\\_SQLJ\\_TYPE\\_METHODS"](#)

## 7.752 USER\_SQLJ\_TYPES

USER\_SQLJ\_TYPES describes the SQLJ object types owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SQLJ\_TYPES.



**See Also:**

["ALL\\_SQLJ\\_TYPES"](#)

## 7.753 USER\_SQLSET

USER\_SQLSET displays information about the SQL tuning sets owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SQLSET.



**See Also:**

"ALL\_SQLSET"

## 7.754 USER\_SQLSET\_BINDS

USER\_SQLSET\_BINDS displays the bind values associated with the SQL tuning sets owned by the current user. Its columns (except for SQLSET\_OWNER) are the same as those in ALL\_SQLSET\_BINDS.



**See Also:**

"ALL\_SQLSET\_BINDS"

## 7.755 USER\_SQLSET\_PLANS

USER\_SQLSET\_PLANS describes captured plans for statements in the SQL tuning sets owned by the current user. Its columns (except for SQLSET\_OWNER) are the same as those in ALL\_SQLSET\_PLANS.



**See Also:**

"ALL\_SQLSET\_PLANS"

## 7.756 USER\_SQLSET\_REFERENCES

USER\_SQLSET\_REFERENCES describes whether or not the SQL tuning sets owned by the current user are active. Its columns (except for SQLSET\_OWNER) are the same as those in ALL\_SQLSET\_REFERENCES.



**See Also:**

"ALL\_SQLSET\_REFERENCES"



## 7.757 USER\_SQLSET\_STATEMENTS

USER\_SQLSET\_STATEMENTS displays information about the SQL statements, along with their statistics, that form the SQL tuning sets owned by the current user. Its columns (except for SQLSET\_OWNER) are the same as those in ALL\_SQLSET\_STATEMENTS.



**See Also:**

["ALL\\_SQLSET\\_STATEMENTS"](#)

## 7.758 USER\_SQLTUNE\_BINDS

USER\_SQLTUNE\_BINDS displays the bind values associated with the tuned SQL statements owned by the current user. Its columns are the same as those in DBA\_SQLTUNE\_BINDS.



**See Also:**

["DBA\\_SQLTUNE\\_BINDS"](#)

## 7.759 USER\_SQLTUNE\_PLANS

USER\_SQLTUNE\_PLANS displays information about the execution plans generated for the SQL statements owned by the current user during a SQL tuning session. Its columns are the same as those in DBA\_SQLTUNE\_PLANS.



**See Also:**

["DBA\\_SQLTUNE\\_PLANS"](#)

## 7.760 USER\_SQLTUNE\_RATIONALE\_PLAN

USER\_SQLTUNE\_RATIONALE\_PLAN displays the association between rationales and operations in the execution plan of the SQL statements owned by the current user. Its columns are the same as those in DBA\_SQLTUNE\_RATIONALE\_PLAN.



**See Also:**

["DBA\\_SQLTUNE\\_RATIONALE\\_PLAN"](#)

## 7.761 USER\_SQLTUNE\_STATISTICS

USER\_SQLTUNE\_STATISTICS displays statistics associated with the SQL statements owned by the current user. Its columns are the same as those in DBA\_SQLTUNE\_STATISTICS.



**See Also:**

["DBA\\_SQLTUNE\\_STATISTICS"](#)

## 7.762 USER\_SR\_GRP\_STATUS

USER\_SR\_GRP\_STATUS provides information on the current refresh operations for the current synchronous refresh groups in the database which are owned by the current user. Its columns are the same as those in DBA\_SR\_GRP\_STATUS.



**See Also:**

["DBA\\_SR\\_GRP\\_STATUS"](#)

## 7.763 USER\_SR\_GRP\_STATUS\_ALL

USER\_SR\_GRP\_STATUS\_ALL provides information on the refresh operations on the synchronous refresh groups in the database which are owned by the current user. Its columns are the same as those in DBA\_SR\_GRP\_STATUS\_ALL.



**See Also:**

["DBA\\_SR\\_GRP\\_STATUS\\_ALL"](#)

## 7.764 USER\_SR\_OBJ

USER\_SR\_OBJ provides information on the objects currently registered for synchronous refresh for current groups for the current user. Its columns are the same as those in DBA\_SR\_OBJ.



**See Also:**

["DBA\\_SR\\_OBJ"](#)

## 7.765 USER\_SR\_OBJ\_ALL

USER\_SR\_OBJ\_ALL provides information on the objects registered for synchronous refresh for current and defunct groups for the current user. Its columns are the same as those in DBA\_SR\_OBJ\_ALL.



### See Also:

["DBA\\_SR\\_OBJ\\_ALL"](#)

## 7.766 USER\_SR\_OBJ\_STATUS

USER\_SR\_OBJ\_STATUS provides information on the status of objects registered for synchronous refresh for the current refresh operations for the current synchronous refresh groups in the database which are owned by the current user. Its columns are the same as those in DBA\_SR\_OBJ\_STATUS.



### See Also:

["DBA\\_SR\\_OBJ\\_STATUS"](#)

## 7.767 USER\_SR\_OBJ\_STATUS\_ALL

USER\_SR\_OBJ\_STATUS\_ALL provides information on the status of objects registered for synchronous refresh in the database which are owned by the current user. Its columns are the same as those in DBA\_SR\_OBJ\_STATUS\_ALL.



### See Also:

["DBA\\_SR\\_OBJ\\_STATUS\\_ALL"](#)

## 7.768 USER\_SR\_PARTN\_OPS

USER\_SR\_PARTN\_OPS provides information on the partition operations registered on the base tables of the materialized views registered for synchronous refresh belonging to the current user. Its columns are the same as those in DBA\_SR\_PARTN\_OPS.



### See Also:

["DBA\\_SR\\_PARTN\\_OPS"](#)

## 7.769 USER\_SR\_STLOG\_EXCEPTIONS

USER\_SR\_STLOG\_EXCEPTIONS provides information on the exceptions in the staging logs for the tables belonging to the current user processed by DBMS\_SYNC\_REFRESH.PREPARE\_STAGING\_LOG. Its columns are the same as those in DBA\_SR\_STLOG\_EXCEPTIONS.



### See Also:

["DBA\\_SR\\_STLOG\\_EXCEPTIONS"](#)

## 7.770 USER\_SR\_STLOG\_STATS

USER\_SR\_STLOG\_STATS provides information on the statistics in the staging logs for the tables belonging to the current user processed by DBMS\_SYNC\_REFRESH.PREPARE\_STAGING\_LOG. Its columns are the same as those in DBA\_SR\_STLOG\_STATS.



### See Also:

["DBA\\_SR\\_STLOG\\_STATS"](#)

## 7.771 USER\_STAT\_EXTENSIONS

USER\_STAT\_EXTENSIONS displays information about the optimizer statistics extensions owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_STAT\_EXTENSIONS.



### See Also:

["ALL\\_STAT\\_EXTENSIONS"](#)

## 7.772 USER\_STATEMENTS

USER\_STATEMENTS SQL statements in stored PL/SQL objects accessible to the user. Its columns (except for OWNER) are the same as those in ALL\_STATEMENTS.



### See Also:

["ALL\\_STATEMENTS"](#)

## 7.773 USER\_STORED\_SETTINGS

USER\_STORED\_SETTINGS lists information about the persistent parameter settings for stored PL/SQL units, but only shows information about PL/SQL units owned by the current user.

USER\_STORED\_SETTINGS does not display the OWNER column. The rest of its columns are the same as those in ALL\_STORED\_SETTINGS.



**See Also:**

["ALL\\_STORED\\_SETTINGS"](#)

## 7.774 USER\_SUBPART\_COL\_STATISTICS

USER\_SUBPART\_COL\_STATISTICS provides column statistics and histogram information for subpartitions of subpartitioned objects owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SUBPART\_COL\_STATISTICS.



**See Also:**

["ALL\\_SUBPART\\_COL\\_STATISTICS"](#)

## 7.775 USER\_SUBPART\_HISTOGRAMS

USER\_SUBPART\_HISTOGRAMS lists actual histogram data (end-points per histogram) for histograms on table subpartitions owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_SUBPART\_HISTOGRAMS.



**See Also:**

["ALL\\_SUBPART\\_HISTOGRAMS"](#)

## 7.776 USER\_SUBPART\_KEY\_COLUMNS

USER\_SUBPART\_KEY\_COLUMNS lists subpartitioning key columns for composite-partitioned tables (and local indexes on composite-partitioned tables) owned by the current user. Its columns are the same as those in ALL\_SUBPART\_KEY\_COLUMNS.



**See Also:**

["ALL\\_SUBPART\\_KEY\\_COLUMNS"](#)

## 7.777 USER\_SUBPARTITION\_TEMPLATES

USER\_SUBPARTITION\_TEMPLATES describes the subpartition templates owned by the current user. Its columns (except for USER\_NAME) are the same as those in ALL\_SUBPARTITION\_TEMPLATES.



**See Also:**

"ALL\_SUBPARTITION\_TEMPLATES"

## 7.778 USER\_SUBSCR\_REGISTRATIONS

USER\_SUBSCR\_REGISTRATIONS displays information about the subscription registrations owned by the current user. Its columns are the same as those in DBA\_SUBSCR\_REGISTRATIONS.



**See Also:**

"DBA\_SUBSCR\_REGISTRATIONS"

## 7.779 USER\_SYNONYMS

USER\_SYNONYMS describes the private synonyms (synonyms owned by the current user). Its columns (except for OWNER) are the same as those in ALL\_SYNONYMS.



**See Also:**

"ALL\_SYNONYMS"

## 7.780 USER\_SYS\_PRIVS

USER\_SYS\_PRIVS describes system privileges granted to the current user.

| Column       | Datatype       | NULL | Description                                                             |
|--------------|----------------|------|-------------------------------------------------------------------------|
| USERNAME     | VARCHAR2 (128) |      | Name of the user, or PUBLIC                                             |
| PRIVILEGE    | VARCHAR2 (40)  |      | System privilege                                                        |
| ADMIN_OPTION | VARCHAR2 (3)   |      | Indicates whether the grant was with the ADMIN option (YES) or not (NO) |

| Column    | Datatype     | NULL | Description                                                                                                                                                                                                                                            |
|-----------|--------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMMON    | VARCHAR2 (3) |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"><li>• YES if the privilege was granted commonly (CONTAINER=ALL was used)</li><li>• NO if the privilege was granted locally (CONTAINER=ALL was not used)</li></ul> |
| INHERITED | VARCHAR2 (3) |      | Indicates whether the grant was inherited from another container (YES) or not (NO)                                                                                                                                                                     |

**See Also:**["DBA\\_SYS\\_PRIVS"](#)

## 7.781 USER\_SYS\_PRIVS\_ALL

USER\_SYS\_PRIVS\_ALL describes system privileges and schema privileges granted to the current user.

| Column       | Datatype       | NULL | Description                                                                                                                                                                                                                                            |
|--------------|----------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USERNAME     | VARCHAR2 (128) |      | Name of the user, or PUBLIC                                                                                                                                                                                                                            |
| PRIVILEGE    | VARCHAR2 (40)  |      | Privilege                                                                                                                                                                                                                                              |
| SCHEMA       | VARCHAR2 (128) |      | Schema on which the privilege was granted<br>For system privileges, the value of this column is null.                                                                                                                                                  |
| ADMIN_OPTION | VARCHAR2 (3)   |      | Indicates whether the grant was with the ADMIN option (YES) or not (NO)                                                                                                                                                                                |
| COMMON       | VARCHAR2 (3)   |      | Indicates how the grant was made. Possible values: <ul style="list-style-type: none"><li>• YES if the privilege was granted commonly (CONTAINER=ALL was used)</li><li>• NO if the privilege was granted locally (CONTAINER=ALL was not used)</li></ul> |
| INHERITED    | VARCHAR2 (3)   |      | Indicates whether the grant was inherited from another container (YES) or not (NO)                                                                                                                                                                     |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**["DBA\\_SYS\\_PRIVS\\_ALL"](#)

## 7.782 USER\_TAB\_COL\_STAT\_MODELS

USER\_TAB\_COL\_STAT\_MODELS describes real-time statistics models for all tables owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_TAB\_COL\_STAT\_MODELS.

Real-time statistics models use machine learning algorithms to predict the number of distinct values (NDV) for table columns.



### See Also:

"ALL\_TAB\_COL\_STAT\_MODELS"

## 7.783 USER\_TAB\_COL\_STATISTICS

USER\_TAB\_COL\_STATISTICS contains column statistics and histogram information extracted from USER\_TAB\_COLUMNS.

Its columns (except for OWNER) are the same as those in ALL\_TAB\_COL\_STATISTICS.



### See Also:

- "USER\_TAB\_COLUMNS"
- "ALL\_TAB\_COL\_STATISTICS"

## 7.784 USER\_TAB\_COLS

USER\_TAB\_COLS describes the columns of the tables, views, and clusters owned by the current user.

Its columns (except for OWNER) are the same as those in ALL\_TAB\_COLS.

To gather statistics for this view, use the DBMS\_STATS package.

This view differs from USER\_TAB\_COLUMNS in that system-generated hidden columns are not filtered out.



### See Also:

- "ALL\_TAB\_COLS"
- "USER\_TAB\_COLUMNS"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_STATS package



## 7.785 USER\_TAB\_COLUMNS

`USER_TAB_COLUMNS` describes the columns of the tables, views, and clusters owned by the current user.

Its columns (except for `OWNER`) are the same as those in `ALL_TAB_COLUMNS`.

To gather statistics for this view, use the `DBMS_STATS` package.

This view filters out system-generated hidden columns. The `USER_TAB_COLS` view does not filter out system-generated hidden columns.

### See Also:

- ["ALL\\_TAB\\_COLUMNS"](#)
- ["USER\\_TAB\\_COLS"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_STATS` package

## 7.786 USER\_TAB\_COMMENTS

`USER_TAB_COMMENTS` displays comments on the tables and views owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_TAB_COMMENTS`.

### See Also:

- ["ALL\\_TAB\\_COMMENTS"](#)

## 7.787 USER\_TAB\_HISTGRM\_PENDING\_STATS

`USER_TAB_HISTGRM_PENDING_STATS` describes pending statistics for tables, partitions, and subpartitions owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_TAB_HISTGRM_PENDING_STATS`.

### See Also:

- ["ALL\\_TAB\\_HISTGRM\\_PENDING\\_STATS"](#)

## 7.788 USER\_TAB\_HISTOGRAMS

USER\_TAB\_HISTOGRAMS describes histograms on columns of tables owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_TAB\_HISTOGRAMS.



### See Also:

["ALL\\_TAB\\_HISTOGRAMS"](#)

## 7.789 USER\_TAB\_IDENTITY\_COLS

USER\_TAB\_IDENTITY\_COLS describes all table identity columns. Its columns (except for OWNER) are the same as those in ALL\_TAB\_IDENTITY\_COLS.



### See Also:

["ALL\\_TAB\\_IDENTITY\\_COLS"](#)

## 7.790 USER\_TAB\_MODIFICATIONS

USER\_TAB\_MODIFICATIONS describes modifications to all tables owned by the current user that have been modified since the last time statistics were gathered on the tables. Its columns are the same as those in ALL\_TAB\_MODIFICATIONS.



### Note:

For performance reasons, Oracle Database does not populate this view immediately when the actual modifications occur.



### See Also:

["ALL\\_TAB\\_MODIFICATIONS"](#)

## 7.791 USER\_TAB\_PARTITIONS

USER\_TAB\_PARTITIONS describes partition-level partitioning information, partition storage parameters, and partition statistics generated by the DBMS\_STATS package for all partitions owned by the current user.

Its columns are the same as those in ALL\_TAB\_PARTITIONS.

**See Also:**["ALL\\_TAB\\_PARTITIONS"](#)

## 7.792 USER\_TAB\_PENDING\_STATS

USER\_TAB\_PENDING\_STATS describes pending statistics for tables, partitions, and subpartitions owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_TAB\_PENDING\_STATS.

**See Also:**["ALL\\_TAB\\_PENDING\\_STATS"](#)

## 7.793 USER\_TAB\_PRIVS

USER\_TAB\_PRIVS describes the object grants for which the current user is the object owner, grantor, or grantee. Its columns are the same as those in DBA\_TAB\_PRIVS.

**See Also:**["DBA\\_TAB\\_PRIVS"](#)

## 7.794 USER\_TAB\_PRIVS\_MADE

USER\_TAB\_PRIVS\_MADE describes the object grants for which the current user is the object owner. Its columns (except for OWNER) are the same as those in ALL\_TAB\_PRIVS\_MADE.

**See Also:**["ALL\\_TAB\\_PRIVS\\_MADE"](#)

## 7.795 USER\_TAB\_PRIVS\_RECD

USER\_TAB\_PRIVS\_RECD describes the object grants for which the current user is the grantee. Its columns (except for GRANTEE) are the same as those in ALL\_TAB\_PRIVS\_RECD.

**See Also:**["ALL\\_TAB\\_PRIVS\\_RECD"](#)

## 7.796 USER\_TAB\_STAT\_PREFS

USER\_TAB\_STAT\_PREFS displays information about statistics preferences for the tables owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_TAB\_STAT\_PREFS.



**See Also:**

["ALL\\_TAB\\_STAT\\_PREFS"](#)

## 7.797 USER\_TAB\_STATISTICS

USER\_TAB\_STATISTICS displays optimizer statistics for the tables owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_TAB\_STATISTICS.



**See Also:**

["ALL\\_TAB\\_STATISTICS"](#)

## 7.798 USER\_TAB\_STATS\_HISTORY

USER\_TAB\_STATS\_HISTORY provides a history of table statistics modifications for all tables owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_TAB\_STATS\_HISTORY.



**See Also:**

["ALL\\_TAB\\_STATS\\_HISTORY"](#)

## 7.799 USER\_TAB\_SUBPARTITIONS

USER\_TAB\_SUBPARTITIONS describes, for each table subpartition owned by the current user, the subpartition name, name of the table and partition to which it belongs, and its storage attributes. Its columns are the same as those in ALL\_TAB\_SUBPARTITIONS.



**See Also:**

["ALL\\_TAB\\_SUBPARTITIONS"](#)

## 7.800 USER\_TABLE\_ACCESS\_STATS

USER\_TABLE\_ACCESS\_STATS displays the scan count for tables and partitions owned by the current user. Its columns (except for TABLE\_OWNER) are the same as those in ALL\_TABLE\_ACCESS\_STATS.

### Note:

The ALL\_TABLE\_ACCESS\_STATS and DBA\_TABLE\_ACCESS\_STATS views do not display data for Oracle-maintained schemas. You can view data for an Oracle-maintained schema by connecting to the schema and querying the USER\_TABLE\_ACCESS\_STATS view.

### See Also:

- ["ALL\\_TABLE\\_ACCESS\\_STATS"](#)
- ["DBA\\_TABLE\\_ACCESS\\_STATS"](#)

## 7.801 USER\_TABLE\_VIRTUAL\_COLUMNS

USER\_TABLE\_VIRTUAL\_COLUMNS describes virtual columns in tables owned by the current user. Its columns are the same as those in ALL\_TABLE\_VIRTUAL\_COLUMNS.

### See Also:

["ALL\\_TABLE\\_VIRTUAL\\_COLUMNS"](#)

## 7.802 USER\_TABLES

USER\_TABLES describes the relational tables owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_TABLES.

To gather statistics for this view, use the DBMS\_STATS package.

### See Also:

["ALL\\_TABLES"](#)

## 7.803 USER\_TABLESPACES

USER\_TABLESPACES describes the tablespaces accessible to the current user. Its columns (except for PLUGGED\_IN) are the same as those in DBA\_TABLESPACES.



**See Also:**

"DBA\_TABLESPACES"

## 7.804 USER\_TRANSFORMATIONS

USER\_TRANSFORMATIONS displays information about the transformations owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_TRANSFORMATIONS.



**See Also:**

"ALL\_TRANSFORMATIONS"

## 7.805 USER\_TRIGGER\_COLS

USER\_TRIGGER\_COLS describes the use of columns in the triggers owned by the current user and in triggers on tables owned by the current user. Its columns are the same as those in ALL\_TRIGGER\_COLS.



**See Also:**

"ALL\_TRIGGER\_COLS"

## 7.806 USER\_TRIGGER\_ORDERING

USER\_TRIGGER\_ORDERING describes the triggers owned by the current user that have FOLLOWS or PRECEDES ordering. Its columns (except for TRIGGER\_OWNER) are the same as those in ALL\_TRIGGER\_ORDERING.



**See Also:**

"ALL\_TRIGGER\_ORDERING"

## 7.807 USER\_TRIGGERS

USER\_TRIGGERS describes the triggers owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_TRIGGERS.



**See Also:**

"ALL\_TRIGGERS"

## 7.808 USER\_TRIGGERS\_AE

USER\_TRIGGERS\_AE describes the triggers (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_TRIGGERS\_AE.



**See Also:**

"ALL\_TRIGGERS\_AE"

## 7.809 USER\_TS\_QUOTAS

USER\_TS\_QUOTAS contains information about tablespace quotas for the current user. Its columns (except for USERNAME) are the same as those in DBA\_TS\_QUOTAS.



**See Also:**

"DBA\_TS\_QUOTAS"

## 7.810 USER\_TSTZ\_TAB\_COLS

USER\_TSTZ\_TAB\_COLS displays information about the columns of the tables owned by the current user, which have columns defined on `TIMESTAMP WITH TIME ZONE` data types or object types containing attributes of `TIMESTAMP WITH TIME ZONE` data types.

Its columns (except for OWNER, COLUMN\_NAME, NESTED, VIRTUAL\_COLUMN, SCALAR\_COLUMN, and UNUSED\_COLUMN) are the same as those in ALL\_TSTZ\_TAB\_COLS.



**See Also:**

"ALL\_TSTZ\_TAB\_COLS"

## 7.811 USER\_TSTZ\_TABLES

USER\_TSTZ\_TABLES displays information about the tables owned by the current user, which have columns defined on `TIMESTAMP WITH TIME ZONE` data types or object types containing attributes of `TIMESTAMP WITH TIME ZONE` data types.

Its columns (except for `OWNER`) are the same as those in `ALL_TSTZ_TABLES`.



### See Also:

["ALL\\_TSTZ\\_TABLES"](#)

## 7.812 USER\_TUNE\_MVIEW

USER\_TUNE\_MVIEW displays the result of executing the `DBMS_ADVISOR.TUNE_MVIEW` procedure. Its columns (except for `OWNER`) are the same as those in `DBA_TUNE_MVIEW`.



### See Also:

["DBA\\_TUNE\\_MVIEW"](#)

## 7.813 USER\_TXEVENTQ\_MIGRATION\_STATUS

USER\_TXEVENTQ\_MIGRATION\_STATUS provides information about migrations from AQ classic queues to Transactional Event Queues (TxEventQs) owned by the current user. Its columns (except for `SOURCE_SCHEMA_NAME`) are the same as those in `ALL_TXEVENTQ_MIGRATION_STATUS`.



### Note:

This view is available starting with Oracle Database 23ai.



### See Also:

["ALL\\_TXEVENTQ\\_MIGRATION\\_STATUS"](#)



## 7.814 USER\_TYPE\_ATTRS

USER\_TYPE\_ATTRS describes the attributes of the object types owned by the current user. Its columns (except for OWNER and CHAR\_USED) are the same as those in ALL\_TYPE\_ATTRS.



**See Also:**

["ALL\\_TYPE\\_ATTRS"](#)

## 7.815 USER\_TYPE\_METHODS

USER\_TYPE\_METHODS describes the methods of the object types owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_TYPE\_METHODS.



**See Also:**

["ALL\\_TYPE\\_METHODS"](#)

## 7.816 USER\_TYPE\_VERSIONS

USER\_TYPE\_VERSIONS describes the versions of the object types owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_TYPE\_VERSIONS.



**See Also:**

["ALL\\_TYPE\\_VERSIONS"](#)

## 7.817 USER\_TYPES

USER\_TYPES describes the object types owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_TYPES.



**See Also:**

["ALL\\_TYPES"](#)

## 7.818 USER\_UNUSED\_COL\_TABS

USER\_UNUSED\_COL\_TABS describes the tables owned by the current user that contain unused columns. Its columns (except for OWNER) are the same as those in ALL\_UNUSED\_COL\_TABS.



### See Also:

["ALL\\_UNUSED\\_COL\\_TABS"](#)

## 7.819 USER\_UPDATABLE\_COLUMNS

USER\_UPDATABLE\_COLUMNS describes columns in a join view that can be updated by the current user, subject to appropriate privileges. Its columns are the same as those in ALL\_UPDATABLE\_COLUMNS.



### See Also:

- ["ALL\\_UPDATABLE\\_COLUMNS"](#)
- *Oracle Database Concepts* for information on updatable join views

## 7.820 USER\_USERS

USER\_USERS describes the current user.

| Column   | Datatype       | NULL     | Description           |
|----------|----------------|----------|-----------------------|
| USERNAME | VARCHAR2 (128) | NOT NULL | Name of the user      |
| USER_ID  | NUMBER         | NOT NULL | ID number of the user |

| Column         | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------|---------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACCOUNT_STATUS | VARCHAR2 (32) | NOT NULL | <p><b>Account status:</b></p> <ul style="list-style-type: none"> <li>• OPEN<br/>The account is open.</li> <li>• EXPIRED<br/>The password for the account is expired, either because the PASSWORD_LIFE_TIME limit was reached or because the password was expired by the ALTER USER ... PASSWORD EXPIRE command. The user can log in with the expired password, then change the password.</li> <li>• EXPIRED (GRACE)<br/>The password for the account is expired because the PASSWORD_LIFE_TIME limit was reached, but the password change grace period (PASSWORD_GRACE_TIME) has not yet elapsed. The user can log in with the expired password, but will receive an ORA-28002 warning as a reminder that the password must soon be changed. If the PASSWORD_GRACE_TIME elapses, the user can log in with the expired password, then change the password.</li> <li>• LOCKED<br/>The account is locked, either by the ALTER USER ... ACCOUNT LOCK command, or because the number of consecutive failed login attempts exceeded the FAILED_LOGIN_ATTEMPTS limit and the value of PASSWORD_LOCK_TIME is UNLIMITED. The account can be unlocked by the ALTER USER ... ACCOUNT UNLOCK command.</li> <li>• LOCKED (TIMED)<br/>The account is locked because the number of consecutive failed login attempts exceeded the FAILED_LOGIN_ATTEMPTS limit and the PASSWORD_LOCK_TIME has not yet elapsed. The account can be unlocked either by the ALTER USER ... ACCOUNT UNLOCK command or by waiting until the PASSWORD_LOCK_TIME has elapsed.</li> <li>• EXPIRED &amp; LOCKED<br/>The password for the account is expired, as described for the EXPIRED account status, and the account is locked as described for the LOCKED account status. The account can first be unlocked as described for the LOCKED account status, then the password can be changed as described for the EXPIRED account status.</li> <li>• EXPIRED (GRACE) &amp; LOCKED<br/>The password for the account is expired, as described for the EXPIRED (GRACE) account status, and the account is locked as described for the LOCKED account status. The account can first be unlocked as described for the LOCKED account status, then the password can be changed as described for the EXPIRED (GRACE) account status.</li> <li>• EXPIRED &amp; LOCKED (TIMED)<br/>The password for the account is expired, as described for the EXPIRED account status, and the</li> </ul> |

| Column | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------|----------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |          |      | <p>account is locked as described for the <code>LOCKED (TIMED)</code> account status. The account can first be unlocked as described for the <code>LOCKED (TIMED)</code> account status, then the password can be changed as described for the <code>EXPIRED</code> account status.</p> <ul style="list-style-type: none"> <li>• <code>EXPIRED (GRACE) &amp; LOCKED (TIMED)</code><br/> The password for the account is expired, as described for the <code>EXPIRED (GRACE)</code> account status, and the account is locked as described for the <code>LOCKED (TIMED)</code> account status. The account can first be unlocked as described for the <code>LOCKED (TIMED)</code> account status, then the password can be changed as described for the <code>EXPIRED (GRACE)</code> account status.</li> <li>• <code>OPEN &amp; IN ROLLOVER</code><br/> The account is in the password rollover period. The user can log in with either the earlier password or the new password. However, at the time the user logs in, the server recalculates whether the account is still in its password rollover period. If the password rollover period has elapsed, then the login will succeed only if the new password was specified, and the account status will change to <code>OPEN</code>.</li> <li>• <code>EXPIRED &amp; IN ROLLOVER</code><br/> The account is in the password rollover period and the password is expired as described for the <code>EXPIRED</code> account status. The user can log in with either the earlier password or the new password. However, at the time the user logs in, the server recalculates whether the account is still in its password rollover period. If the password rollover period has elapsed, then the login will succeed only if the new password was specified, and the account status will change to <code>EXPIRED</code>. After logging in, the user will be prompted to change the password.</li> <li>• <code>LOCKED &amp; IN ROLLOVER</code><br/> The account is in the password rollover period and is also locked as described for the <code>LOCKED</code> account status. The account can be unlocked as described for the <code>LOCKED</code> account status, after which the user can log in as described for the <code>OPEN &amp; IN ROLLOVER</code> account status.</li> <li>• <code>EXPIRED &amp; LOCKED &amp; IN ROLLOVER</code><br/> The account is in the password rollover period, its password is expired as described for the <code>EXPIRED</code> account status, and the account is locked as described for the <code>LOCKED</code> account status. The account can be unlocked as described for the <code>LOCKED</code> account status, after which the user can log in as described for the <code>EXPIRED &amp; IN ROLLOVER</code> account status.</li> <li>• <code>LOCKED (TIMED) &amp; IN ROLLOVER</code><br/> The account is in the password rollover period and is also locked as described for the</li> </ul> |

| Column                      | Datatype        | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------|-----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             |                 |          | <p>LOCKED (TIMED) account status. The account can be unlocked as described for the LOCKED (TIMED) account status, after which the user can log in with either the earlier password or the new password. However, at the time the user logs in, the server recalculates whether the account is still in its password rollover period. If the password rollover period has elapsed, then the login will succeed only if the new password was specified.</p> <ul style="list-style-type: none"> <li>• EXPIRED &amp; LOCKED (TIMED) &amp; IN ROL</li> </ul> <p>The account is in the password rollover period, its password is expired as described for the EXPIRED account status, and the account is locked as described for the LOCKED (TIMED) account status. The account can be unlocked as described for the LOCKED (TIMED) account status, after which the user can log in as described for the EXPIRED &amp; IN ROLLOVER account status.</p> |
| LOCK_DATE                   | DATE            |          | Date the account was locked if account status was LOCKED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EXPIRY_DATE                 | DATE            |          | Date of expiration of the account                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| DEFAULT_TABLESPACE          | VARCHAR2 (30)   | NOT NULL | Default tablespace for data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TEMPORARY_TABLESPACE        | VARCHAR2 (30)   | NOT NULL | Name of the default tablespace for temporary tables or the name of a tablespace group                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| LOCAL_TEMP_TABLESPACE       | VARCHAR2 (30)   |          | Default local temporary tablespace for the user                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CREATED                     | DATE            | NOT NULL | User creation date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| INITIAL_RSRC_CONSUMER_GROUP | VARCHAR2 (128)  |          | Initial resource consumer group for the user                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EXTERNAL_NAME               | VARCHAR2 (4000) |          | User external name. For centrally managed users, if the database user mapping is an exclusive mapping, then this will be the directory service DN for the user. If this database user is a shared schema, it will be the DN of a group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PROXY_ONLY_CONNECT          | VARCHAR2 (1)    |          | <p>Indicates whether a user can connect directly (N) or whether the account can only be proxied (Y) by users who have proxy privileges for this account (that is, by users who have been granted the "connect through" privilege for this account).</p> <p><b>Note:</b> Setting PROXY_ONLY_CONNECT for users is deprecated in this release, and may be desupported in a future release. Oracle recommends that you instead use schema-only accounts. For more information about schema-only accounts, see <i>Oracle Database Security Guide</i>.</p>                                                                                                                                                                                                                                                                                                                                                                                             |
| COMMON                      | VARCHAR2 (3)    |          | <p>Indicates whether a given user is common. Possible values</p> <ul style="list-style-type: none"> <li>• YES if a user is common</li> <li>• NO if a user is local (not common)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Column                      | Datatype       | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------|----------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORACLE_MAINTAINED           | VARCHAR2 (1)   |      | Denotes whether the user was created, and is maintained, by Oracle-supplied scripts (such as catalog.sql or catproc.sql). A user for which this column has the value Y must not be changed in any way except by running an Oracle-supplied script.                                                                                                                                                                                                                                                                |
| INHERITED                   | VARCHAR2 (3)   |      | Indicates whether the user definition was inherited from another container (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                      |
| DEFAULT_COLLATION           | VARCHAR2 (100) |      | Default collation for the user's schema                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IMPLICIT                    | VARCHAR2 (3)   |      | Indicates whether this user is a common user created by an implicit application (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                 |
| ALL_SHARD                   | VARCHAR2 (3)   |      | <p>In a sharded database, the value in this column indicates whether the user was created with shard DDL enabled. The possible values are:</p> <ul style="list-style-type: none"> <li>YES: The user was created with shard DDL enabled. The user exists on all shards and the shard catalog.</li> <li>NO: The user was created without shard DDL enabled. The user exists only in the database in which the user was created.</li> </ul> <p>In a non-sharded database, the value in this column is always NO.</p> |
| EXTERNAL_SHARD              | VARCHAR2 (3)   |      | <p>In a federated sharded database, the value in this column indicates whether the user is an external shard user (YES) or not (NO).</p> <p>In other types of databases, the value in this column is always NO.</p>                                                                                                                                                                                                                                                                                               |
| PASSWORD_CHANGE_DATE        | DATE           |      | <p>Date on which the user's password was last set</p> <p>This column is populated only when the value of the AUTHENTICATION_TYPE column is PASSWORD. Otherwise, this column is null.</p>                                                                                                                                                                                                                                                                                                                          |
| MANDATORY_PROFILE_VIOLATION | VARCHAR2 (3)   |      | <p>If the value in this column is YES, then the user account password violates the mandatory profile password complexity requirements and must be changed before the grace period expires.</p> <p>Otherwise, the value in this column is NO.</p>                                                                                                                                                                                                                                                                  |
| PROTECTED                   | VARCHAR2 (3)   |      | <p>Indicates whether the user is a protected user (YES) or not (NO)</p> <p>A protected user can be managed only by another protected user or a common user.</p>                                                                                                                                                                                                                                                                                                                                                   |
| READ_ONLY                   | VARCHAR2 (3)   |      | Indicates whether write privileges for the user are disabled (YES) or enabled (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                |
| DICTIONARY_PROTECTED        | VARCHAR2 (3)   |      | <p>Indicates whether the user's schema is dictionary protected (YES) or not (NO)</p> <p><b>See Also:</b> <i>Oracle Database Security Guide</i> for more information about dictionary-protected schemas</p>                                                                                                                                                                                                                                                                                                        |

**See Also:**

- ["DBA\\_USERS"](#)
- *Oracle Globally Distributed Database Guide* for more information about sharded database management

## 7.821 USER\_USTATS

USER\_USTATS describes the user-defined statistics collected on the tables and indexes owned by the current user. Its columns are the same as those in ALL\_USTATS.

**See Also:**

["ALL\\_USTATS"](#)

## 7.822 USER\_VARRAYS

USER\_VARRAYS describes the varrays owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_VARRAYS.

**See Also:**

["ALL\\_VARRAYS"](#)

## 7.823 USER\_VIEWS

USER\_VIEWS describes the views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_VIEWS.

**See Also:**

["ALL\\_VIEWS"](#)

## 7.824 USER\_VIEWS\_AE

USER\_VIEWS\_AE describes the views (across all editions) owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_VIEWS\_AE.



**See Also:**

["ALL\\_VIEWS\\_AE"](#)

## 7.825 USER\_WALLET\_ACES

USER\_WALLET\_ACES describes the status of access control entries for the current user to access wallets through PL/SQL network utility packages.

Its columns (except for ACE\_ORDER, START\_DATE, END\_DATE, GRANT\_TYPE, INVERTED\_PRINCIPAL, PRINCIPAL, PRINCIPAL\_TYPE, and STATUS) are the same as those in DBA\_WALLET\_ACES.



**See Also:**

["DBA\\_WALLET\\_ACES"](#)

## 7.826 USER\_WARNING\_SETTINGS

USER\_WARNING\_SETTINGS displays information about the warning parameter settings for the objects owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_WARNING\_SETTINGS.



**See Also:**

["ALL\\_WARNING\\_SETTINGS"](#)

## 7.827 USER\_XML\_INDEXES

USER\_XML\_INDEXES describes the XML indexes owned by the current user. Its columns (except for INDEX\_OWNER) are the same as those in ALL\_XML\_INDEXES.



**See Also:**

["ALL\\_XML\\_INDEXES"](#)



## 7.828 USER\_XML\_NESTED\_TABLES

`USER_XML_NESTED_TABLES` describes all the tables and their corresponding nested tables owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_XML_NESTED_TABLES`.



**See Also:**

["ALL\\_XML\\_NESTED\\_TABLES"](#)

## 7.829 USER\_XML\_OUT\_OF\_LINE\_TABLES

`USER_XML_OUT_OF_LINE_TABLES` describes all the out of line tables connected to a given root table for the same schema owned by the current user. Its columns (except for `TABLE_OWNER`) are the same as those in `ALL_XML_OUT_OF_LINE_TABLES`.



**See Also:**

["ALL\\_XML\\_OUT\\_OF\\_LINE\\_TABLES"](#)

## 7.830 USER\_XML\_SCHEMA\_ATTRIBUTES

`USER_XML_SCHEMA_ATTRIBUTES` describes all the attributes and their properties owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_XML_SCHEMA_ATTRIBUTES`.



**See Also:**

["ALL\\_XML\\_SCHEMA\\_ATTRIBUTES"](#)

## 7.831 USER\_XML\_SCHEMA\_COMPLEX\_TYPES

`USER_XML_SCHEMA_COMPLEX_TYPES` describes all complex types owned by the current user. Its columns (except for `OWNER`) are the same as those in `ALL_XML_SCHEMA_COMPLEX_TYPES`.



**See Also:**

["ALL\\_XML\\_SCHEMA\\_COMPLEX\\_TYPES"](#)

## 7.832 USER\_XML\_SCHEMA\_ELEMENTS

USER\_XML\_SCHEMA\_ELEMENTS describes all the elements and their properties owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_XML\_SCHEMA\_ELEMENTS.



**See Also:**

["ALL\\_XML\\_SCHEMA\\_ELEMENTS"](#)

## 7.833 USER\_XML\_SCHEMA\_NAMESPACES

USER\_XML\_SCHEMA\_NAMESPACES describes all the available namespaces owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_XML\_SCHEMA\_NAMESPACES.



**See Also:**

["ALL\\_XML\\_SCHEMA\\_NAMESPACES"](#)

## 7.834 USER\_XML\_SCHEMA\_SIMPLE\_TYPES

USER\_XML\_SCHEMA\_SIMPLE\_TYPES describes all simple types owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_XML\_SCHEMA\_SIMPLE\_TYPES.



**See Also:**

["ALL\\_XML\\_SCHEMA\\_SIMPLE\\_TYPES"](#)

## 7.835 USER\_XML\_SCHEMA\_SUBSTGRP\_HEAD

USER\_XML\_SCHEMA\_SUBSTGRP\_HEAD describes the heads of substitution groups owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_XML\_SCHEMA\_SUBSTGRP\_HEAD.



**See Also:**

["ALL\\_XML\\_SCHEMA\\_SUBSTGRP\\_HEAD"](#)

## 7.836 USER\_XML\_SCHEMA\_SUBSTGRP\_MBRs

USER\_XML\_SCHEMA\_SUBSTGRP\_MBRs describes all members of substitution groups owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_XML\_SCHEMA\_SUBSTGRP\_MBRs.



**See Also:**

"ALL\_XML\_SCHEMA\_SUBSTGRP\_MBRs"

## 7.837 USER\_XML\_SCHEMAS

USER\_XML\_SCHEMAS describes the registered XML schemas owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_XML\_SCHEMAS.



**See Also:**

"ALL\_XML\_SCHEMAS"

## 7.838 USER\_XML\_TAB\_COLS

USER\_XML\_TAB\_COLS describes the columns of the XML tables owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_XML\_TAB\_COLS.



**See Also:**

"ALL\_XML\_TAB\_COLS"

## 7.839 USER\_XML\_TABLES

USER\_XML\_TABLES describes the XML tables owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_XML\_TABLES.



**See Also:**

"ALL\_XML\_TABLES"

## 7.840 USER\_XML\_VIEW\_COLS

USER\_XML\_VIEW\_COLS describes the columns of the XML views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_XML\_VIEW\_COLS.



**See Also:**

["ALL\\_XML\\_VIEW\\_COLS"](#)

## 7.841 USER\_XML\_VIEWS

USER\_XML\_VIEWS describes the XML views owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_XML\_VIEWS.



**See Also:**

["ALL\\_XML\\_VIEWS"](#)

## 7.842 USER\_XTERNAL\_LOC\_PARTITIONS

USER\_XTERNAL\_LOC\_PARTITIONS describes partition-level locations owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_XTERNAL\_LOC\_PARTITIONS.



**See Also:**

["ALL\\_XTERNAL\\_LOC\\_PARTITIONS"](#)

## 7.843 USER\_XTERNAL\_LOC\_SUBPARTITIONS

USER\_XTERNAL\_LOC\_SUBPARTITIONS describes subpartition-level locations owned by the current user. Its columns (except for TABLE\_OWNER) are the same as those in ALL\_XTERNAL\_LOC\_SUBPARTITIONS.



**See Also:**

["ALL\\_XTERNAL\\_LOC\\_SUBPARTITIONS"](#)

## 7.844 USER\_XTERNAL\_PART\_TABLES

USER\_XTERNAL\_PART\_TABLES describes object-level information for partitioned external tables owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_XTERNAL\_PART\_TABLES.



### See Also:

["ALL\\_XTERNAL\\_PART\\_TABLES"](#)

## 7.845 USER\_XTERNAL\_TAB\_PARTITIONS

USER\_XTERNAL\_TAB\_PARTITIONS describes partition-level information for partitioned external tables owned by the current user. Its columns (except for TABLE\_OWNER) are the same as those in ALL\_XTERNAL\_TAB\_PARTITIONS.



### See Also:

["ALL\\_XTERNAL\\_TAB\\_PARTITIONS"](#)

## 7.846 USER\_XTERNAL\_TAB\_SUBPARTITIONS

USER\_XTERNAL\_TAB\_SUBPARTITIONS describes subpartition-level information for partitioned external tables owned by the current user. Its columns (except for TABLE\_OWNER) are the same as those in ALL\_XTERNAL\_TAB\_SUBPARTITIONS.



### See Also:

["ALL\\_XTERNAL\\_TAB\\_SUBPARTITIONS"](#)

## 7.847 USER\_ZONEMAP\_MEASURES

USER\_ZONEMAP\_MEASURES describes the measures for all the zone maps owned by the user. Its columns are the same as those in ALL\_ZONEMAP\_MEASURES.



### Note:

This view is intended for use with Oracle Exadata release 12.1.2.1.1 or later.

**See Also:**

- ["ALL\\_ZONEMAP\\_MEASURES"](#)
- *Oracle Database Data Warehousing Guide* for more information about zone maps

## 7.848 USER\_ZONEMAPS

USER\_ZONEMAPS describes the zone maps owned by the user. Its columns are the same as those in ALL\_ZONEMAPS.

**Note:**

This view is intended for use with Oracle Exadata release 12.1.2.1.1 or later.

**See Also:**

- ["ALL\\_ZONEMAPS"](#)
- *Oracle Database Data Warehousing Guide* for more information about zone maps

# Part III

## Dynamic Performance Views

This part describes the dynamic performance views, which are often referred to as `V$` views.

This part contains the following chapters:

- [Dynamic Performance \(V\\$\) Views: V\\$ACCESS to V\\$HVMaster\\_Info](#)
- [Dynamic Performance \(V\\$\) Views: V\\$IM\\_COLUMN\\_LEVEL to V\\$RULE\\_SET\\_AGGREGATE\\_STATS](#)
- [Dynamic Performance \(V\\$\) Views: V\\$SCHEDULER\\_IN\\_MEMORY\\_TRACE to V\\$ZONEMAP\\_USAGE\\_STATS](#)



### Note:

Oracle also maintains tables and views that change only when a change is made to the data dictionary. These **static** tables and views are described in [Static Data Dictionary Views](#).



### Note:

A multitenant container database is the only supported architecture in Oracle Database 21c and later releases. While the documentation is being revised, legacy terminology may persist. In most cases, "database" and "non-CDB" refer to a CDB or PDB, depending on context. In some contexts, such as upgrades, "non-CDB" refers to a non-CDB from a previous release.

# 8

## Dynamic Performance (V\$) Views: V\$ACCESS to V\$HVMMASTER\_INFO

This chapter describes the first set (in alphabetical order) of dynamic performance views.

The remaining dynamic performance views appear in alphabetical order in [Dynamic Performance \(V\\$\) Views: V\\$IM\\_COLUMN\\_LEVEL to V\\$RULE\\_SET\\_AGGREGATE\\_STATS](#) through [Dynamic Performance \(V\\$\) Views: V\\$SCHEDULER\\_IN\\_MEMORY\\_TRACE to V\\$ZONEMAP\\_USAGE\\_STATS](#).

This chapter contains the following topics:

- [About Dynamic Performance Views](#)
- [Oracle Exadata Database Machine Views](#)
- [Dynamic Performance View Descriptions](#)

### 8.1 About Dynamic Performance Views

Oracle contains a set of underlying views that are maintained by the database server and accessible to the database administrator user `SYS`. These views are called **dynamic performance views** because they are continuously updated while a database is open and in use, and their contents relate primarily to performance.

Although these views appear to be regular database tables, they are not. These views provide data on internal disk structures and memory structures. You can select from these views, but you can never update or alter them.

#### Note:

- You can query the dynamic performance views to extract information from them. However, only simple queries are supported. If sorts, joins, `GROUP BY` clauses and the like are needed, then you should copy the information from each `V$` view into a table (for example, using a `CREATE TABLE ... AS SELECT` statement), and then query from those tables.
- Because the information in the `V$` views is dynamic, read consistency is not guaranteed for `SELECT` operations on these views.

The `catalog.sql` script contains definitions of the views and public synonyms for the dynamic performance views. You must run `catalog.sql` to create these views and synonyms. After installation, only user `SYS` or anyone with `SYSDBA` privilege has access to the dynamic performance tables. See *Oracle Database Administrator's Guide* for more information about running `catalog.sql`.



## 8.1.1 V\$ Views

The actual dynamic performance views are identified by the prefix `v_`. Public synonyms for these views have the prefix `v$`. Database administrators and other users should access only the `v$` objects, not the `v_` objects.

The dynamic performance views are used by Oracle Enterprise Manager, which is the primary interface for accessing information about system performance. After an instance is started, the `v$` views that read from memory are accessible. Views that read data from disk require that the database be mounted, and some require that the database be open.

`V$` views are `CONTAINER_DATA` objects. When a user connected to the root queries a `V$` view, the query results will depend on the `CONTAINER_DATA` attribute for users for the view. The `CONTAINER_DATA` clause of the `SQL ALTER USER` statement is used to set and modify users' `CONTAINER_DATA` attribute.

`V$` views can return data from different containers in a CDB when queried from the root container. These objects will implicitly convert data to the character set of the root container (AL32UTF8) and then return the result to the user. Some character sets may have character expansion (more bytes needed to represent a character) when converted to AL32UTF8, so there may be data truncation if the view column width is not able to accommodate data from a given PDB.

### See Also:

- *Oracle Database Security Guide* for more information about container data objects
- *Oracle Database SQL Language Reference* for more information about the `CONTAINER_DATA` clause for the `SQL ALTER USER` statement

## 8.1.2 GV\$ Views

For almost every `v$` view described in this chapter, Oracle has a corresponding `GV$` (global `v$`) view. In Oracle Real Application Clusters, querying a `GV$` view retrieves the `v$` view information from all qualified instances. In addition to the `v$` information, each `GV$` view contains an extra column named `INST_ID` of data type `NUMBER`. The `INST_ID` column displays the instance number from which the associated `v$` view information was obtained. The `INST_ID` column can be used as a filter to retrieve `v$` information from a subset of available instances. For example, the following query retrieves the information from the `V$LOCK` view on instances 2 and 5:

```
SQL> SELECT * FROM GV$LOCK WHERE INST_ID = 2 OR INST_ID = 5;
```

### See Also:

*Oracle Real Application Clusters Installation and Configuration Guide* for your operating system

GV\$ views are `CONTAINER_DATA` objects. When a user connected to the root queries a GV\$ view, the query results will depend on the `CONTAINER_DATA` attribute for users for the view. The `CONTAINER_DATA` clause of the SQL `ALTER USER` statement is used to set and modify users' `CONTAINER_DATA` attribute.

GV\$ views can return data from different containers in a CDB when queried from the root container. These objects will implicitly convert data to the character set of the root container (AL32UTF8) and then return the result to the user. Some character sets may have character expansion (more bytes needed to represent a character) when converted to AL32UTF8, so there may be data truncation if the view column width is not able to accommodate data from a given PDB.

 **See Also:**

- *Oracle Database Security Guide* for more information about container data objects
- *Oracle Database SQL Language Reference* for more information about the `CONTAINER_DATA` clause for the SQL `ALTER USER` statement

## 8.2 Oracle Exadata Database Machine Views

Descriptions of Oracle Exadata Database Machine views are not provided in this manual.

See *Oracle Exadata System Software User's Guide* for descriptions of Oracle Exadata Database Machine views.

 **Note:**

Oracle Exadata Database Machine view names begin with `V$CELL`.

## 8.3 Dynamic Performance View Descriptions

The remainder of this chapter describes the dynamic performance views in alphabetical order.

## 8.4 V\$ACCESS

`V$ACCESS` displays information about locks that are currently imposed on library cache objects.

The locks are imposed to ensure that they are not aged out of the library cache while they are required for SQL execution.

| Column | Datatype        | Description                                |
|--------|-----------------|--------------------------------------------|
| SID    | NUMBER          | Session number that is accessing an object |
| OWNER  | VARCHAR2 (64)   | Owner of the object                        |
| OBJECT | VARCHAR2 (1000) | Name of the object                         |
| TYPE   | VARCHAR2 (64)   | Type identifier for the object             |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire multitenant container database (CDB). This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.5 V\$ACTIVE\_INSTANCES

V\$ACTIVE\_INSTANCES displays the mapping between instance names and instance numbers for all instances that have the database currently mounted.

| Column      | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INST_NUMBER | NUMBER         | Instance number                                                                                                                                                                                                                                                                                                                                                                                                                             |
| INST_NAME   | VARCHAR2 (256) | Instance name                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID      | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.6 V\$ACTIVE\_SERVICES

V\$ACTIVE\_SERVICES displays information about the active services in the database.

| Column             | Datatype       | Description                                                                                                                                                                                                                                                                                      |
|--------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SERVICE_ID         | NUMBER         | Service ID                                                                                                                                                                                                                                                                                       |
| NAME               | VARCHAR2 (64)  | Name of the service                                                                                                                                                                                                                                                                              |
| NAME_HASH          | NUMBER         | Service name hash                                                                                                                                                                                                                                                                                |
| NETWORK_NAME       | VARCHAR2 (512) | Network name                                                                                                                                                                                                                                                                                     |
| CREATION_DATE      | DATE           | Creation date                                                                                                                                                                                                                                                                                    |
| CREATION_DATE_HASH | NUMBER         | Creation date hash                                                                                                                                                                                                                                                                               |
| GOAL               | VARCHAR2 (12)  | Runtime Load Balancing Goal being used to create run-time load balancing and connection load balancing advice: <ul style="list-style-type: none"><li>NONE</li><li>SERVICE_TIME - Connections are balanced by response time</li><li>THROUGHPUT - Connections are balanced by throughput</li></ul> |

| Column                    | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTP                       | VARCHAR2 (1)   | Indicates whether or not Distributed Transaction Processing is enabled for this service. When Distributed Transaction Processing is set to <code>Y</code> (YES), it means that the service is offered at exactly one instance at a time for XA affinity. Possible values: <ul style="list-style-type: none"> <li><code>Y</code> - YES</li> <li><code>N</code> - NO</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                          |
| BLOCKED                   | CHAR (2)       | Indicates whether a service on the specified instance is blocked from accepting new connections altogether (YES) or not (NO). If a service is blocked, then all connections will be directed to other instances (if any) that are hosting the desired service.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| AQ_HA_NOTIFICATION        | VARCHAR2 (3)   | Indicates whether FAN - Fast Application Notification for OCI connections is set (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CLB_GOAL                  | VARCHAR2 (5)   | Connection load balancing goal used with statistics that are sent to the listeners to determine how new connections are distributed: <ul style="list-style-type: none"> <li><code>LONG</code></li> <li><code>SHORT</code></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| COMMIT_OUTCOME            | VARCHAR2 (3)   | For Transaction Guard and Database Native Transaction Guard, indicates whether the database service associated with the user session has the <code>COMMIT_OUTCOME</code> service attribute enabled (YES) or not (NO). This attribute applies on a per session basis and is set at connect time. <p>When the value of this column is <code>YES</code>, the commit status is managed for all supported transaction types and the outcome of a <code>COMMIT</code> transaction is preserved after the <code>COMMIT</code> has executed. Refer to the <code>COMMIT_OUTCOME_FASTPATH</code> column to view the preferred method for preserving the commit outcome.</p> <p><b>See Also:</b> <i>Oracle Database Development Guide</i> for information about preserving the commit outcome</p> |
| RETENTION_TIME            | NUMBER         | For Transaction Guard and Database Native Transaction Guard, when <code>COMMIT_OUTCOME = YES</code> , this value indicates the amount of time (in seconds) that the commit outcome is retained in the database.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| REPLAY_INITIATION_TIMEOUT | NUMBER         | For Application Continuity, this option specifies the difference between the time (in seconds) of original execution of the first operation of a request and the time that the replay is ready to start after a successful reconnect. Application Continuity will not replay after the specified amount of time has passed. This option is intended to avoid the unintentional execution of a transaction when a system is recovered after a long period of time. The default is 5 minutes (300 seconds).                                                                                                                                                                                                                                                                              |
| SESSION_STATE_CONSISTENCY | VARCHAR2 (128) | Describes how non-transactional is changed during a request. This parameter is considered only if <code>failover_type</code> is set to <code>TRANSACTION</code> for Application Continuity. Examples of session state are NLS settings, optimizer preferences, event settings, PL/SQL global variables, temporary tables, advanced queues, LOBs, and result cache. If non-transactional values change after the request starts, the default value of <code>DYNAMIC</code> should be set. Almost all applications should use <code>DYNAMIC</code> mode. If you are unsure, use <code>DYNAMIC</code> mode.                                                                                                                                                                               |
| GLOBAL                    | VARCHAR2 (3)   | Indicates whether the service is global. A global service is managed by Global Service Manager (GSM) and can be provided by multiple databases that contain replicated data. Possible values: <ul style="list-style-type: none"> <li><code>YES</code>: Indicates the service is global</li> <li><code>NO</code>: Indicates the service is not global</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Column                  | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_NAME                | VARCHAR2 (128) | Container name of the object. The value of this column is NULL in non-CDBs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SQL_TRANSLATION_PROFILE | VARCHAR2 (261) | A non-NULL value specifies the initial SQL translation profile for subsequent database connections that use the service and do not specify a SQL translation profile. A NULL value has no effect.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| MAX_LAG_TIME            | VARCHAR2 (128) | The maximum replication lag (in seconds) that is acceptable for a data replica to be used for providing the database service. Can only be specified for global services.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| STOP_OPTION             | VARCHAR2 (128) | Stop option for sessions of this service for planned maintenance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FAILOVER_RESTORE        | VARCHAR2 (128) | Indicates whether sessions recover their commonly used session state (like NLS, schema) when they are failed over with TAF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| DRAIN_TIMEOUT           | NUMBER         | Number of seconds to wait for sessions to be drained                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TABLE_FAMILY_ID         | NUMBER         | Sharded table family ID associated with the service                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PLACEMENT_TEMPLATE      | VARCHAR2 (64)  | Reserved for future use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| COMMIT_OUTCOME_FASTPATH | VARCHAR2 (3)   | <p>For Transaction Guard and Database Native Transaction Guard, when COMMIT_OUTCOME = YES, the value of this column indicates the preferred method for preserving the commit outcome. Possible values:</p> <ul style="list-style-type: none"> <li>YES - Database Native Transaction Guard is used. Each transaction is assigned a unique transaction identifier (DB XID) in the database. The DB XID and status of the corresponding transaction are maintained persistently in a transaction table. Note that if COMMIT_OUTCOME = YES, then the value of COMMIT_OUTCOME_FASTPATH defaults to YES.</li> <li>NO - Transaction Guard is used. A logical transaction ID (LTXID) is set for each user session at login and at each successful commit. LTXIDs are used only when the commit is not in the same round-trip to the database as the start of the transaction. Moreover, some transaction types, such as commit on success transactions, DDL transactions, and PL/SQL transactions, will continue to use LTXIDs in the same round-trip. When Transaction Guard is used, the outcome of a COMMIT transaction is known. If there is an outage, the application can use DBMS_APP_CONT.GET_LTXID_OUTCOME to return a reliable status for the last in-flight work.</li> </ul> <p><b>See Also:</b> <i>Oracle Real Application Clusters Administration and Deployment Guide</i> for information about logical transaction IDs</p> |
| TRUE_CACHE_SERVICE      | VARCHAR2 (64)  | True Cache service associated with this database service                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID                  | NUMBER         | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## 8.7 V\$ACTIVE\_SESS\_POOL\_MTH

V\$ACTIVE\_SESS\_POOL\_MTH displays available active session pool resource allocation methods.

| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME   | VARCHAR2 (40) | Name of the active session pool resource allocation method                                                                                                                                                                                                                                                                                                                                                                                      |
| CON_ID | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.8 V\$ACTIVE\_SESSION\_HISTORY

V\$ACTIVE\_SESSION\_HISTORY displays sampled session activity in the database.

It contains snapshots of active database sessions taken once a second. A database session is considered active if it was on the CPU or was waiting for an event that didn't belong to the `Idle` wait class. Refer to the V\$EVENT\_NAME view for more information on wait classes.

This view contains one row for each active session per sample and returns the latest session sample rows first. A majority of the columns describing the session in the active session history are present in the V\$SESSION view.

| Column           | Datatype      | Description                                                                                                                                          |
|------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| SAMPLE_ID        | NUMBER        | ID of the sample                                                                                                                                     |
| SAMPLE_TIME      | TIMESTAMP (3) | Time at which the sample was taken                                                                                                                   |
| SAMPLE_TIME_UTC  | TIMESTAMP (3) | Time at which the sample was taken in UTC (Coordinated Universal Time) time zone                                                                     |
| USECS_PER_ROW    | NUMBER        | Time in microseconds since the last sample was taken                                                                                                 |
| IS_AWR_SAMPLE    | VARCHAR2 (1)  | Indicates whether this sample has been flushed or will be flushed to the Automatic Workload Repository (DBA_HIST_ACTIVE_SESS_HISTORY) (Y) or not (N) |
| SESSION_ID       | NUMBER        | Session identifier; maps to V\$SESSION.SID                                                                                                           |
| SESSION_SERIAL#  | NUMBER        | Session serial number (used to uniquely identify a session's objects); maps to V\$SESSION.SERIAL#                                                    |
| SESSION_TYPE     | VARCHAR2 (10) | Session type: <ul style="list-style-type: none"> <li>BACKGROUND</li> <li>BACKGROUND</li> </ul>                                                       |
| FLAGS            | NUMBER        | Reserved for future use                                                                                                                              |
| USER_ID          | NUMBER        | Oracle user identifier; maps to V\$SESSION.USER#                                                                                                     |
| SQL_ID           | VARCHAR2 (13) | SQL identifier of the SQL statement that the session was executing at the time of sampling                                                           |
| IS_SQLID_CURRENT | VARCHAR2 (1)  | Indicates whether the SQL identifier in the SQL_ID column is being executed (Y) or not (N)                                                           |
| SQL_CHILD_NUMBER | NUMBER        | Child number of the SQL statement that the session was executing at the time of sampling                                                             |

| Column                     | Datatype      | Description                                                                                                                                                                                                                  |
|----------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQL_OPCODE                 | NUMBER        | Indicates what phase of operation the SQL statement was in; maps to V\$SESSION.COMMAND<br><br><b>See Also:</b> "V\$SESSION" for information on interpreting this column                                                      |
| SQL_OPNAME                 | VARCHAR2 (64) | SQL command name                                                                                                                                                                                                             |
| FORCE_MATCHING_SIGNATURE   | NUMBER        | Signature used when the CURSOR_SHARING parameter is set to FORCE                                                                                                                                                             |
| TOP_LEVEL_SQL_ID           | VARCHAR2 (13) | SQL identifier of the top level SQL statement                                                                                                                                                                                |
| TOP_LEVEL_SQL_OPCODE       | NUMBER        | Indicates what phase of operation the top level SQL statement was in                                                                                                                                                         |
| SQL_ADAPTIVE_PLAN_RESOLVED | NUMBER        | Indicates whether the SQL plan of the sampled database session is a resolved adaptive plan or not                                                                                                                            |
| SQL_FULL_PLAN_HASH_VALUE   | NUMBER        | Numerical representation of the complete SQL plan for the cursor being executed by this session                                                                                                                              |
| SQL_PLAN_HASH_VALUE        | NUMBER        | Numeric representation of the SQL plan for the cursor. This information might not be available for all session samples. V\$SESSION does not contain this information.                                                        |
| SQL_PLAN_LINE_ID           | NUMBER        | SQL plan line ID                                                                                                                                                                                                             |
| SQL_PLAN_OPERATION         | VARCHAR2 (30) | Plan operation name                                                                                                                                                                                                          |
| SQL_PLAN_OPTIONS           | VARCHAR2 (30) | Plan operation options                                                                                                                                                                                                       |
| SQL_EXEC_ID                | NUMBER        | SQL execution identifier                                                                                                                                                                                                     |
| SQL_EXEC_START             | DATE          | Time when the execution of the SQL started                                                                                                                                                                                   |
| PLSQL_ENTRY_OBJECT_ID      | NUMBER        | Object ID of the top-most PL/SQL subprogram on the stack; NULL if there is no PL/SQL subprogram on the stack. Maps to DBA_OBJECTS.OBJECT_ID.                                                                                 |
| PLSQL_ENTRY_SUBPROGRAM_ID  | NUMBER        | Subprogram ID of the top-most PL/SQL subprogram on the stack. Maps to DBA_OBJECTS.DATA_OBJECT_ID.                                                                                                                            |
| PLSQL_OBJECT_ID            | NUMBER        | Object ID of the currently executing PL/SQL subprogram. Maps to DBA_OBJECTS.OBJECT_ID.                                                                                                                                       |
| PLSQL_SUBPROGRAM_ID        | NUMBER        | Subprogram ID of the currently executing PL/SQL object; NULL if executing SQL. Maps to DBA_OBJECTS.DATA_OBJECT_ID.                                                                                                           |
| QC_INSTANCE_ID             | NUMBER        | Query coordinator instance ID. This information is only available if the sampled session is a parallel query worker. For all other sessions, the value is 0.                                                                 |
| QC_SESSION_ID              | NUMBER        | Query coordinator session ID. This information is only available if the sampled session is a parallel query worker. For all other sessions, the value is 0.                                                                  |
| QC_SESSION_SERIAL#         | NUMBER        | Query coordinator session serial number. This information is only available if the sampled session is a parallel query worker. For all other sessions, the value is 0.                                                       |
| PX_FLAGS                   | NUMBER        | Reserved for internal use                                                                                                                                                                                                    |
| EVENT                      | VARCHAR2 (64) | If SESSION_STATE = WAITING, then the event for which the session was waiting for at the time of sampling.<br>If SESSION_STATE = ON CPU, then this column is NULL.<br><br><b>See Also:</b> <a href="#">Oracle Wait Events</a> |
| EVENT_ID                   | NUMBER        | Identifier of the resource or event for which the session is waiting or for which the session last waited. Interpretation is similar to that of the EVENT column.                                                            |

| Column                   | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EVENT#                   | NUMBER        | Number of the resource or event for which the session is waiting or for which the session last waited. Interpretation is similar to that of the <code>EVENT</code> column.                                                                                                                                                                                                                                                                                                                                                                          |
| SEQ#                     | NUMBER        | Sequence number that uniquely identifies the wait (incremented for each wait)                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| P1TEXT                   | VARCHAR2 (64) | Text of the first additional parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| P1                       | NUMBER        | First additional parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| P2TEXT                   | VARCHAR2 (64) | Text of the second additional parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| P2                       | NUMBER        | Second additional parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| P3TEXT                   | VARCHAR2 (64) | Text of the third additional parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| P3                       | NUMBER        | Third additional parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| WAIT_CLASS               | VARCHAR2 (64) | Wait class name of the event for which the session was waiting at the time of sampling. Interpretation is similar to that of the <code>EVENT</code> column. Maps to <code>V\$SESSION.WAIT_CLASS</code> .                                                                                                                                                                                                                                                                                                                                            |
| WAIT_CLASS_ID            | NUMBER        | Wait class identifier of the event for which the session was waiting at the time of sampling. Interpretation is similar to that of the <code>EVENT</code> column. Maps to <code>V\$SESSION.WAIT_CLASS_ID</code> .                                                                                                                                                                                                                                                                                                                                   |
| WAIT_TIME                | NUMBER        | Total wait time for the event for which the session last waited if the session was on the CPU when sampled; 0 if the session was waiting at the time of sampling<br><br><b>Note:</b> Whether or not <code>WAIT_TIME = 0</code> is what is useful to find the <code>SESSION_STATE</code> at the time of sampling, rather than the actual value of <code>WAIT_TIME</code> itself. Maps to <code>V\$SESSION.WAIT_TIME</code> .                                                                                                                         |
| SESSION_STATE            | VARCHAR2 (7)  | Session state: <ul style="list-style-type: none"> <li>• WAITING</li> <li>• ON CPU</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TIME_WAITED              | NUMBER        | If <code>SESSION_STATE = WAITING</code> , then the time that the session actually spent waiting for that event (in microseconds). This column is set for waits that were in progress at the time the sample was taken.<br><br>If a wait event lasted for more than a second and was caught waiting in more than one session sample row, then the actual time spent waiting for that wait event will be populated in the last of those session sample rows. At any given time, this information will not be available for the latest session sample. |
| BLOCKING_SESSION_STATUS  | VARCHAR2 (11) | Status of the blocking session: <ul style="list-style-type: none"> <li>• VALID</li> <li>• NO HOLDER</li> <li>• GLOBAL</li> <li>• NOT IN WAIT</li> <li>• UNKNOWN</li> </ul>                                                                                                                                                                                                                                                                                                                                                                          |
| BLOCKING_SESSION         | NUMBER        | Session identifier of the blocking session. Populated only if the blocker is on the same instance and the session was waiting for enqueues or a "buffer busy" wait. Maps to <code>V\$SESSION.BLOCKING_SESSION</code> .                                                                                                                                                                                                                                                                                                                              |
| BLOCKING_SESSION_SERIAL# | NUMBER        | Serial number of the blocking session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| BLOCKING_INST_ID         | NUMBER        | Instance number of the blocker shown in <code>BLOCKING_SESSION</code>                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| BLOCKING_HANGCHAIN_INFO  | VARCHAR2 (1)  | Indicates whether the information about <code>BLOCKING_SESSION</code> comes from the hang chain (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                      |



| Column               | Datatype      | Description                                                                                                                                                                                                                        |
|----------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CURRENT_OBJ#         | NUMBER        | Object ID of the object that the session is referencing. This information is only available if the session was waiting for application, cluster, concurrency, and user I/O wait events. Maps to V\$SESSION.ROW_WAIT_OBJ#.          |
| CURRENT_FILE#        | NUMBER        | File number of the file containing the block that the session is referencing. This information is only available if the session was waiting for cluster, concurrency, and user I/O wait events. Maps to V\$SESSION.ROW_WAIT_FILE#. |
| CURRENT_BLOCK#       | NUMBER        | ID of the block that the session is referencing. This information is only available if the session was waiting for cluster, concurrency, and user I/O wait events. Maps to V\$SESSION.ROW_WAIT_BLOCK#.                             |
| CURRENT_ROW#         | NUMBER        | Row identifier that the session is referencing. This information is only available if the session was waiting for cluster, concurrency, and user I/O wait events. Maps to V\$SESSION.ROW_WAIT_ROW#.                                |
| TOP_LEVEL_CALL#      | NUMBER        | Oracle top level call number                                                                                                                                                                                                       |
| TOP_LEVEL_CALL_NAME  | VARCHAR2 (64) | Oracle top level call name                                                                                                                                                                                                         |
| CONSUMER_GROUP_ID    | NUMBER        | Consumer group ID                                                                                                                                                                                                                  |
| XID                  | RAW (8)       | Transaction ID that the session was working on at the time of sampling. V\$SESSION does not contain this information.                                                                                                              |
| REMOTE_INSTANCE#     | NUMBER        | Remote instance identifier that will serve the block that this session is waiting for. This information is only available if the session was waiting for cluster events.                                                           |
| TIME_MODEL           | NUMBER        | Time model information                                                                                                                                                                                                             |
| IN_CONNECTION_MGMT   | VARCHAR2 (1)  | Indicates whether the session was doing connection management at the time of sampling (Y) or not (N)                                                                                                                               |
| IN_PARSE             | VARCHAR2 (1)  | Indicates whether the session was parsing at the time of sampling (Y) or not (N)                                                                                                                                                   |
| IN_HARD_PARSE        | VARCHAR2 (1)  | Indicates whether the session was hard parsing at the time of sampling (Y) or not (N)                                                                                                                                              |
| IN_SQL_EXECUTION     | VARCHAR2 (1)  | Indicates whether the session was executing SQL statements at the time of sampling (Y) or not (N)                                                                                                                                  |
| IN_PLSQL_EXECUTION   | VARCHAR2 (1)  | Indicates whether the session was executing PL/SQL at the time of sampling (Y) or not (N)                                                                                                                                          |
| IN_PLSQL_RPC         | VARCHAR2 (1)  | Indicates whether the session was executing inbound PL/SQL RPC calls at the time of sampling (Y) or not (N)                                                                                                                        |
| IN_PLSQL_COMPILATION | VARCHAR2 (1)  | Indicates whether the session was compiling PL/SQL at the time of sampling (Y) or not (N)                                                                                                                                          |
| IN_JAVA_EXECUTION    | VARCHAR2 (1)  | Indicates whether the session was executing Java at the time of sampling (Y) or not (N)                                                                                                                                            |
| IN_BIND              | VARCHAR2 (1)  | Indicates whether the session was doing bind operations at the time of sampling (Y) or not (N)                                                                                                                                     |
| IN_CURSOR_CLOSE      | VARCHAR2 (1)  | Indicates whether the session was closing a cursor at the time of sampling (Y) or not (N)                                                                                                                                          |
| IN_SEQUENCE_LOAD     | VARCHAR2 (1)  | Indicates whether the session is loading in sequence (in sequence load code) (Y) or not (N)                                                                                                                                        |
| IN_INMEMORY_QUERY    | VARCHAR2 (1)  | Indicates whether the session was querying the In-Memory Column Store (IM column store) at the time of sampling (Y) or not (N)                                                                                                     |

| Column                      | Datatype      | Description                                                                                                                                                             |
|-----------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IN_INMEMORY_POPULATE        | VARCHAR2 (1)  | Indicates whether the session was populating the IM column store at the time of sampling (Y) or not (N)                                                                 |
| IN_INMEMORY_PREPOPULATE     | VARCHAR2 (1)  | Indicates whether the session was prepopulating the IM column store at the time of sampling (Y) or not (N)                                                              |
| IN_INMEMORY_REPOPULATE      | VARCHAR2 (1)  | Indicates whether the session was repopulating the IM column store at the time of sampling (Y) or not (N)                                                               |
| IN_INMEMORY_TREPOPULATE     | VARCHAR2 (1)  | Indicates whether the session was trickle repopulating the IM column store at the time of sampling (Y) or not (N)                                                       |
| IN_TABLESPACE_ENCRYPTION    | VARCHAR2 (1)  | Indicates whether encryption or decryption of a tablespace occurred at the time of sampling (Y) or not (N)                                                              |
| CAPTURE_OVERHEAD            | VARCHAR2 (1)  | Indicates whether the session is executing capture code (Y) or not (N)                                                                                                  |
| REPLAY_OVERHEAD             | VARCHAR2 (1)  | Indicates whether the session is executing replay code (Y) or not (N)                                                                                                   |
| IS_CAPTURED                 | VARCHAR2 (1)  | Indicates whether the session is being captured (Y) or not (N)                                                                                                          |
| IS_REPLAYED                 | VARCHAR2 (1)  | Indicates whether the session is being replayed (Y) or not (N)                                                                                                          |
| IS_REPLAY_SYNC_TOKEN_HOLDER | VARCHAR2 (1)  | Indicates whether the session is holding a synchronization token (Y) or not (N) during workload replay                                                                  |
| SPID                        | VARCHAR2 (24) | Operating system process identifier                                                                                                                                     |
| STID                        | VARCHAR2 (24) | Operating system thread identifier                                                                                                                                      |
| SERVICE_HASH                | NUMBER        | Hash that identifies the Service; maps to V\$ACTIVE_SERVICES.NAME_HASH                                                                                                  |
| PROGRAM                     | VARCHAR2 (84) | Name of the operating system program                                                                                                                                    |
| MODULE                      | VARCHAR2 (64) | Name of the executing module when sampled, as set by the DBMS_APPLICATION_INFO.SET_MODULE procedure                                                                     |
| ACTION                      | VARCHAR2 (64) | Name of the executing module when sampled, as set by the DBMS_APPLICATION_INFO.SET_ACTION procedure                                                                     |
| CLIENT_ID                   | VARCHAR2 (64) | Client identifier of the session; maps to V\$SESSION.CLIENT_IDENTIFIER                                                                                                  |
| CLIENT_INFO                 | VARCHAR2 (64) | Client information for the session; maps to V\$SESSION.CLIENT_INFO                                                                                                      |
| MACHINE                     | VARCHAR2 (64) | Client's operating system machine name                                                                                                                                  |
| PORT                        | NUMBER        | Client port number                                                                                                                                                      |
| ECID                        | VARCHAR2 (64) | Execution context identifier (sent by Application Server)                                                                                                               |
| DBREPLAY_FILE_ID            | NUMBER        | If the session is being captured or replayed, then DBREPLAY_FILE_ID is the file ID for the workload capture or workload replay; otherwise it is NULL.                   |
| DBREPLAY_CALL_COUNTER       | NUMBER        | If the session is being captured or replayed, then DBREPLAY_CALL_COUNTER is the call counter of the user call that is being captured or replayed; otherwise it is NULL. |
| TM_DELTA_TIME               | NUMBER        | Time interval (in microseconds) over which TM_DELTA_CPU_TIME and TM_DELTA_DB_TIME are accumulated                                                                       |
| TM_DELTA_CPU_TIME           | NUMBER        | Amount of time this session spent on CPU over the last TM_DELTA_TIME microseconds                                                                                       |
| TM_DELTA_DB_TIME            | NUMBER        | Amount of time spent by this session in database calls over the last TM_DELTA_TIME microseconds                                                                         |
| DELTA_TIME                  | NUMBER        | Time interval (in microseconds) since the last time this session was sampled or created, over which the next five statistics are accumulated                            |

| Column                      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DELTA_READ_IO_REQUESTS      | NUMBER        | Number of read I/O requests made by this session over the last DELTA_TIME microseconds                                                                                                                                                                                                                                                                                                                                                          |
| DELTA_WRITE_IO_REQUESTS     | NUMBER        | Number of write I/O requests made by this session over the last DELTA_TIME microseconds                                                                                                                                                                                                                                                                                                                                                         |
| DELTA_READ_IO_BYTES         | NUMBER        | Number of I/O bytes read by this session over the last DELTA_TIME microseconds                                                                                                                                                                                                                                                                                                                                                                  |
| DELTA_WRITE_IO_BYTES        | NUMBER        | Number of I/O bytes written by this session over the last DELTA_TIME microseconds                                                                                                                                                                                                                                                                                                                                                               |
| DELTA_INTERCONNECT_IO_BYTES | NUMBER        | Number of I/O bytes sent over the I/O interconnect over the last DELTA_TIME microseconds                                                                                                                                                                                                                                                                                                                                                        |
| DELTA_READ_MEM_BYTES        | NUMBER        | Number of read bytes through the buffer cache                                                                                                                                                                                                                                                                                                                                                                                                   |
| PGA_ALLOCATED               | NUMBER        | Amount of PGA memory (in bytes) consumed by this session at the time this sample was taken                                                                                                                                                                                                                                                                                                                                                      |
| TEMP_SPACE_ALLOCATED        | NUMBER        | Amount of TEMP memory (in bytes) consumed by this session at the time this sample was taken                                                                                                                                                                                                                                                                                                                                                     |
| CON_DBID                    | NUMBER        | The database ID of the pluggable database (PDB)                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID                      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| DBOP_NAME                   | VARCHAR2 (30) | Database operation name. If the type is SQL, the DBOP_NAME will be NULL.                                                                                                                                                                                                                                                                                                                                                                        |
| DBOP_EXEC_ID                | NUMBER        | Database operation execution identifier for the current execution. If the type is SQL, the DBOP_EXEC_ID will be NULL.                                                                                                                                                                                                                                                                                                                           |

### See Also:

- ["V\\$SESSION"](#)
- ["V\\$ALL\\_ACTIVE\\_SESSION\\_HISTORY"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_APPLICATION\_INFO.SET\_MODULE procedure
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_APPLICATION\_INFO.SET\_ACTION procedure

## 8.9 V\$ACTIVITY\_MVIEW

V\$ACTIVITY\_MVIEW describes the materialized view activity snapshots that are currently being taken by the Object Activity Tracking System (OATS).

Each row in this view represents one in-progress activity snapshot and describes the materialized view activity that has occurred so far during the snapshot interval.

| Column                 | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MVIEW_NAME             | VARCHAR2 (128) | Name of the materialized view for which the activity snapshot is being taken                                                                                                                                                                                                                                                                                                                                                                                |
| MVIEW_OWNER            | VARCHAR2 (128) | Owner of the materialized view for which the activity snapshot is being taken                                                                                                                                                                                                                                                                                                                                                                               |
| USER_CLASS             | VARCHAR2 (7)   | Indicates whether the activity was performed by the RDBMS (SYS) or by a user (NON-SYS)                                                                                                                                                                                                                                                                                                                                                                      |
| COMPILES               | NUMBER         | <p>Number of times the materialized view was compiled</p> <p>This number includes:</p> <ul style="list-style-type: none"> <li>Explicit compiles performed with the SQL statement <code>ALTER MATERIALIZED VIEW ... COMPILE</code></li> <li>Automatic compiles that occurred because the structure of an underlying base table changed</li> </ul>                                                                                                            |
| REWRITES_TEXTMATCH     | NUMBER         | Number of query rewrites that used the text match rewrite method                                                                                                                                                                                                                                                                                                                                                                                            |
| REWRITES_GENERAL       | NUMBER         | Number of query rewrites that used general rewrite methods                                                                                                                                                                                                                                                                                                                                                                                                  |
| REWRITES_PARTIAL       | NUMBER         | <p>Number of query rewrites that occurred when the view was partially stale</p> <p>This number includes:</p> <ul style="list-style-type: none"> <li>UNION ALL operations involving rewritten queries that had one branch with the materialized view and the other branch with its underlying base tables (partial rewrites)</li> <li>Single query block rewrites of the materialized view that involved a join back to its underlying base table</li> </ul> |
| REWRITES_DELTA         | NUMBER         | Number of query rewrites that used stale data in the materialized view plus the delta information stored in the materialized view logs                                                                                                                                                                                                                                                                                                                      |
| REWRITES_PCT           | NUMBER         | Number of partition change tracking (PCT) rewrites                                                                                                                                                                                                                                                                                                                                                                                                          |
| REWRITES_HINTED        | NUMBER         | Number of query rewrites that occurred because the materialized view was eligible for query rewrite and the <code>SELECT</code> statement contained the <code>REWRITE</code> hint with the name of the materialized view specified in the hint                                                                                                                                                                                                              |
| NOREWRITES_HINTED      | NUMBER         | Reserved for future use                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| NOREWRITES_STALE       | NUMBER         | Number of query executions that did not use query rewrite because the materialized view was eligible for query rewrite, but stale                                                                                                                                                                                                                                                                                                                           |
| REFRESHES_ON_DEMAND    | NUMBER         | <p>Number of ON DEMAND refreshes</p> <p>This type of refresh is performed on materialized views that use the ON DEMAND refresh mode, which instructs the database to refresh the materialized view only when a manual refresh is launched by one of the three DBMS_MVIEW refresh procedures.</p>                                                                                                                                                            |
| REFRESHES_ON_COMMIT    | NUMBER         | <p>Number of ON COMMIT refreshes</p> <p>This type of refresh is performed on materialized views that use the ON COMMIT refresh mode, which instructs the database to refresh the materialized view whenever the database commits a transaction that operates on a master table of the materialized view.</p>                                                                                                                                                |
| REFRESHES_ON_STATEMENT | NUMBER         | <p>Number of ON STATEMENT refreshes</p> <p>This type of refresh is performed on materialized views that use the ON STATEMENT refresh mode, which instructs the database to perform an automatic refresh of the materialized view every time a DML operation is performed on any of the view's base tables.</p>                                                                                                                                              |
| REFRESHES_SCHEDULED    | NUMBER         | Number of scheduled refreshes                                                                                                                                                                                                                                                                                                                                                                                                                               |
| REFRESHES_AUTOMATIC    | NUMBER         | Number of automatic refreshes                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Column             | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REFRESHES_FAST     | NUMBER   | Number of incremental refreshes                                                                                                                                                                                                                                                                                                                                                                                                                 |
| REFRESHES_COMPLETE | NUMBER   | Number of full refreshes                                                                                                                                                                                                                                                                                                                                                                                                                        |
| REFRESHES_PCT      | NUMBER   | Number of partition change tracking (PCT) refreshes                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID             | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

 **Note:**

The counts in this view are approximate in order to keep system overhead low. Also, there are database activities, such as statistics collection, query compilation, and query optimization, that may cause the counts to be different than expected or to vary slightly across successive queries.

 **See Also:**

"[DBA\\_ACTIVITY\\_MVIEW](#)" to view recently completed materialized view activity snapshots

## 8.10 V\$ACTIVITY\_TABLE

V\$ACTIVITY\_TABLE describes the table activity snapshots that are currently being taken by the Object Activity Tracking System (OATS).

Each row in this view represents one in-progress activity snapshot and describes the table activity that has occurred so far during the snapshot interval.

| Column      | Datatype       | Description                                                       |
|-------------|----------------|-------------------------------------------------------------------|
| TABLE_NAME  | VARCHAR2 (128) | Name of the table for which the activity snapshot is being taken  |
| TABLE_OWNER | VARCHAR2 (128) | Owner of the table for which the activity snapshot is being taken |
| USER_CLASS  | VARCHAR2       | Reserved for future use                                           |
| SCANS       | NUMBER         | Number of table scans                                             |
| LOADS       | NUMBER         | Number of table loads                                             |
| LOAD_ROWS   | NUMBER         | Number of rows that were loaded into the table                    |
| INSERT_ROWS | NUMBER         | Number of rows that were inserted into the table                  |
| DELETE_ROWS | NUMBER         | Number of rows that were deleted from the table                   |
| UPDATE_ROWS | NUMBER         | Number of table rows that were updated                            |

| Column                   | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TRUNCATES                | NUMBER   | Number of table truncations                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TRUNCATED_ROWS           | NUMBER   | Number of table rows that were deleted due to table truncations                                                                                                                                                                                                                                                                                                                                                                                        |
| PARTITION_TRUNCATES      | NUMBER   | Number of table partition or subpartition truncations                                                                                                                                                                                                                                                                                                                                                                                                  |
| PARTITION_TRUNCATED_ROWS | NUMBER   | Number of table rows that were deleted due to table partition or subpartition truncations                                                                                                                                                                                                                                                                                                                                                              |
| PARTITION_CREATES        | NUMBER   | Number of table partitions or subpartitions that were created                                                                                                                                                                                                                                                                                                                                                                                          |
| PARTITION_DROPS          | NUMBER   | Number of table partition or subpartition drops                                                                                                                                                                                                                                                                                                                                                                                                        |
| PARTITION_DROPS_ROWS     | NUMBER   | Number of table rows that were dropped due to table partition or subpartition drops                                                                                                                                                                                                                                                                                                                                                                    |
| PARTITION_MOVES          | NUMBER   | Number of table partition or subpartition moves                                                                                                                                                                                                                                                                                                                                                                                                        |
| PARTITION_MOVES_ROWS     | NUMBER   | Number of table rows that were moved due to table partition or subpartition moves                                                                                                                                                                                                                                                                                                                                                                      |
| PARTITION_SPLITS         | NUMBER   | Number of table partition or subpartition splits                                                                                                                                                                                                                                                                                                                                                                                                       |
| PARTITION_SPLITS_ROWS    | NUMBER   | Number of table rows that were split due to table partition or subpartition splits                                                                                                                                                                                                                                                                                                                                                                     |
| PARTITION_MERGES         | NUMBER   | Number of table partition or subpartition merges                                                                                                                                                                                                                                                                                                                                                                                                       |
| PARTITION_MERGES_ROWS    | NUMBER   | Number of table rows that were merged due to table partition or subpartition merges                                                                                                                                                                                                                                                                                                                                                                    |
| PARTITION_COALESCE       | NUMBER   | Number of table partition or subpartition coalesces                                                                                                                                                                                                                                                                                                                                                                                                    |
| PARTITION_COALESCE_ROWS  | NUMBER   | Number of table rows that were redistributed due to table partition or subpartition coalesces                                                                                                                                                                                                                                                                                                                                                          |
| PARTITION_EXCHANGES      | NUMBER   | Number of table partition or subpartition exchanges                                                                                                                                                                                                                                                                                                                                                                                                    |
| PARTITION_EXCHANGES_ROWS | NUMBER   | Number of table rows that were exchanged due to table partition or subpartition exchanges                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID                   | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

The counts in this view are approximate in order to keep system overhead low. Also, there are database activities, such as statistics collection, query compilation, and query optimization, that may cause the counts to be different than expected or to vary slightly across successive queries.

**Note:**

This view does not contain information related to temporary tables or external tables.

**See Also:**

"DBA\_ACTIVITY\_TABLE" to view recently completed table activity snapshots

## 8.11 V\$ADVISOR\_PROGRESS

V\$ADVISOR\_PROGRESS displays information about the progress of advisor execution.

| Column           | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID              | NUMBER         | Session ID                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SERIAL#          | NUMBER         | Session serial number                                                                                                                                                                                                                                                                                                                                                                                                                           |
| USERNAME         | VARCHAR2 (128) | Oracle user name                                                                                                                                                                                                                                                                                                                                                                                                                                |
| OPNAME           | VARCHAR2 (64)  | Operation name                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ADVISOR_NAME     | VARCHAR2 (64)  | Advisor name                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TASK_ID          | NUMBER         | Task ID                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TARGET_DESC      | VARCHAR2 (32)  | Description of the target of the advisor                                                                                                                                                                                                                                                                                                                                                                                                        |
| SO FAR           | NUMBER         | Amount of work done so far                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TOTALWORK        | NUMBER         | Total work to be done                                                                                                                                                                                                                                                                                                                                                                                                                           |
| UNITS            | VARCHAR2 (32)  | Units that the work is measured in                                                                                                                                                                                                                                                                                                                                                                                                              |
| BENEFIT_SO FAR   | NUMBER         | Benefit obtained so far                                                                                                                                                                                                                                                                                                                                                                                                                         |
| BENEFIT_MAX      | NUMBER         | Estimate of maximum benefit that could be obtained                                                                                                                                                                                                                                                                                                                                                                                              |
| FINDINGS         | NUMBER         | Number of findings so far                                                                                                                                                                                                                                                                                                                                                                                                                       |
| RECOMMENDATIONS  | NUMBER         | Number of recommendations so far                                                                                                                                                                                                                                                                                                                                                                                                                |
| TIME_REMAINING   | NUMBER         | Estimate of time remaining for the completion of the task (in seconds)                                                                                                                                                                                                                                                                                                                                                                          |
| START_TIME       | DATE           | Start time of the task                                                                                                                                                                                                                                                                                                                                                                                                                          |
| LAST_UPDATE_TIME | DATE           | Last time progress was posted                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ELAPSED_SECONDS  | NUMBER         | Elapsed time so far                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ADVISOR_METRIC1  | NUMBER         | Value of the advisor-specific metric                                                                                                                                                                                                                                                                                                                                                                                                            |
| METRIC1_DESC     | VARCHAR2 (64)  | Description of the advisor-specific metric                                                                                                                                                                                                                                                                                                                                                                                                      |
| EXECUTION_TYPE   | VARCHAR2 (64)  | Type of the last execution. This information is optional for single-execution tasks.                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID           | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.12 V\$ALERT\_TYPES

V\$ALERT\_TYPES displays information about server alert types.

| Column                   | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REASON_ID                | NUMBER        | ID of the alert reason                                                                                                                                                                                                                                                                                                                                                                                                                          |
| OBJECT_TYPE              | VARCHAR2 (64) | Object type                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TYPE                     | VARCHAR2 (9)  | Alert type: <ul style="list-style-type: none"> <li>Stateful</li> <li>Stateless</li> </ul>                                                                                                                                                                                                                                                                                                                                                       |
| GROUP_NAME               | VARCHAR2 (64) | Group name                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SCOPE                    | VARCHAR2 (8)  | Scope: <ul style="list-style-type: none"> <li>Database</li> <li>Instance</li> </ul>                                                                                                                                                                                                                                                                                                                                                             |
| INTERNAL_METRIC_CATEGORY | VARCHAR2 (64) | Internal metric category                                                                                                                                                                                                                                                                                                                                                                                                                        |
| INTERNAL_METRIC_NAME     | VARCHAR2 (64) | Internal metric name                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID                   | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.13 V\$ALL\_ACTIVE\_SESSION\_HISTORY

V\$ALL\_ACTIVE\_SESSION\_HISTORY displays sampled session activity in the database.

### Note:

V\$ALL\_ACTIVE\_SESSION\_HISTORY allows application developers to view their own session activity. It is similar to the V\$ACTIVE\_SESSION\_HISTORY view, with the following exception:

- When queried by the SYS user, or any user with the SYSDBA privilege, the V\$ALL\_ACTIVE\_SESSION\_HISTORY view displays the same data as the V\$ACTIVE\_SESSION\_HISTORY view.
- When queried by any other user, the V\$ALL\_ACTIVE\_SESSION\_HISTORY view displays only data about sessions owned by that user.

See also "[V\\$ACTIVE\\_SESSION\\_HISTORY](#)"

| Column          | Datatype      | Description                                                                      |
|-----------------|---------------|----------------------------------------------------------------------------------|
| SAMPLE_ID       | NUMBER        | ID of the sample                                                                 |
| SAMPLE_TIME     | TIMESTAMP (3) | Time at which the sample was taken                                               |
| SAMPLE_TIME_UTC | TIMESTAMP (3) | Time at which the sample was taken in UTC (Coordinated Universal Time) time zone |
| USECS_PER_ROW   | NUMBER        | Time in microseconds since the last sample was taken                             |



| Column                     | Datatype      | Description                                                                                                                                                           |
|----------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IS_AWR_SAMPLE              | VARCHAR2 (1)  | Indicates whether this sample has been flushed or will be flushed to the Automatic Workload Repository (DBA_HIST_ACTIVE_SESS_HISTORY) (Y) or not (N)                  |
| SESSION_ID                 | NUMBER        | Session identifier; maps to V\$SESSION.SID                                                                                                                            |
| SESSION_SERIAL#            | NUMBER        | Session serial number (used to uniquely identify a session's objects); maps to V\$SESSION.SERIAL#                                                                     |
| SESSION_TYPE               | VARCHAR2 (10) | Session type: <ul style="list-style-type: none"> <li>• FOREGROUND</li> <li>• BACKGROUND</li> </ul>                                                                    |
| FLAGS                      | NUMBER        | Reserved for future use                                                                                                                                               |
| USER_ID                    | NUMBER        | Oracle user identifier; maps to V\$SESSION.USER#                                                                                                                      |
| SQL_ID                     | VARCHAR2 (13) | SQL identifier of the SQL statement that the session was executing at the time of sampling                                                                            |
| IS_SQLID_CURRENT           | VARCHAR2 (1)  | Indicates whether the SQL identifier in the SQL_ID column is being executed (Y) or not (N)                                                                            |
| SQL_CHILD_NUMBER           | NUMBER        | Child number of the SQL statement that the session was executing at the time of sampling                                                                              |
| SQL_OPCODE                 | NUMBER        | Indicates what phase of operation the SQL statement was in; maps to V\$SESSION.COMMAND<br><b>See Also:</b> "V\$SESSION" for information on interpreting this column   |
| SQL_OPNAME                 | VARCHAR2 (64) | SQL command name                                                                                                                                                      |
| FORCE_MATCHING_SIGNATURE   | NUMBER        | Signature used when the CURSOR_SHARING parameter is set to FORCE                                                                                                      |
| TOP_LEVEL_SQL_ID           | VARCHAR2 (13) | SQL identifier of the top level SQL statement                                                                                                                         |
| TOP_LEVEL_SQL_OPCODE       | NUMBER        | Indicates what phase of operation the top level SQL statement was in                                                                                                  |
| SQL_ADAPTIVE_PLAN_RESOLVED | NUMBER        | Indicates whether the SQL plan of the sampled database session is a resolved adaptive plan or not                                                                     |
| SQL_FULL_PLAN_HASH_VALUE   | NUMBER        | Numerical representation of the complete SQL plan for the cursor being executed by this session                                                                       |
| SQL_PLAN_HASH_VALUE        | NUMBER        | Numeric representation of the SQL plan for the cursor. This information might not be available for all session samples. V\$SESSION does not contain this information. |
| SQL_PLAN_LINE_ID           | NUMBER        | SQL plan line ID                                                                                                                                                      |
| SQL_PLAN_OPERATION         | VARCHAR2 (30) | Plan operation name                                                                                                                                                   |
| SQL_PLAN_OPTIONS           | VARCHAR2 (30) | Plan operation options                                                                                                                                                |
| SQL_EXEC_ID                | NUMBER        | SQL execution identifier                                                                                                                                              |
| SQL_EXEC_START             | DATE          | Time when the execution of the SQL started                                                                                                                            |
| PLSQL_ENTRY_OBJECT_ID      | NUMBER        | Object ID of the top-most PL/SQL subprogram on the stack; NULL if there is no PL/SQL subprogram on the stack. Maps to DBA_OBJECTS.OBJECT_ID.                          |
| PLSQL_ENTRY_SUBPROGRAM_ID  | NUMBER        | Subprogram ID of the top-most PL/SQL subprogram on the stack. Maps to DBA_OBJECTS.DATA_OBJECT_ID.                                                                     |
| PLSQL_OBJECT_ID            | NUMBER        | Object ID of the currently executing PL/SQL subprogram. Maps to DBA_OBJECTS.OBJECT_ID.                                                                                |
| PLSQL_SUBPROGRAM_ID        | NUMBER        | Subprogram ID of the currently executing PL/SQL object; NULL if executing SQL. Maps to DBA_OBJECTS.DATA_OBJECT_ID.                                                    |

| Column                            | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PLSQL_CURRENT_ENTRY_OBJE<br>CT_ID | NUMBER        | Object ID of the currently executing PL/SQL subprogram; NULL if executing SQL.                                                                                                                                                                                                                                                                                                                                          |
| QC_INSTANCE_ID                    | NUMBER        | Query coordinator instance ID. This information is only available if the sampled session is a parallel query worker. For all other sessions, the value is 0.                                                                                                                                                                                                                                                            |
| QC_SESSION_ID                     | NUMBER        | Query coordinator session ID. This information is only available if the sampled session is a parallel query worker. For all other sessions, the value is 0.                                                                                                                                                                                                                                                             |
| QC_SESSION_SERIAL#                | NUMBER        | Query coordinator session serial number. This information is only available if the sampled session is a parallel query worker. For all other sessions, the value is 0.                                                                                                                                                                                                                                                  |
| PX_FLAGS                          | NUMBER        | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                               |
| EVENT                             | VARCHAR2 (64) | If <code>SESSION_STATE = WAITING</code> , then the event for which the session was waiting for at the time of sampling.<br>If <code>SESSION_STATE = ON CPU</code> , then this column is NULL.<br><b>See Also:</b> <a href="#">Oracle Wait Events</a>                                                                                                                                                                    |
| EVENT_ID                          | NUMBER        | Identifier of the resource or event for which the session is waiting or for which the session last waited. Interpretation is similar to that of the <code>EVENT</code> column.                                                                                                                                                                                                                                          |
| EVENT#                            | NUMBER        | Number of the resource or event for which the session is waiting or for which the session last waited. Interpretation is similar to that of the <code>EVENT</code> column.                                                                                                                                                                                                                                              |
| SEQ#                              | NUMBER        | Sequence number that uniquely identifies the wait (incremented for each wait)                                                                                                                                                                                                                                                                                                                                           |
| P1TEXT                            | VARCHAR2 (64) | Text of the first additional parameter                                                                                                                                                                                                                                                                                                                                                                                  |
| P1                                | NUMBER        | First additional parameter                                                                                                                                                                                                                                                                                                                                                                                              |
| P2TEXT                            | VARCHAR2 (64) | Text of the second additional parameter                                                                                                                                                                                                                                                                                                                                                                                 |
| P2                                | NUMBER        | Second additional parameter                                                                                                                                                                                                                                                                                                                                                                                             |
| P3TEXT                            | VARCHAR2 (64) | Text of the third additional parameter                                                                                                                                                                                                                                                                                                                                                                                  |
| P3                                | NUMBER        | Third additional parameter                                                                                                                                                                                                                                                                                                                                                                                              |
| WAIT_CLASS                        | VARCHAR2 (64) | Wait class name of the event for which the session was waiting at the time of sampling. Interpretation is similar to that of the <code>EVENT</code> column. Maps to <code>V\$SESSION.WAIT_CLASS</code> .                                                                                                                                                                                                                |
| WAIT_CLASS_ID                     | NUMBER        | Wait class identifier of the event for which the session was waiting at the time of sampling. Interpretation is similar to that of the <code>EVENT</code> column. Maps to <code>V\$SESSION.WAIT_CLASS_ID</code> .                                                                                                                                                                                                       |
| WAIT_TIME                         | NUMBER        | Total wait time for the event for which the session last waited if the session was on the CPU when sampled; 0 if the session was waiting at the time of sampling<br><b>Note:</b> Whether or not <code>WAIT_TIME = 0</code> is what is useful to find the <code>SESSION_STATE</code> at the time of sampling, rather than the actual value of <code>WAIT_TIME</code> itself. Maps to <code>V\$SESSION.WAIT_TIME</code> . |
| SESSION_STATE                     | VARCHAR2 (7)  | Session state: <ul style="list-style-type: none"> <li>• WAITING</li> <li>• ON CPU</li> </ul>                                                                                                                                                                                                                                                                                                                            |

| Column                   | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TIME_WAITED              | NUMBER        | If <code>SESSION_STATE = WAITING</code> , then the time that the session actually spent waiting for that event (in microseconds). This column is set for waits that were in progress at the time the sample was taken.<br><br>If a wait event lasted for more than a second and was caught waiting in more than one session sample row, then the actual time spent waiting for that wait event will be populated in the last of those session sample rows. At any given time, this information will not be available for the latest session sample. |
| BLOCKING_SESSION_STATUS  | VARCHAR2 (11) | Status of the blocking session: <ul style="list-style-type: none"> <li>• VALID</li> <li>• NO HOLDER</li> <li>• GLOBAL</li> <li>• NOT IN WAIT</li> <li>• UNKNOWN</li> </ul>                                                                                                                                                                                                                                                                                                                                                                          |
| BLOCKING_SESSION         | NUMBER        | Session identifier of the blocking session. Populated only if the blocker is on the same instance and the session was waiting for enqueues or a "buffer busy" wait. Maps to <code>V\$SESSION.BLOCKING_SESSION</code> .                                                                                                                                                                                                                                                                                                                              |
| BLOCKING_SESSION_SERIAL# | NUMBER        | Serial number of the blocking session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| BLOCKING_INST_ID         | NUMBER        | Instance number of the blocker shown in <code>BLOCKING_SESSION</code>                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| BLOCKING_HANGCHAIN_INFO  | VARCHAR2 (1)  | Indicates whether the information about <code>BLOCKING_SESSION</code> comes from the hang chain (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CURRENT_OBJ#             | NUMBER        | Object ID of the object that the session is referencing. This information is only available if the session was waiting for application, cluster, concurrency, and user I/O wait events. Maps to <code>V\$SESSION.ROW_WAIT_OBJ#</code> .                                                                                                                                                                                                                                                                                                             |
| CURRENT_FILE#            | NUMBER        | File number of the file containing the block that the session is referencing. This information is only available if the session was waiting for cluster, concurrency, and user I/O wait events. Maps to <code>V\$SESSION.ROW_WAIT_FILE#</code> .                                                                                                                                                                                                                                                                                                    |
| CURRENT_BLOCK#           | NUMBER        | ID of the block that the session is referencing. This information is only available if the session was waiting for cluster, concurrency, and user I/O wait events. Maps to <code>V\$SESSION.ROW_WAIT_BLOCK#</code> .                                                                                                                                                                                                                                                                                                                                |
| CURRENT_ROW#             | NUMBER        | Row identifier that the session is referencing. This information is only available if the session was waiting for cluster, concurrency, and user I/O wait events. Maps to <code>V\$SESSION.ROW_WAIT_ROW#</code> .                                                                                                                                                                                                                                                                                                                                   |
| TOP_LEVEL_CALL#          | NUMBER        | Oracle top level call number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TOP_LEVEL_CALL_NAME      | VARCHAR2 (64) | Oracle top level call name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CONSUMER_GROUP_ID        | NUMBER        | Consumer group ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| XID                      | RAW (8)       | Transaction ID that the session was working on at the time of sampling. <code>V\$SESSION</code> does not contain this information.                                                                                                                                                                                                                                                                                                                                                                                                                  |
| REMOTE_INSTANCE#         | NUMBER        | Remote instance identifier that will serve the block that this session is waiting for. This information is only available if the session was waiting for cluster events.                                                                                                                                                                                                                                                                                                                                                                            |
| TIME_MODEL               | NUMBER        | Time model information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| IN_CONNECTION_MGMT       | VARCHAR2 (1)  | Indicates whether the session was doing connection management at the time of sampling (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| IN_PARSE                 | VARCHAR2 (1)  | Indicates whether the session was parsing at the time of sampling (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Column                      | Datatype      | Description                                                                                                                    |
|-----------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------|
| IN_HARD_PARSE               | VARCHAR2 (1)  | Indicates whether the session was hard parsing at the time of sampling (Y) or not (N)                                          |
| IN_SQL_EXECUTION            | VARCHAR2 (1)  | Indicates whether the session was executing SQL statements at the time of sampling (Y) or not (N)                              |
| IN_PLSQL_EXECUTION          | VARCHAR2 (1)  | Indicates whether the session was executing PL/SQL at the time of sampling (Y) or not (N)                                      |
| IN_PLSQL_RPC                | VARCHAR2 (1)  | Indicates whether the session was executing inbound PL/SQL RPC calls at the time of sampling (Y) or not (N)                    |
| IN_PLSQL_COMPILATION        | VARCHAR2 (1)  | Indicates whether the session was compiling PL/SQL at the time of sampling (Y) or not (N)                                      |
| IN_JAVA_EXECUTION           | VARCHAR2 (1)  | Indicates whether the session was executing Java at the time of sampling (Y) or not (N)                                        |
| IN_BIND                     | VARCHAR2 (1)  | Indicates whether the session was doing bind operations at the time of sampling (Y) or not (N)                                 |
| IN_CURSOR_CLOSE             | VARCHAR2 (1)  | Indicates whether the session was closing a cursor at the time of sampling (Y) or not (N)                                      |
| IN_SEQUENCE_LOAD            | VARCHAR2 (1)  | Indicates whether the session is loading in sequence (in sequence load code) (Y) or not (N)                                    |
| IN_INMEMORY_QUERY           | VARCHAR2 (1)  | Indicates whether the session was querying the In-Memory Column Store (IM column store) at the time of sampling (Y) or not (N) |
| IN_INMEMORY_POPULATE        | VARCHAR2 (1)  | Indicates whether the session was populating the IM column store at the time of sampling (Y) or not (N)                        |
| IN_INMEMORY_PREPOPULATE     | VARCHAR2 (1)  | Indicates whether the session was prepopulating the IM column store at the time of sampling (Y) or not (N)                     |
| IN_INMEMORY_REPOPULATE      | VARCHAR2 (1)  | Indicates whether the session was repopulating the IM column store at the time of sampling (Y) or not (N)                      |
| IN_INMEMORY_TREPOPULATE     | VARCHAR2 (1)  | Indicates whether the session was trickle repopulating the IM column store at the time of sampling (Y) or not (N)              |
| IN_TABLESPACE_ENCRYPTION    | VARCHAR2 (1)  | Indicates whether encryption or decryption of a tablespace occurred at the time of sampling (Y) or not (N)                     |
| CAPTURE_OVERHEAD            | VARCHAR2 (1)  | Indicates whether the session is executing capture code (Y) or not (N)                                                         |
| REPLAY_OVERHEAD             | VARCHAR2 (1)  | Indicates whether the session is executing replay code (Y) or not (N)                                                          |
| IS_CAPTURED                 | VARCHAR2 (1)  | Indicates whether the session is being captured (Y) or not (N)                                                                 |
| IS_REPLAYED                 | VARCHAR2 (1)  | Indicates whether the session is being replayed (Y) or not (N)                                                                 |
| IS_REPLAY_SYNC_TOKEN_HOLDER | VARCHAR2 (1)  | Indicates whether the session is holding a synchronization token (Y) or not (N) during workload replay                         |
| SERVICE_HASH                | NUMBER        | Hash that identifies the Service; maps to V\$ACTIVE_SERVICES.NAME_HASH                                                         |
| PROGRAM                     | VARCHAR2 (84) | Name of the operating system program                                                                                           |
| MODULE                      | VARCHAR2 (64) | Name of the executing module when sampled, as set by the DBMS_APPLICATION_INFO.SET_MODULE procedure                            |
| ACTION                      | VARCHAR2 (64) | Name of the executing module when sampled, as set by the DBMS_APPLICATION_INFO.SET_ACTION procedure                            |
| CLIENT_ID                   | VARCHAR2 (64) | Client identifier of the session; maps to V\$SESSION.CLIENT_IDENTIFIER                                                         |
| MACHINE                     | VARCHAR2 (64) | Client's operating system machine name                                                                                         |

| Column                      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PORT                        | NUMBER        | Client port number                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ECID                        | VARCHAR2 (64) | Execution context identifier (sent by Application Server)                                                                                                                                                                                                                                                                                                                                                                                       |
| DBREPLAY_FILE_ID            | NUMBER        | If the session is being captured or replayed, then DBREPLAY_FILE_ID is the file ID for the workload capture or workload replay; otherwise it is NULL.                                                                                                                                                                                                                                                                                           |
| DBREPLAY_CALL_COUNTER       | NUMBER        | If the session is being captured or replayed, then DBREPLAY_CALL_COUNTER is the call counter of the user call that is being captured or replayed; otherwise it is NULL.                                                                                                                                                                                                                                                                         |
| TM_DELTA_TIME               | NUMBER        | Time interval (in microseconds) over which TM_DELTA_CPU_TIME and TM_DELTA_DB_TIME are accumulated                                                                                                                                                                                                                                                                                                                                               |
| TM_DELTA_CPU_TIME           | NUMBER        | Amount of time this session spent on CPU over the last TM_DELTA_TIME microseconds                                                                                                                                                                                                                                                                                                                                                               |
| TM_DELTA_DB_TIME            | NUMBER        | Amount of time spent by this session in database calls over the last TM_DELTA_TIME microseconds                                                                                                                                                                                                                                                                                                                                                 |
| DELTA_TIME                  | NUMBER        | Time interval (in microseconds) since the last time this session was sampled or created, over which the next five statistics are accumulated                                                                                                                                                                                                                                                                                                    |
| DELTA_READ_IO_REQUESTS      | NUMBER        | Number of read I/O requests made by this session over the last DELTA_TIME microseconds                                                                                                                                                                                                                                                                                                                                                          |
| DELTA_WRITE_IO_REQUESTS     | NUMBER        | Number of write I/O requests made by this session over the last DELTA_TIME microseconds                                                                                                                                                                                                                                                                                                                                                         |
| DELTA_READ_IO_BYTES         | NUMBER        | Number of I/O bytes read by this session over the last DELTA_TIME microseconds                                                                                                                                                                                                                                                                                                                                                                  |
| DELTA_WRITE_IO_BYTES        | NUMBER        | Number of I/O bytes written by this session over the last DELTA_TIME microseconds                                                                                                                                                                                                                                                                                                                                                               |
| DELTA_INTERCONNECT_IO_BYTES | NUMBER        | Number of I/O bytes sent over the I/O interconnect over the last DELTA_TIME microseconds                                                                                                                                                                                                                                                                                                                                                        |
| DELTA_READ_MEM_BYTES        | NUMBER        | Number of read bytes through the buffer cache                                                                                                                                                                                                                                                                                                                                                                                                   |
| PGA_ALLOCATED               | NUMBER        | Amount of PGA memory (in bytes) consumed by this session at the time this sample was taken                                                                                                                                                                                                                                                                                                                                                      |
| TEMP_SPACE_ALLOCATED        | NUMBER        | Amount of TEMP memory (in bytes) consumed by this session at the time this sample was taken                                                                                                                                                                                                                                                                                                                                                     |
| CON_DBID                    | NUMBER        | The database ID of the pluggable database (PDB)                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID                      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| DBOP_NAME                   | VARCHAR2 (30) | Database operation name. If the type is SQL, the DBOP_NAME will be NULL.                                                                                                                                                                                                                                                                                                                                                                        |
| DBOP_EXEC_ID                | NUMBER        | Database operation execution identifier for the current execution. If the type is SQL, the DBOP_EXEC_ID will be NULL.                                                                                                                                                                                                                                                                                                                           |

## 8.14 V\$ALL\_SQL\_BIND\_CAPTURE

V\$ALL\_SQL\_BIND\_CAPTURE displays information on bind variables used by SQL cursors.



### Note:

V\$ALL\_SQL\_BIND\_CAPTURE allows application developers to view information about their own bind variables used by SQL cursors. It is similar to the V\$SQL\_BIND\_CAPTURE view, with the following exception:

- When queried by the SYS user, or any user with the SYSDBA privilege, the V\$ALL\_SQL\_BIND\_CAPTURE view displays the same data as the V\$SQL\_BIND\_CAPTURE view.
- When queried by any other user, the V\$ALL\_SQL\_BIND\_CAPTURE view displays only data about bind variables used by the SQL cursors owned by that user.

See also "[V\\$SQL\\_BIND\\_CAPTURE](#)"

| Column          | Datatype        | Description                                                                                                                                                                                                                                                              |
|-----------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADDRESS         | RAW (4   8)     | Address of the parent cursor                                                                                                                                                                                                                                             |
| HASH_VALUE      | NUMBER          | Hash value of the parent cursor in the library cache. The hash value is a fixed index for the view and should always be used to speed up access to the view.                                                                                                             |
| SQL_ID          | VARCHAR2 (13)   | SQL identifier of the parent cursor in the library cache                                                                                                                                                                                                                 |
| CHILD_ADDRESS   | RAW (4   8)     | Address of the child cursor                                                                                                                                                                                                                                              |
| CHILD_NUMBER    | NUMBER          | Child cursor number                                                                                                                                                                                                                                                      |
| NAME            | VARCHAR2 (128)  | Name of the bind variable                                                                                                                                                                                                                                                |
| POSITION        | NUMBER          | Position of the bind variable in the SQL statement                                                                                                                                                                                                                       |
| DUP_POSITION    | NUMBER          | If the binding is performed by name and the bind variable is duplicated, then this column gives the position of the primary bind variable.                                                                                                                               |
| DATATYPE        | NUMBER          | Internal identifier for the bind data type. Beginning in Oracle Database 12c, a number representing a PL/SQL data type can appear in this column.                                                                                                                        |
| DATATYPE_STRING | VARCHAR2 (15)   | Textual representation of the bind data type. Beginning in Oracle Database 12c, a text representation of a PL/SQL-only data type can appear in this column. If the actual data type is a PL/SQL sub type, the name of the data type, not the sub type will be displayed. |
| CHARACTER_SID   | NUMBER          | National character set identifier                                                                                                                                                                                                                                        |
| PRECISION       | NUMBER          | Precision (for numeric binds)                                                                                                                                                                                                                                            |
| SCALE           | NUMBER          | Scale (for numeric binds)                                                                                                                                                                                                                                                |
| MAX_LENGTH      | NUMBER          | Maximum bind length                                                                                                                                                                                                                                                      |
| WAS_CAPTURED    | VARCHAR2 (3)    | Indicates whether the bind value was captured (YES) or not (NO)                                                                                                                                                                                                          |
| LAST_CAPTURED   | DATE            | Date when the bind value was captured. Bind values are captured when SQL statements are executed. To limit the overhead, binds are captured at most every 15 minutes for a given cursor.                                                                                 |
| VALUE_STRING    | VARCHAR2 (4000) | Value of the bind represented as a string                                                                                                                                                                                                                                |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

## 8.15 V\$ALL\_SQL\_MONITOR

V\$ALL\_SQL\_MONITOR displays SQL statements whose execution have been (or are being) monitored by Oracle.

**Note:**

V\$ALL\_SQL\_MONITOR allows application developers to view information about their own SQL statements. It is similar to the V\$SQL\_MONITOR view, with the following exception:

- When queried by the SYS user, or any user with the SYSDBA privilege, the V\$ALL\_SQL\_MONITOR view displays the same data as the V\$SQL\_MONITOR view.
- When queried by any other user, the V\$ALL\_SQL\_MONITOR view displays data only about SQL statements that were executed in sessions owned by that user.

See also "[V\\$SQL\\_MONITOR](#)"

| Column    | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KEY       | NUMBER        | Artificial join key to efficiently join V\$ALL_SQL_MONITOR with its corresponding plan level monitoring statistics stored in V\$ALL_SQL_PLAN_MONITOR                                                                                                                                                                                                                                                                                                                     |
| REPORT_ID | NUMBER        | Unique ID of the XML report stored in Automatic Workload Repository (AWR) for this monitored entity                                                                                                                                                                                                                                                                                                                                                                      |
| STATUS    | VARCHAR2 (19) | <p>SQL execution status:</p> <ul style="list-style-type: none"> <li>QUEUED - SQL statement is queued</li> <li>EXECUTING - SQL statement is still executing</li> <li>DONE (ERROR) - Execution terminated with an error</li> <li>DONE (FIRST N ROWS) - Execution terminated by the application before all rows were fetched</li> <li>DONE (ALL ROWS) - Execution terminated and all rows were fetched</li> <li>DONE - Execution terminated (parallel execution)</li> </ul> |
| USER#     | NUMBER        | User ID of the database user who issued the SQL being monitored                                                                                                                                                                                                                                                                                                                                                                                                          |



| Column                    | Datatype        | Description                                                                                                                                                                                               |
|---------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USERNAME                  | VARCHAR2 (128)  | User name of the database user who issued the SQL being monitored                                                                                                                                         |
| MODULE                    | VARCHAR2 (64)   | Name of the executing module when sampled, as set by the DBMS_APPLICATION_INFO.SET_MODULE procedure                                                                                                       |
| ACTION                    | VARCHAR2 (64)   | Name of the executing action when sampled, as set by the DBMS_APPLICATION_INFO.SET_ACTION procedure                                                                                                       |
| SERVICE_NAME              | VARCHAR2 (64)   | Service name of the user session                                                                                                                                                                          |
| CLIENT_IDENTIFIER         | VARCHAR2 (64)   | Client identifier from the user session                                                                                                                                                                   |
| CLIENT_INFO               | VARCHAR2 (64)   | Client information for the user session                                                                                                                                                                   |
| PROGRAM                   | VARCHAR2 (84)   | Name of the operating system program that issued the monitored SQL                                                                                                                                        |
| PLSQL_ENTRY_OBJECT_ID     | NUMBER          | Object ID of the top-most PL/SQL subprogram on the stack; NULL if there is no PL/SQL subprogram on the stack                                                                                              |
| PLSQL_ENTRY_SUBPROGRAM_ID | NUMBER          | Subprogram ID of the top-most PL/SQL subprogram on the stack; NULL if there is no PL/SQL subprogram on the stack                                                                                          |
| PLSQL_OBJECT_ID           | NUMBER          | Object ID of the currently executing PL/SQL subprogram; NULL if executing SQL                                                                                                                             |
| PLSQL_OWNER_ID            | NUMBER          | ID of the owner of the currently executing PL/SQL subprogram; NULL if executing SQL                                                                                                                       |
| PLSQL_SUBPROGRAM_ID       | NUMBER          | Subprogram ID of the currently executing PL/SQL object; NULL if executing SQL                                                                                                                             |
| FIRST_REFRESH_TIME        | DATE            | Time when monitoring of the SQL statement started, generally a few seconds after execution start time                                                                                                     |
| LAST_REFRESH_TIME         | DATE            | Time when statistics in V\$ALL_SQL_MONITOR were last updated for the SQL statement. Statistics are generally refreshed every second when the statement executes.                                          |
| REFRESH_COUNT             | NUMBER          | Number of times V\$ALL_SQL_MONITOR statistics have been refreshed (generally once every second when the SQL statement executes)                                                                           |
| DBOP_EXEC_ID              | NUMBER          | Database operation execution identifier for the current execution. If the type is SQL, the DBOP_EXEC_ID will be NULL.                                                                                     |
| DBOP_NAME                 | VARCHAR2 (30)   | Database operation name. If the type is SQL, the DBOP_NAME will be NULL.                                                                                                                                  |
| SID                       | NUMBER          | Session identifier executing (or having executed) the SQL statement being monitored                                                                                                                       |
| PROCESS_NAME              | VARCHAR2 (5)    | Process name identifier executing (or having executed) the statement; ora if the process is foreground, else the background process name (for example, p001 for PX server p001)                           |
| SQL_ID                    | VARCHAR2 (13)   | SQL identifier of the statement being monitored                                                                                                                                                           |
| SQL_TEXT                  | VARCHAR2 (2000) | Up to the first 2000 characters of the text of the SQL being monitored                                                                                                                                    |
| IS_FULL_SQLTEXT           | VARCHAR2 (1)    | Indicates whether the SQL_TEXT column has the entire SQL text (Y) or not (N)                                                                                                                              |
| SQL_EXEC_START            | DATE            | Time when the execution started                                                                                                                                                                           |
| SQL_EXEC_ID               | NUMBER          | Execution identifier. Together, the three columns SQL_ID, SQL_EXEC_START, and SQL_EXEC_ID represent the execution key. The execution key is used to uniquely identify one execution of the SQL statement. |
| SQL_PLAN_HASH_VALUE       | NUMBER          | SQL plan hash value                                                                                                                                                                                       |



| Column                   | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQL_FULL_PLAN_HASH_VALUE | NUMBER        | Numeric representation of the complete SQL plan for this cursor. Comparing one <code>SQL_FULL_PLAN_HASH_VALUE</code> to another easily identifies whether or not two plans are the same (rather than comparing the two plans line by line). Note that the <code>SQL_FULL_PLAN_HASH_VALUE</code> cannot be compared across databases releases. It is not backward compatible. |
| EXACT_MATCHING_SIGNATURE | NUMBER        | Signature calculated on the normalized SQL text. The normalization includes the removal of white space and the uppercasing of all non-literal strings.                                                                                                                                                                                                                       |
| FORCE_MATCHING_SIGNATURE | NUMBER        | Same as <code>EXACT_MATCHING_SIGNATURE</code> but literals in the SQL text are replaced by binds                                                                                                                                                                                                                                                                             |
| SQL_CHILD_ADDRESS        | RAW(8)        | Address of the child cursor (can be used with <code>SQL_ID</code> to join with <code>V\$SQL</code> )                                                                                                                                                                                                                                                                         |
| SESSION_SERIAL#          | NUMBER        | Session serial number executing the statement being monitored                                                                                                                                                                                                                                                                                                                |
| PX_IS_CROSS_INSTANCE     | VARCHAR2(1)   | Indicates whether the SQL statement ran parallel across multiple instances (Y) or not (N)                                                                                                                                                                                                                                                                                    |
| PX_MAXDOP                | NUMBER        | Maximum degree of parallelism for any plan operation executed on behalf of the monitored SQL                                                                                                                                                                                                                                                                                 |
| PX_MAXDOP_INSTANCES      | NUMBER        | Number of database instances touched at the maximum degree of parallelism                                                                                                                                                                                                                                                                                                    |
| PX_SERVERS_REQUESTED     | NUMBER        | Total number of parallel execution servers requested to execute the monitored SQL                                                                                                                                                                                                                                                                                            |
| PX_SERVERS_ALLOCATED     | NUMBER        | Actual number of parallel execution servers allocated to execute the query                                                                                                                                                                                                                                                                                                   |
| PX_SERVER#               | NUMBER        | Logical parallel execution server process number executing (or having executed) the statement being monitored; NULL if this monitoring entry is not associated with an execution server. This is a logical number within the parallel server set (see <code>SERVER#</code> in <code>V\$PX_SESSION</code> ).                                                                  |
| PX_SERVER_GROUP          | NUMBER        | Logical parallel execution server group number to which <code>PX_SERVER#</code> belongs (see <code>SERVER_GROUP</code> in <code>V\$PX_SESSION</code> ); NULL if this monitoring entry is not associated with a parallel execution server. This value is generally 1 unless the SQL statement has one or more parallel sub-queries.                                           |
| PX_SERVER_SET            | NUMBER        | Number (1 or 2) of the logical set of parallel execution servers to which <code>PX_SERVER#</code> belongs (see <code>SERVER_SET</code> in <code>V\$PX_SESSION</code> ); NULL if this monitoring entry is not associated with a parallel execution server                                                                                                                     |
| PX_QCINST_ID             | NUMBER        | Instance identifier where the parallel execution coordinator runs; NULL if <code>PX_SERVER#</code> is NULL                                                                                                                                                                                                                                                                   |
| PX_QCSID                 | NUMBER        | Session identifier for the parallel execution coordinator; NULL if <code>PX_SERVER#</code> is NULL                                                                                                                                                                                                                                                                           |
| ERROR_NUMBER             | VARCHAR2(40)  | Error number encountered in case a SQL fails to execute successfully (for example, 932 in case of ORA-00932)                                                                                                                                                                                                                                                                 |
| ERROR_FACILITY           | VARCHAR2(4)   | Error facility in case a SQL fails to execute successfully (for example, ORA in case of ORA-00932)                                                                                                                                                                                                                                                                           |
| ERROR_MESSAGE            | VARCHAR2(256) | Detailed error message displayed corresponding to the error number and error facility when a SQL fails to execute successfully                                                                                                                                                                                                                                               |
| BINDS_XML                | CLOB          | Information about bind variables used with the SQL, such as name, position, value, data type, and so on (stored in XML format)                                                                                                                                                                                                                                               |

| Column                  | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTHER_XML               | CLOB     | Provides extra information specific to an execution step of the execution plan. The content of this column is structured using XML, which allows multiple pieces of information to be stored, including the following: <ul style="list-style-type: none"> <li>• Name of the schema against which the query was parsed</li> <li>• Release number of the Oracle Database that produced the explain plan</li> <li>• Hash value associated with the execution plan</li> <li>• Name (if any) of the outline or the SQL profile used to build the execution plan</li> <li>• Indication of whether or not dynamic statistics were used to produce the plan</li> <li>• The outline data, a set of optimizer hints that can be used to regenerate the same plan</li> <li>• Additional data that describes the relationship between rows in the plan table and subplans of adaptive plans</li> </ul> |
| ELAPSED_TIME            | NUMBER   | Elapsed time (in microseconds); updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| QUEUING_TIME            | NUMBER   | Duration of time (in microseconds) spent by SQL in the statement queue                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CPU_TIME                | NUMBER   | CPU time (in microseconds); updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| FETCHES                 | NUMBER   | Number of fetches associated with the SQL statement; updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| BUFFER_GETS             | NUMBER   | Number of buffer get operations; updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| DISK_READS              | NUMBER   | Number of disk reads; updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DIRECT_WRITES           | NUMBER   | Number of direct writes; updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| IO_INTERCONNECT_BYTES   | NUMBER   | Number of I/O bytes exchanged between Oracle Database and the storage system                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PHYSICAL_READ_REQUESTS  | NUMBER   | Number of physical read I/O requests issued by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| PHYSICAL_READ_BYTES     | NUMBER   | Number of bytes read from disks by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| PHYSICAL_WRITE_REQUESTS | NUMBER   | Number of physical write I/O requests issued by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PHYSICAL_WRITE_BYTES    | NUMBER   | Number of bytes written to disks by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| APPLICATION_WAIT_TIME   | NUMBER   | Application wait time (in microseconds); updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CONCURRENCY_WAIT_TIME   | NUMBER   | Concurrency wait time (in microseconds); updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CLUSTER_WAIT_TIME       | NUMBER   | Cluster wait time (in microseconds); updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| USER_IO_WAIT_TIME       | NUMBER   | User I/O Wait Time (in microseconds); updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| PLSQL_EXEC_TIME         | NUMBER   | PL/SQL execution time (in microseconds); updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| JAVA_EXEC_TIME          | NUMBER   | Java execution time (in microseconds); updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Column                         | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RM_LAST_ACTION                 | VARCHAR2 (48)  | <p>The most recent action that was taken on this SQL operation by Resource Manager. Its value is one of the following:</p> <ul style="list-style-type: none"> <li>CANCEL_SQL</li> <li>KILL_SESSION</li> <li>LOG_ONLY</li> <li>SWITCH TO &lt;CG NAME&gt;</li> </ul> <p>For the last value, &lt;CG NAME&gt; is the name of the consumer group that the SQL operation was switched to. If the Resource Plan has since been changed then &lt;CG NAME&gt; is the ID of the consumer group.</p> |
| RM_LAST_ACTION_REASON          | VARCHAR2 (128) | <p>The reason for the most recent action that was taken on this SQL operation by Resource Manager. Its value is one of the following:</p> <ul style="list-style-type: none"> <li>SWITCH_CPU_TIME</li> <li>SWITCH_IO_REQS</li> <li>SWITCH_IO_MBS</li> <li>SWITCH_ELAPSED_TIME</li> <li>SWITCH_IO_LOGICAL</li> </ul>                                                                                                                                                                        |
| RM_LAST_ACTION_TIME            | DATE           | The time of the most recent action that was taken on this SQL operation by Resource Manager                                                                                                                                                                                                                                                                                                                                                                                               |
| RM_CONSUMER_GROUP              | VARCHAR2 (128) | The current consumer group for this SQL operation                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID                         | NUMBER         | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                    |
| CON_NAME                       | VARCHAR2 (128) | Container name of the object. The value of this column is NULL in non-CDBs.                                                                                                                                                                                                                                                                                                                                                                                                               |
| ECID                           | VARCHAR2 (64)  | Execution context identifier (sent by Application Server)                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| IS_ADAPTIVE_PLAN               | VARCHAR2 (1)   | Indicates whether the statistics are from an adaptive plan (Y) or not (N).                                                                                                                                                                                                                                                                                                                                                                                                                |
| IS_FINAL_PLAN                  | VARCHAR2 (1)   | Indicates whether the statistics are from the final plan (Y) or not (N).                                                                                                                                                                                                                                                                                                                                                                                                                  |
| IN_DBOP_NAME                   | VARCHAR2 (30)  | If the SQL that is monitored was executed by a session that was also monitored by a database operation (DBOP), then this column specifies the name of that DBOP                                                                                                                                                                                                                                                                                                                           |
| IN_DBOP_EXEC_ID                | NUMBER         | If the SQL that is monitored was executed by a session that was also monitored by a database operation (DBOP), then this column specifies the execution ID of that DBO                                                                                                                                                                                                                                                                                                                    |
| IO_CELL_UNCOMPRESSED_BYTES     | NUMBER         | <p>Number of uncompressed bytes (that is, size after decompression) that are offloaded to the Exadata cells</p> <p><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information</p>                                                                                                                                                                                                                                                                         |
| IO_CELL_OFFLOAD_ELIGIBLE_BYTES | NUMBER         | <p>Number of I/O bytes which can be filtered by the Exadata storage system</p> <p><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information</p>                                                                                                                                                                                                                                                                                                          |

| Column                         | Datatype       | Description                                                                                                                                                                                                                                       |
|--------------------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IO_CELL_OFFLOAD_RETURNED_BYTES | NUMBER         | Number of filtered bytes returned by Exadata cells (that is, the number of bytes returned after processing has been offloaded on the Exadata cells)<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information |
| CURRENT_USER#                  | NUMBER         | Unique number identifying the current user                                                                                                                                                                                                        |
| CURRENT_USERNAME               | VARCHAR2 (128) | Username for the current user                                                                                                                                                                                                                     |
| PDB_REPORT_ID                  | NUMBER         | Unique ID of the XML report of a PDB monitored entity that is stored in the CDB's Automatic Workload Repository (AWR) tables                                                                                                                      |
| PDB_ID                         | NUMBER         | Container ID of the PDB                                                                                                                                                                                                                           |
| PARSING_SCHEMA#                | NUMBER         | Identifier of the parsing schema                                                                                                                                                                                                                  |
| PARSING_SCHEMA_NAME            | VARCHAR2 (128) | Name of the parsing schema                                                                                                                                                                                                                        |

## 8.16 V\$ALL\_SQL\_PLAN\_MONITOR

V\$ALL\_SQL\_PLAN\_MONITOR displays plan level monitoring statistics for each SQL statement found in V\$ALL\_SQL\_MONITOR.



### Note:

V\$ALL\_SQL\_PLAN\_MONITOR allows application developers to view statistics about their own SQL statements. It is similar to the V\$SQL\_PLAN\_MONITOR view, with the following exception:

- When queried by the SYS user, or any user with the SYSDBA privilege, the V\$ALL\_SQL\_PLAN\_MONITOR view displays the same data as the V\$SQL\_PLAN\_MONITOR view.
- When queried by any other user, the V\$ALL\_SQL\_PLAN\_MONITOR view displays data only about SQL statements that were executed in sessions owned by that user.

See also "[V\\$SQL\\_PLAN\\_MONITOR](#)"

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| KEY    | NUMBER   | Foreign key to efficiently join V\$ALL_SQL_PLAN_MONITOR with V\$ALL_SQL_MONITOR (see V\$ALL_SQL_MONITOR)                                                                                                                                                                                                                                                                                                                                              |

| Column               | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS               | VARCHAR2 (19)  | SQL execution status: <ul style="list-style-type: none"> <li>EXECUTING - SQL statement is still executing</li> <li>DONE (ERROR) - Execution terminated with an error</li> <li>DONE (FIRST N ROWS) - Execution terminated by the application before all rows were fetched</li> <li>DONE (ALL ROWS) - Execution terminated and all rows were fetched</li> <li>DONE - Execution terminated (parallel execution)</li> </ul> |
| FIRST_REFRESH_TIME   | DATE           | Time when monitoring of the SQL statement started                                                                                                                                                                                                                                                                                                                                                                       |
| LAST_REFRESH_TIME    | DATE           | Time when statistics were last updated for the SQL statement                                                                                                                                                                                                                                                                                                                                                            |
| FIRST_CHANGE_TIME    | DATE           | First time a row was produced by this operation                                                                                                                                                                                                                                                                                                                                                                         |
| LAST_CHANGE_TIME     | DATE           | Last time a row was produced by this operation                                                                                                                                                                                                                                                                                                                                                                          |
| REFRESH_COUNT        | NUMBER         | Number of times statistics have been refreshed                                                                                                                                                                                                                                                                                                                                                                          |
| SID                  | NUMBER         | Session identifier executing (or having executed) the SQL statement being monitored                                                                                                                                                                                                                                                                                                                                     |
| PROCESS_NAME         | VARCHAR2 (5)   | Process name identifier                                                                                                                                                                                                                                                                                                                                                                                                 |
| SQL_ID               | VARCHAR2 (13)  | SQL identifier                                                                                                                                                                                                                                                                                                                                                                                                          |
| SQL_EXEC_START       | DATE           | Time when the execution started                                                                                                                                                                                                                                                                                                                                                                                         |
| SQL_EXEC_ID          | NUMBER         | Execution identifier                                                                                                                                                                                                                                                                                                                                                                                                    |
| SQL_PLAN_HASH_VALUE  | NUMBER         | SQL plan hash value                                                                                                                                                                                                                                                                                                                                                                                                     |
| SQL_CHILD_ADDRESS    | RAW (8)        | Address of the child cursor                                                                                                                                                                                                                                                                                                                                                                                             |
| PLAN_PARENT_ID       | NUMBER         | ID of the next execution step that operates on the output of the current step                                                                                                                                                                                                                                                                                                                                           |
| PLAN_LINE_ID         | NUMBER         | Plan line number for the entry                                                                                                                                                                                                                                                                                                                                                                                          |
| PLAN_OPERATION       | VARCHAR2 (30)  | Plan operation name (from V\$SQL_PLAN)                                                                                                                                                                                                                                                                                                                                                                                  |
| PLAN_OPTIONS         | VARCHAR2 (30)  | Plan option name (from V\$SQL_PLAN)                                                                                                                                                                                                                                                                                                                                                                                     |
| PLAN_OBJECT_OWNER    | VARCHAR2 (128) | Name of the user who owns the schema containing the table or index                                                                                                                                                                                                                                                                                                                                                      |
| PLAN_OBJECT_NAME     | VARCHAR2 (128) | Name of the table or index                                                                                                                                                                                                                                                                                                                                                                                              |
| PLAN_OBJECT_TYPE     | VARCHAR2 (20)  | Type of the object                                                                                                                                                                                                                                                                                                                                                                                                      |
| PLAN_DEPTH           | NUMBER         | Depth (or level) of the operation in the tree. It is not necessary to issue a CONNECT BY statement to get the level information, which is generally used to indent the rows from the PLAN_TABLE table. The root operation (statement) is level 0.                                                                                                                                                                       |
| PLAN_POSITION        | NUMBER         | Order of processing for all operations that have the same PARENT_ID                                                                                                                                                                                                                                                                                                                                                     |
| PLAN_COST            | NUMBER         | Cost of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is NULL.                                                                                                                                                                                                                                                                        |
| PLAN_CARDINALITY     | NUMBER         | Estimate, by the cost-based optimizer, of the number of rows produced by the operation                                                                                                                                                                                                                                                                                                                                  |
| PLAN_BYTES           | NUMBER         | Estimate, by the cost-based optimizer, of the number of bytes produced by the operation                                                                                                                                                                                                                                                                                                                                 |
| PLAN_TIME            | NUMBER         | Elapsed time (in seconds) of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is NULL.                                                                                                                                                                                                                                                   |
| PLAN_PARTITION_START | VARCHAR2 (64)  | Start partition of a range of accessed partitions                                                                                                                                                                                                                                                                                                                                                                       |
| PLAN_PARTITION_STOP  | VARCHAR2 (64)  | Stop partition of a range of accessed partitions                                                                                                                                                                                                                                                                                                                                                                        |

| Column                  | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PLAN_CPU_COST           | NUMBER   | CPU cost of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is NULL.                                                                                                                                                                                                                                                                                                               |
| PLAN_IO_COST            | NUMBER   | I/O cost of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is NULL.                                                                                                                                                                                                                                                                                                               |
| PLAN_TEMP_SPACE         | NUMBER   | Temporary space usage of the operation (sort or hash-join) as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is NULL.                                                                                                                                                                                                                                                                              |
| STARTS                  | NUMBER   | Number of times this operation was executed. For example, an operation is executed multiple times when it is on the right side of a nested-loop join (once for each row of the left input of that nested-loop join).                                                                                                                                                                                                                                               |
| OUTPUT_ROWS             | NUMBER   | Number of rows produced by this operation since the execution started. This number is cumulated for all executions of this operation. Divide by the value of the STARTS column to compute the average number of rows per execution of the operation. Note that the value in the STARTS column is equal to or higher than the value in the OUTPUT_ROWS column. The value will usually be equal, but depending on internal optimizations a higher value may be seen. |
| IO_INTERCONNECT_BYTES   | NUMBER   | Number of I/O bytes exchanged between Oracle Database and the storage system. Maintained only after Oracle starts to monitor the execution.                                                                                                                                                                                                                                                                                                                        |
| PHYSICAL_READ_REQUESTS  | NUMBER   | Number of physical read I/O requests issued by the monitored SQL. Maintained only after Oracle starts to monitor the execution.                                                                                                                                                                                                                                                                                                                                    |
| PHYSICAL_READ_BYTES     | NUMBER   | Number of bytes read from disks by the monitored SQL. Maintained only after Oracle starts to monitor the execution.                                                                                                                                                                                                                                                                                                                                                |
| PHYSICAL_WRITE_REQUESTS | NUMBER   | Number of physical write I/O requests issued by the monitored SQL. Maintained only after Oracle starts to monitor the execution.                                                                                                                                                                                                                                                                                                                                   |
| PHYSICAL_WRITE_BYTES    | NUMBER   | Number of bytes written to disks by the monitored SQL. Maintained only after Oracle starts to monitor the execution.                                                                                                                                                                                                                                                                                                                                               |
| WORKAREA_MEM            | NUMBER   | Amount of memory (in bytes) used by the operation when the query is executing; NULL if the execution is done. This applies only to operations using a work area, such as sort, hash-join, group-by, and so on.                                                                                                                                                                                                                                                     |
| WORKAREA_MAX_MEM        | NUMBER   | Maximum value (in bytes) for WORKAREA_MEM; NULL if the operation is not using a work area. When the execution is finished, this value will hold the maximum amount of memory consumed by this operation during the execution of the statement.                                                                                                                                                                                                                     |
| WORKAREA_TEMPSEG        | NUMBER   | Amount of temporary space (in bytes) used by the operation when the query is executing; NULL if the operation has not spilled to disk or if the execution is finished                                                                                                                                                                                                                                                                                              |
| WORKAREA_MAX_TEMPSEG    | NUMBER   | Maximum value (in bytes) for WORKAREA_TEMPSEG; NULL if this operation never spilled to disk. When the execution is done, this value will hold the maximum amount of temporary space consumed by this operation during the entire execution.                                                                                                                                                                                                                        |
| OTHERSTAT_GROUP_ID      | NUMBER   | Plan line statistic group identifier (see GROUP_ID column in V\$SQL_MONITOR_STATNAME)                                                                                                                                                                                                                                                                                                                                                                              |
| OTHERSTAT_1_ID          | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 1 of that plan line                                                                                                                                                                                                                                                                                                                                                           |
| OTHERSTAT_1_TYPE        | NUMBER   | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Column             | Datatype | Description                                                                                               |
|--------------------|----------|-----------------------------------------------------------------------------------------------------------|
| OTHERSTAT_1_VALUE  | NUMBER   | Value of statistic number 1 of that plan line                                                             |
| OTHERSTAT_2_ID     | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 2 of that plan line  |
| OTHERSTAT_2_TYPE   | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_2_VALUE  | NUMBER   | Value of statistic number 2 of that plan line                                                             |
| OTHERSTAT_3_ID     | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 3 of that plan line  |
| OTHERSTAT_3_TYPE   | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_3_VALUE  | NUMBER   | Value of statistic number 3 of that plan line                                                             |
| OTHERSTAT_4_ID     | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 4 of that plan line  |
| OTHERSTAT_4_TYPE   | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_4_VALUE  | NUMBER   | Value of statistic number 4 of that plan line                                                             |
| OTHERSTAT_5_ID     | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 5 of that plan line  |
| OTHERSTAT_5_TYPE   | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_5_VALUE  | NUMBER   | Value of statistic number 5 of that plan line                                                             |
| OTHERSTAT_6_ID     | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 6 of that plan line  |
| OTHERSTAT_6_TYPE   | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_6_VALUE  | NUMBER   | Value of statistic number 6 of that plan line                                                             |
| OTHERSTAT_7_ID     | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 7 of that plan line  |
| OTHERSTAT_7_TYPE   | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_7_VALUE  | NUMBER   | Value of statistic number 7 of that plan line                                                             |
| OTHERSTAT_8_ID     | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 8 of that plan line  |
| OTHERSTAT_8_TYPE   | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_8_VALUE  | NUMBER   | Value of statistic number 8 of that plan line                                                             |
| OTHERSTAT_9_ID     | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 9 of that plan line  |
| OTHERSTAT_9_TYPE   | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_9_VALUE  | NUMBER   | Value of statistic number 9 of that plan line                                                             |
| OTHERSTAT_10_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 10 of that plan line |
| OTHERSTAT_10_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_10_VALUE | NUMBER   | Value of statistic number 10 of that plan line                                                            |
| OTHERSTAT_11_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 11 of that plan line |
| OTHERSTAT_11_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_11_VALUE | NUMBER   | Value of statistic number 11 of that plan line                                                            |
| OTHERSTAT_12_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 12 of that plan line |



| Column             | Datatype | Description                                                                                               |
|--------------------|----------|-----------------------------------------------------------------------------------------------------------|
| OTHERSTAT_12_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_12_VALUE | NUMBER   | Value of statistic number 12 of that plan line                                                            |
| OTHERSTAT_13_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 13 of that plan line |
| OTHERSTAT_13_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_13_VALUE | NUMBER   | Value of statistic number 13 of that plan line                                                            |
| OTHERSTAT_14_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 14 of that plan line |
| OTHERSTAT_14_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_14_VALUE | NUMBER   | Value of statistic number 14 of that plan line                                                            |
| OTHERSTAT_15_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 15 of that plan line |
| OTHERSTAT_15_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_15_VALUE | NUMBER   | Value of statistic number 15 of that plan line                                                            |
| OTHERSTAT_16_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 16 of that plan line |
| OTHERSTAT_16_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_16_VALUE | NUMBER   | Value of statistic number 16 of that plan line                                                            |
| OTHERSTAT_17_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 17 of that plan line |
| OTHERSTAT_17_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_17_VALUE | NUMBER   | Value of statistic number 17 of that plan line                                                            |
| OTHERSTAT_18_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 18 of that plan line |
| OTHERSTAT_18_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_18_VALUE | NUMBER   | Value of statistic number 18 of that plan line                                                            |
| OTHERSTAT_19_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 19 of that plan line |
| OTHERSTAT_19_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_19_VALUE | NUMBER   | Value of statistic number 19 of that plan line                                                            |
| OTHERSTAT_20_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 20 of that plan line |
| OTHERSTAT_20_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_20_VALUE | NUMBER   | Value of statistic number 20 of that plan line                                                            |
| OTHERSTAT_21_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 21 of that plan line |
| OTHERSTAT_21_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_21_VALUE | NUMBER   | Value of statistic number 21 of that plan line                                                            |
| OTHERSTAT_22_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 22 of that plan line |
| OTHERSTAT_22_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_22_VALUE | NUMBER   | Value of statistic number 22 of that plan line                                                            |



| Column             | Datatype | Description                                                                                               |
|--------------------|----------|-----------------------------------------------------------------------------------------------------------|
| OTHERSTAT_23_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 23 of that plan line |
| OTHERSTAT_23_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_23_VALUE | NUMBER   | Value of statistic number 23 of that plan line                                                            |
| OTHERSTAT_24_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 24 of that plan line |
| OTHERSTAT_24_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_24_VALUE | NUMBER   | Value of statistic number 24 of that plan line                                                            |
| OTHERSTAT_25_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 25 of that plan line |
| OTHERSTAT_25_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_25_VALUE | NUMBER   | Value of statistic number 25 of that plan line                                                            |
| OTHERSTAT_26_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 26 of that plan line |
| OTHERSTAT_26_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_26_VALUE | NUMBER   | Value of statistic number 26 of that plan line                                                            |
| OTHERSTAT_27_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 27 of that plan line |
| OTHERSTAT_27_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_27_VALUE | NUMBER   | Value of statistic number 27 of that plan line                                                            |
| OTHERSTAT_28_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 28 of that plan line |
| OTHERSTAT_28_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_28_VALUE | NUMBER   | Value of statistic number 28 of that plan line                                                            |
| OTHERSTAT_29_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 29 of that plan line |
| OTHERSTAT_29_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_29_VALUE | NUMBER   | Value of statistic number 29 of that plan line                                                            |
| OTHERSTAT_30_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 30 of that plan line |
| OTHERSTAT_30_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_30_VALUE | NUMBER   | Value of statistic number 30 of that plan line                                                            |

| Column                  | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTHER_XML               | CLOB     | Provides extra information specific to an execution step of the execution plan. The content of this column is structured using XML, which allows multiple pieces of information to be stored, including the following: <ul style="list-style-type: none"> <li>Name of the schema against which the query was parsed</li> <li>Release number of the Oracle Database that produced the explain plan</li> <li>Hash value associated with the execution plan</li> <li>Name (if any) of the outline or the SQL profile used to build the execution plan</li> <li>Indication of whether or not dynamic statistics were used to produce the plan</li> <li>The outline data, a set of optimizer hints that can be used to regenerate the same plan</li> <li>Additional data that describes the relationship between rows in the plan table and subplans of adaptive plans</li> </ul> |
| PLAN_OPERATION_INACTIVE | NUMBER   | Indicates whether this plan operation was part of the final resolved plan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| PDB_ID                  | NUMBER   | Container ID of the PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## 8.17 V\$AQ

V\$AQ displays statistics for the queues in the database.

| Column          | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QID             | NUMBER   | Unique queue identifier                                                                                                                                                                                                                                                                                                                                                                                                                         |
| WAITING         | NUMBER   | Number of messages in the queue in the state 'WAITING'                                                                                                                                                                                                                                                                                                                                                                                          |
| READY           | NUMBER   | Number of messages in the queue in the state 'READY'                                                                                                                                                                                                                                                                                                                                                                                            |
| EXPIRED         | NUMBER   | Number of messages in the queue the state 'EXPIRED'                                                                                                                                                                                                                                                                                                                                                                                             |
| AVERAGE_MSG_AGE | NUMBER   | Average age of the messages in the queue'                                                                                                                                                                                                                                                                                                                                                                                                       |
| TOTAL_WAIT      | NUMBER   | Total wait time of all 'READY' messages in the queue                                                                                                                                                                                                                                                                                                                                                                                            |
| AVERAGE_WAIT    | NUMBER   | Average wait time of 'READY' messages in the queue                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID          | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



### See Also:

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Database Advanced Queueing

## 8.18 V\$AQ\_BACKGROUND\_COORDINATOR

V\$AQ\_BACKGROUND\_COORDINATOR lists performance statistics for the Oracle Database Advanced Queuing primary background coordinator process (AQPC).

| Column           | Datatype      | Description                                                                                                                                          |
|------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROCESS_ID       | VARCHAR2 (24) | Operating system process ID of the primary                                                                                                           |
| PROCESS_NAME     | VARCHAR2 (48) | Operating system name of the primary                                                                                                                 |
| NUM_JOBS         | NUMBER        | Number of jobs started                                                                                                                               |
| JOB_LATENCY      | NUMBER        | Job start latency                                                                                                                                    |
| NUM_COORDINATORS | NUMBER        | Number of primaries started                                                                                                                          |
| CON_ID           | NUMBER        | The ID of the container to which the data pertains. The CON_ID value in this view is always 0. The rows pertain to the entire CDB or to the non-CDB. |



### See Also:

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Database Advanced Queuing

## 8.19 V\$AQ\_BMAP\_NONDUR\_SUBSCRIBERS

V\$AQ\_BMAP\_NONDUR\_SUBSCRIBERS can be used to get the available bit positions. The view is queried to get the free bit position during creation of a non-durable subscriber.

| Column   | Datatype  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUE_ID | NUMBER    | Queue ID                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| USED_POS | RAW (128) | Stream of bits to identify used and available bit positions                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID   | NUMBER    | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



### See Also:

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Database Advanced Queuing

## 8.20 V\$AQ\_CROSS\_INSTANCE\_JOBS

V\$AQ\_CROSS\_INSTANCE\_JOBS describes each of the cross process jobs.

Each job serves to forward messages for a shard from a source instance to a destination instance for a set of subscribers of a sharded queue.



### Note:

AQ sharded queues are deprecated in Oracle Database 21c. Oracle recommends that you instead use Transactional Event Queues (TxEventQs) for higher throughput and better performance.

| Column                  | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JOB_ID                  | NUMBER         | Job ID within this coordinator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SCHEMA_NAME             | VARCHAR2 (128) | Source schema of the job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| QUEUE_NAME              | VARCHAR2 (128) | Source queue name of the cross job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| SHARD_ID                | NUMBER         | Source shard ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| START_SUBSHARD_ID       | NUMBER         | Start subshard ID of the job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| DESTINATION_INSTANCE_ID | NUMBER         | Destination instance of the cross job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| COORDINATOR_ID          | NUMBER         | Index of the coordinator serving the job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DEST_SERVER_PROCESS_ID  | NUMBER         | Process ID of the destination server                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| JOB_STATE               | VARCHAR2 (28)  | State of the job: <ul style="list-style-type: none"> <li>• REQUESTED</li> <li>• RUNNING</li> <li>• STOPPED</li> <li>• PAUSED</li> <li>• CRASHED</li> <li>• INACTIVE</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| FLOW_CONTROL            | NUMBER         | Indicates whether the job is flow controlled: <ul style="list-style-type: none"> <li>• 0 - The job is not flow controlled</li> <li>• 1 - The job is flow controlled</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| MSG_SENT                | NUMBER         | Messages sent during the job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| BYTES_SENT              | NUMBER         | Bytes sent during the job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ACK_LATENCY             | NUMBER         | Latency for receiving ACK for the job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| JOB_TYPE                | VARCHAR2 (26)  | Cross instance job type. Values: <ul style="list-style-type: none"> <li>• CROSS_STREAM<br/>: This job type is responsible for forwarding a shard from its owner instance to a destination dequeue instance for all subscribers performing dequeue from that shard at the destination dequeue instance.</li> <li>• DEQUEUE_AFFINITY_TO_REMOTE: This job type is responsible for switching a subscriber's dequeue affinity from a shard's owner instance to a remote dequeue instance.</li> <li>• DEQUEUE_AFFINITY_TO_LOCAL: This job type is responsible for switching back a subscriber's dequeue affinity from a remote dequeue instance to a shard's owner instance.</li> </ul> |

| Column              | Datatype                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRIORITY0_CROSS_LWM | NUMBER                      | Last priority 0 subshard received at DESTINATION_INSTANCE_ID                                                                                                                                                                                                                                                                                                                                                                                    |
| PRIORITY1_CROSS_LWM | NUMBER                      | Last priority 1 subshard received at DESTINATION_INSTANCE_ID                                                                                                                                                                                                                                                                                                                                                                                    |
| PRIORITY2_CROSS_LWM | NUMBER                      | Last priority 2 subshard received at DESTINATION_INSTANCE_ID                                                                                                                                                                                                                                                                                                                                                                                    |
| PRIORITY3_CROSS_LWM | NUMBER                      | Last priority 3 subshard received at DESTINATION_INSTANCE_ID                                                                                                                                                                                                                                                                                                                                                                                    |
| PRIORITY4_CROSS_LWM | NUMBER                      | Last priority 4 subshard received at DESTINATION_INSTANCE_ID                                                                                                                                                                                                                                                                                                                                                                                    |
| PRIORITY5_CROSS_LWM | NUMBER                      | Last priority 5 subshard received at DESTINATION_INSTANCE_ID                                                                                                                                                                                                                                                                                                                                                                                    |
| PRIORITY6_CROSS_LWM | NUMBER                      | Last priority 6 subshard received at DESTINATION_INSTANCE_ID                                                                                                                                                                                                                                                                                                                                                                                    |
| PRIORITY7_CROSS_LWM | NUMBER                      | Last priority 7 subshard received at DESTINATION_INSTANCE_ID                                                                                                                                                                                                                                                                                                                                                                                    |
| PRIORITY8_CROSS_LWM | NUMBER                      | Last priority 8 subshard received at DESTINATION_INSTANCE_ID                                                                                                                                                                                                                                                                                                                                                                                    |
| PRIORITY9_CROSS_LWM | NUMBER                      | Last priority 9 subshard received at DESTINATION_INSTANCE_ID                                                                                                                                                                                                                                                                                                                                                                                    |
| JOB_START_TIME      | TIMESTAMP(3) WITH TIME ZONE | Start time of this job                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SUBSCRIBER_ID       | NUMBER                      | Subscriber ID whose affinity is being switched for the DEQUEUE_AFFINITY_TO_REMOTE and DEQUEUE_AFFINITY_TO_LOCAL job types                                                                                                                                                                                                                                                                                                                       |
| SUBSCRIBER_NAME     | VARCHAR2(512)               | Subscriber name whose affinity is being switched for the DEQUEUE_AFFINITY_TO_REMOTE and DEQUEUE_AFFINITY_TO_LOCAL job types. This column is NULL for the CROSS_STREAM job type.                                                                                                                                                                                                                                                                 |
| OWNER_INSTANCE_ID   | NUMBER                      | Owner instance of the shard                                                                                                                                                                                                                                                                                                                                                                                                                     |
| QUEUE_ID            | NUMBER                      | Queue ID                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID              | NUMBER                      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Database Advanced Queuing

## 8.21 V\$AQ\_IPC\_ACTIVE\_MSGS

V\$AQ\_IPC\_ACTIVE\_MSGS displays the information related to active IPC messages being processed by AQ background processes.

| Column       | Datatype     | Description                       |
|--------------|--------------|-----------------------------------|
| PROCESS_NAME | VARCHAR2(48) | Worker process name               |
| PROCESS_ID   | NUMBER       | Oracle process ID for this worker |

| Column          | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SLAVE_STATE     | NUMBER        | Worker status: <ul style="list-style-type: none"> <li>3: Picked task</li> <li>4: Running</li> <li>7: Idle</li> </ul>                                                                                                                                                                                                                                                                                                                            |
| SLAVEOBJ_STATE  | NUMBER        | Worker object status: <ul style="list-style-type: none"> <li>0: Invalid</li> <li>1: Valid</li> </ul>                                                                                                                                                                                                                                                                                                                                            |
| SEQUENCE_NUMBER | NUMBER        | Message sequence number                                                                                                                                                                                                                                                                                                                                                                                                                         |
| MSG_CLASS_NAME  | VARCHAR2 (30) | Message class name                                                                                                                                                                                                                                                                                                                                                                                                                              |
| MSG_FLAGS       | NUMBER        | Message flags: <ul style="list-style-type: none"> <li>1: This message needs ack</li> <li>2: Short</li> <li>4: Long</li> <li>8: Priority</li> <li>10: Special ack</li> </ul>                                                                                                                                                                                                                                                                     |
| MSG_SUBMT_TIME  | NUMBER        | Time this message was added into the IPC primary's list (in seconds)                                                                                                                                                                                                                                                                                                                                                                            |
| MSG_PICKD_TIME  | NUMBER        | Time this message was picked by worker or primary for processing (in seconds)                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID          | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.22 V\$AQ\_IPC\_MSG\_STATS

V\$AQ\_IPC\_MSG\_STATS displays the statistics of each IPC message class, such as the total number of invocations of a message class, total pending message/processed message count, and last failure related data. Information like total processed message count, average pending time/average processing time gives a real-time outline of AQ IPC background state.

| Column               | Datatype                     | Description                                                                        |
|----------------------|------------------------------|------------------------------------------------------------------------------------|
| MSG_CLASS_NAME       | VARCHAR2 (30)                | Message class name                                                                 |
| TOTAL_MSG_CALLS      | NUMBER                       | Total number of calls for this message class                                       |
| TOTAL_ACTIVE_MSGS    | NUMBER                       | Total number of active messages presently processed by workers and primary         |
| TOTAL_PENDING_MSGS   | NUMBER                       | Total number of pending messages in the primary's local context                    |
| TOTAL_PROCESSED_MSGS | NUMBER                       | Total number of processed messages                                                 |
| LAST_RECEIVED_TIME   | TIMESTAMP (3) WITH TIME ZONE | Time when the last message of this type was received in the primary's context list |
| LAST_PROCESS_TIME    | TIMESTAMP (3) WITH TIME ZONE | Time when the last message was picked for processing                               |

| Column                  | Datatype                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LAST_DONE_TIME          | TIMESTAMP(3) WITH TIME ZONE | Time when the last message was done processing                                                                                                                                                                                                                                                                                                                                                                                              |
| AVERAGE_PENDING_TIME    | NUMBER                      | Average pending time for this message class (in seconds)                                                                                                                                                                                                                                                                                                                                                                                    |
| AVERAGE_PROCESSING_TIME | NUMBER                      | Average processing time for this message class (in seconds)                                                                                                                                                                                                                                                                                                                                                                                 |
| LAST_FAILURE_TIME       | TIMESTAMP(3) WITH TIME ZONE | Time of the last failure for this message class                                                                                                                                                                                                                                                                                                                                                                                             |
| LAST_ERROR_MSG          | VARCHAR2(512)               | Last error message for this message class                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID                  | NUMBER                      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.23 V\$AQ\_IPC\_PENDING\_MSGS

V\$AQ\_IPC\_PENDING\_MSGS displays information about pending messages, present in the local primary context.

| Column          | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SEQUENCE_NUMBER | NUMBER       | Message sequence number                                                                                                                                                                                                                                                                                                                                                                                                                     |
| MSG_CLASS_NAME  | VARCHAR2(30) | Message class name                                                                                                                                                                                                                                                                                                                                                                                                                          |
| MSG_FLAGS       | NUMBER       | Message flags: <ul style="list-style-type: none"><li>1: This message needs ack</li><li>2: Short</li><li>4: Long</li><li>8: Priority</li><li>10: Special ack</li></ul>                                                                                                                                                                                                                                                                       |
| MSG_SUBMT_TIME  | NUMBER       | Time this message was added into the IPC primary's list (in seconds)                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID          | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.24 V\$AQ\_JOB\_COORDINATOR

V\$AQ\_JOB\_COORDINATOR lists performance statistics per coordinator, for every AQ coordinator controlled by the Oracle Database Advanced Queueing primary coordinator.

| Column           | Datatype      | Description                                                                                                                                          |
|------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| COORDINATOR_ID   | NUMBER        | ID of the coordinator                                                                                                                                |
| PROCESS_ID       | VARCHAR2 (24) | Operating system process ID of the coordinator                                                                                                       |
| PROCESS_NAME     | VARCHAR2 (48) | Operating system process name of the coordinator                                                                                                     |
| JOB_NAME         | VARCHAR2 (32) | Name of the job handled                                                                                                                              |
| JOB_TYPE         | NUMBER        | Type of job handled                                                                                                                                  |
| SERVER_COUNT     | NUMBER        | Number of servers active                                                                                                                             |
| MAX_SERVER_COUNT | NUMBER        | Maximum server fanout achieved                                                                                                                       |
| CON_ID           | NUMBER        | The ID of the container to which the data pertains. The CON_ID value in this view is always 0. The rows pertain to the entire CDB or to the non-CDB. |

**See Also:**

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Database Advanced Queueing

## 8.25 V\$AQ\_MESSAGE\_CACHE

V\$AQ\_MESSAGE\_CACHE provides performance statistics of the message cache for sharded queues at the subshard level in the instance.

**Note:**

AQ sharded queues are deprecated in Oracle Database 21c. Oracle recommends that you instead use Transactional Event Queues (TxEventQs) for higher throughput and better performance.

| Column            | Datatype | Description                                                       |
|-------------------|----------|-------------------------------------------------------------------|
| QUEUE_ID          | NUMBER   | Queue ID                                                          |
| SHARD_ID          | NUMBER   | Shard ID                                                          |
| PRIORITY          | NUMBER   | Priority of the subshard for dequeue, range 0–9                   |
| SUBSHARD_ID       | NUMBER   | Subshard ID in the shard                                          |
| PARTITION_ID      | NUMBER   | Partition id for the particular subshard                          |
| MAX_MSGS          | NUMBER   | Maximum number of messages of subshard                            |
| ENQUEUED_MSGS     | NUMBER   | Number of messages enqueued for the subshard                      |
| MSGS_MADE_EXPIRED | NUMBER   | Number of messages made expired                                   |
| CHUNK_SIZE        | NUMBER   | The size of the memory chunk for storing messages                 |
| NUM_CHUNKS        | NUMBER   | Number of chunks for the subshard                                 |
| NUM_FREE_CHUNKS   | NUMBER   | Number of free chunks for the subshard                            |
| USED_MEMORY_SIZE  | NUMBER   | Total estimated size of memory in use (in bytes) for the subshard |



| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATE  | VARCHAR2 (13) | Subshard state. Possible values: <ul style="list-style-type: none"> <li>CACHED (in memory)</li> <li>UNCACHED (on disk)</li> <li>UNCACHED_FREE</li> <li>CACHED_FREE</li> <li>UNKNOWN</li> </ul>                                                                                                                                                                                                                                                  |
| CON_ID | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Database Advanced Queuing

## 8.26 V\$AQ\_MESSAGE\_CACHE\_ADVICE

V\$AQ\_MESSAGE\_CACHE\_ADVICE shows simulated metrics for a range of potential message cache sizes. This view assists in cache sizing by providing information in the form of metrics as described below.

**Note:**

AQ sharded queues are deprecated in Oracle Database 21c. Oracle recommends that you instead use Transactional Event Queues (TxEventQs) for higher throughput and better performance.

| Column                | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SIZE_FOR_ESTIMATE     | NUMBER       | Cache size for simulation (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SIZE_FACTOR           | NUMBER       | Size factor with respect to the current cache size                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ESTD_SIZE_TYPE        | VARCHAR2 (9) | Possible values: <ul style="list-style-type: none"> <li>MINIMUM: This cache size is required to have all dequeues in-memory (no uncached).</li> <li>PREFERRED: This is the smallest message cache size required to eliminate 80% of unevictions that occur with a message cache size of MINIMUM for subscribers who keep up, that is, subscribers whose dequeue rate matches the enqueue rate.</li> <li>MAXIMUM: This cache size is required to have zero evictions.</li> <li>NULL: This is the value in all other cases.</li> </ul> |
| ESTD_CACHED_SUBSHARDS | NUMBER       | Estimated number of cached subshards for this size                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Column                  | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ESTD_UNCACHED_SUBSHARDS | NUMBER   | Estimated number of uncached subshards for this size                                                                                                                                                                                                                                                                                                                                                                                            |
| ESTD_EVICTIONS          | NUMBER   | Estimated number of subshards evicted for this size                                                                                                                                                                                                                                                                                                                                                                                             |
| ESTD_EVICTION_RATE      | NUMBER   | Estimated number of subshards getting evicted per minute                                                                                                                                                                                                                                                                                                                                                                                        |
| ESTD_FG_UNEVICTIONS     | NUMBER   | Estimated number of subshards unevicted by foreground processes                                                                                                                                                                                                                                                                                                                                                                                 |
| ESTD_FG_UNEVICTION_RATE | NUMBER   | Estimated number of subshards getting unevicted by foreground processes                                                                                                                                                                                                                                                                                                                                                                         |
| ESTD_BG_UNEVICTIONS     | NUMBER   | Estimated number of subshards unevicted by background processes                                                                                                                                                                                                                                                                                                                                                                                 |
| ESTD_BG_UNEVICTION_RATE | NUMBER   | Estimated number of subshards getting unevicted by background processes                                                                                                                                                                                                                                                                                                                                                                         |
| ESTD_BG_PROCESSES       | NUMBER   | Estimated number of background processes required for this size                                                                                                                                                                                                                                                                                                                                                                                 |
| TOTAL_ENQUEUE_RATE      | NUMBER   | Simulated number of messages being enqueued per second                                                                                                                                                                                                                                                                                                                                                                                          |
| TOTAL_DEQUEUE_RATE      | NUMBER   | Simulated number of messages being dequeued per second                                                                                                                                                                                                                                                                                                                                                                                          |
| AVG_SUBSHARD_SIZE       | NUMBER   | Simulated average number of messages per cached subshard                                                                                                                                                                                                                                                                                                                                                                                        |
| AVG_SUBSHARD_MEMORY     | NUMBER   | Simulated average memory per cached subshard (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                     |
| AVG_EVICTION_TIME       | NUMBER   | Simulated average time to evict a cached subshard (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                             |
| AVG_UNEVICTION_TIME     | NUMBER   | Simulated average time to unevict a cached subshard (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                           |
| FLAGS                   | NUMBER   | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SIMULATION_TIME         | NUMBER   | Amount of time that was simulated for (in minutes)                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID                  | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.27 V\$AQ\_MESSAGE\_CACHE\_STAT

V\$AQ\_MESSAGE\_CACHE\_STAT displays statistics about memory management for sharded queues in the Streams pool within the System Global Area (SGA). Sharded queues use the Streams pool in units of subshards. Thus, columns of this view shows statistics at subshard level. This view shows statistics across all sharded queues.



### Note:

AQ sharded queues are deprecated in Oracle Database 21c. Oracle recommends that you instead use Transactional Event Queues (TxEventQs) for higher throughput and better performance.

| Column         | Datatype | Description                                              |
|----------------|----------|----------------------------------------------------------|
| NUM_EVICTED    | NUMBER   | Number of evicted subshards across all sharded queues    |
| NUM_PREFETCHED | NUMBER   | Number of subshards pre-fetched by AQ background process |

| Column                            | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM_UNEVICTION                    | NUMBER   | Number of subshards un-evicted by foreground process (like dequeue process)                                                                                                                                                                                                                                                                                                                                                                         |
| NUM_UNCACHED                      | NUMBER   | Number of subshards stored as uncached                                                                                                                                                                                                                                                                                                                                                                                                              |
| NUM_TRACKED                       | NUMBER   | Number of subshards which are actively tracking dequeue rates                                                                                                                                                                                                                                                                                                                                                                                       |
| NUM_CACHED                        | NUMBER   | Number of subshards stored as cached                                                                                                                                                                                                                                                                                                                                                                                                                |
| MAX_SUBSH_SIZE                    | NUMBER   | Maximum subshard size seen till now, in terms of number of messages per subshard                                                                                                                                                                                                                                                                                                                                                                    |
| MIN_SUBSH_SIZE                    | NUMBER   | Minimum subshard size seen till now, in terms of number of messages per subshard                                                                                                                                                                                                                                                                                                                                                                    |
| MEAN_SUBSH_SIZE                   | NUMBER   | Mean subshard size seen till now, in terms of number of messages per subshard                                                                                                                                                                                                                                                                                                                                                                       |
| AVG_EVICTION_RATE                 | NUMBER   | Average number subshards evicted per second                                                                                                                                                                                                                                                                                                                                                                                                         |
| AVG_LOAD_RATE                     | NUMBER   | Average number of subshards pre-fetched or un-evicted per second                                                                                                                                                                                                                                                                                                                                                                                    |
| AVG_EVICTION_TIME                 | NUMBER   | Average time taken to evict one subshard (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                          |
| AVG_LOAD_TIME                     | NUMBER   | Average time taken to un-evict one subshard (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                       |
| AVG_MISS_RATIO                    | NUMBER   | Average ratio of number of foreground un-evictions versus background pre-fetch                                                                                                                                                                                                                                                                                                                                                                      |
| AVG_THRASH_RATIO                  | NUMBER   | Average ratio of number of subshard pre-fetched by background without dequeue attempt versus total number of subshards prefetched                                                                                                                                                                                                                                                                                                                   |
| MANDATORY_AFF_SWITCH_ATT<br>EMPTS | NUMBER   | An affinity switch is a change in dequeue instance for a shard-subscriber pair. A mandatory affinity switch is when there are local enqueues in the queue at the instance but no local dequeues present, so the dequeue affinity is switched to another instance for that shard-subscriber pair. This column shows the number of times mandatory affinity switches were attempted across all instances. Populated at the smallest instance id only. |
| OPTIONAL_AFF_SWITCH_ATT<br>MPTS   | NUMBER   | Optional affinity switches are affinity switches that are not mandatory. Optional affinity switches are done for global load balancing across the Oracle Real Application Clusters (Oracle RAC) database. This column shows the number of times optional affinity switches were attempted across all instances. Populated at the smallest instance id only.                                                                                         |
| MIN_EVICT_PERCENT                 | NUMBER   | Percentage of <code>streams_pool</code> memory beyond which sharded queue subshard eviction is triggered                                                                                                                                                                                                                                                                                                                                            |
| LAST_AVG_CACHED_HORIZON           | NUMBER   | Last average number of cached subshards seen in sharded queue memory manager horizon                                                                                                                                                                                                                                                                                                                                                                |
| LAST_AVG_MEMORY_HORIZON           | NUMBER   | Last average memory of cached subshards seen in sharded queue memory manager horizon                                                                                                                                                                                                                                                                                                                                                                |
| LAST_AVG_SUBSHARD_HORIZO<br>N     | NUMBER   | Last average number of subshards seen in sharded queue memory manager horizon                                                                                                                                                                                                                                                                                                                                                                       |
| LAST_LEEWAY_SHIFT                 | NUMBER   | Internal leeway for memory threshold                                                                                                                                                                                                                                                                                                                                                                                                                |
| AVG_OPTTIME_DRIFT                 | NUMBER   | Average drift of <code>opt_time</code> for all subshards. A drift is defined as a difference between <code>opt_time</code> as set on a subshard and the actual time at which subshard is first dequeued after prefetch/uneviction.                                                                                                                                                                                                                  |
| NUM_THRESHOLD_DRIFT               | NUMBER   | Number of times drift value has gone over threshold time. A typical threshold time can be <code>horizon_time/2</code> .                                                                                                                                                                                                                                                                                                                             |
| MAX_OPT_TIME_DRIFT                | NUMBER   | Maximum drift till now                                                                                                                                                                                                                                                                                                                                                                                                                              |
| MIN_OPT_TIME_DRIFT                | NUMBER   | Minimum drift till now                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Column             | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AVG_OPT_TIME_ERROR | NUMBER   | An opt_time error occurs when a cached subshard is unevicted by a foreground process (instead of being prefetched by the aq background). Thus, opt_time error is the difference between the actual opt_time set for a sharded queue subshard and the absolute time at which foreground unevicts the same subshard. This column represents average time of this error.                                                             |
| MAX_OPT_TIME_ERROR | NUMBER   | Maximum opt_time error                                                                                                                                                                                                                                                                                                                                                                                                            |
| MIN_OPT_TIME_ERROR | NUMBER   | Minimum opt_time error                                                                                                                                                                                                                                                                                                                                                                                                            |
| NUM_FG_RELOADED    | NUMBER   | Number of subshards reloaded from disk into message cache by foreground processes                                                                                                                                                                                                                                                                                                                                                 |
| NUM_PRERELOADED    | NUMBER   | Number of subshards reloaded from disk into message cache in advance by background processes                                                                                                                                                                                                                                                                                                                                      |
| AVG_RELOAD_TIME    | NUMBER   | Average time to reload a subshard from disk into message cache (in milliseconds)                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID             | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul> |

## 8.28 V\$AQ\_NONDUR\_REGISTRATIONS

V\$AQ\_NONDUR\_REGISTRATIONS provides information about non-durable subscriptions.

| Column       | Datatype                     | Description                                                                                                                                                                                                                                                                                                                                                                                |
|--------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REG_ID       | NUMBER                       | Registration ID                                                                                                                                                                                                                                                                                                                                                                            |
| SUBSCRIPTION | VARCHAR2 (128)               | Subscription name                                                                                                                                                                                                                                                                                                                                                                          |
| LOCATION     | VARCHAR2 (256)               | Location name                                                                                                                                                                                                                                                                                                                                                                              |
| USER#        | NUMBER                       | User ID                                                                                                                                                                                                                                                                                                                                                                                    |
| USER_CONTEXT | RAW (32)                     | Context the user provided                                                                                                                                                                                                                                                                                                                                                                  |
| CONTEXT_SIZE | NUMBER                       | Size of the context                                                                                                                                                                                                                                                                                                                                                                        |
| NAMESPACE    | NUMBER                       | Subscription namespace                                                                                                                                                                                                                                                                                                                                                                     |
| VERSION      | NUMBER                       | Database version number                                                                                                                                                                                                                                                                                                                                                                    |
| STATE        | NUMBER                       | State of the registration: <ul style="list-style-type: none"> <li>ENABLED: The registration is enabled for notification</li> <li>STOPPING: The registration is in a transient state before it becomes DISABLED</li> <li>DISABLED: The registration is disabled for notification</li> <li>DEAD: The registration does not exist any more, and it is marked for deferred cleanup.</li> </ul> |
| QOS          | NUMBER                       | Quality of service                                                                                                                                                                                                                                                                                                                                                                         |
| REG_TIME     | TIMESTAMP (3) WITH TIME ZONE | Time of registration                                                                                                                                                                                                                                                                                                                                                                       |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Database Advanced Queueing

## 8.29 V\$AQ\_NONDUR\_SUBSCRIBER

V\$AQ\_NONDUR\_SUBSCRIBER provides information about the non-durable subscriptions on sharded queues.

**Note:**

AQ sharded queues are deprecated in Oracle Database 21c. Oracle recommends that you instead use Transactional Event Queues (TxEventQs) for higher throughput and better performance.

| Column               | Datatype                    | Description                                                                                                                                                                                                                                                                                                                                            |
|----------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUE_ID             | NUMBER                      | Queue ID                                                                                                                                                                                                                                                                                                                                               |
| SUBSCRIBER_ID        | NUMBER                      | ID of the non-durable subscriber                                                                                                                                                                                                                                                                                                                       |
| SUBSCRIBER_NAME      | VARCHAR2(128)               | Subscriber name                                                                                                                                                                                                                                                                                                                                        |
| RULE_CONDITION       | VARCHAR2(4000)              | Rule condition of the subscriber                                                                                                                                                                                                                                                                                                                       |
| TRANSFORMATION_OWNER | VARCHAR2(128)               | Owner of the transformation (for JMS queues)                                                                                                                                                                                                                                                                                                           |
| TRANSFORMATION_NAME  | VARCHAR2(128)               | Name of the transformation (for JMS queues)                                                                                                                                                                                                                                                                                                            |
| CREATION_TIME        | TIMESTAMP(1) WITH TIME ZONE | Non-durable subscriber creation time                                                                                                                                                                                                                                                                                                                   |
| FLAGS                | NUMBER                      | Property of the subscriber: <ul style="list-style-type: none"><li>• 0x0001 – Persistent subscriber</li><li>• 0x0002 – Buffered subscriber</li><li>• 0x0004 – JMS subscriber</li><li>• 0x0008 – Rule-based subscriber</li><li>• 0x0010 – Subscriber has transformation</li><li>• 0x0020 – Notification-only non-durable subscriber</li></ul> subscriber |

| Column          | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SUBSCRIBER_TYPE | NUMBER   | Type of subscriber: <ul style="list-style-type: none"><li>• 1 – JMS non-durable subscriber</li><li>• 2 – Service layer dummy non-durable subscriber</li><li>• 3 – Notification-only non-durable subscriber</li></ul>                                                                                                                                                                                                                              |
| BITPOS          | NUMBER   | Position of subscriber in subscriber bitmap                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID          | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Database Advanced Queuing

## 8.30 V\$AQ\_NONDUR\_SUBSCRIBER\_LWM

V\$AQ\_NONDUR\_SUBSCRIBER\_LWM projects the low watermarks (LWMs) of non-durable subscribers in a sharded queue. The LWM of a non-durable subscriber is a combination of shard, priority and LWM (subshard).

**Note:**

AQ sharded queues are deprecated in Oracle Database 21c. Oracle recommends that you instead use Transactional Event Queues (TxEventQs) for higher throughput and better performance.

| Column        | Datatype | Description                                                   |
|---------------|----------|---------------------------------------------------------------|
| QUEUE_ID      | NUMBER   | Queue ID                                                      |
| SUBSCRIBER_ID | NUMBER   | ID of the non-durable subscriber                              |
| SHARD_ID      | NUMBER   | Shard ID                                                      |
| PRIORITY      | NUMBER   | Priority of the shard                                         |
| LWM           | NUMBER   | Lower watermark (in a subshard) of the non-durable subscriber |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Database Advanced Queueing

## 8.31 V\$AQ\_NOTIFICATION\_CLIENTS

V\$AQ\_NOTIFICATION\_CLIENTS displays performance statistics for secure OCI client connections.

| Column               | Datatype                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CLIENT_ID            | VARCHAR2 (29)                | Internally generated client ID for secure notification clients                                                                                                                                                                                                                                                                                                                                                                                         |
| EMON_ID              | NUMBER                       | Emon ID serving the client                                                                                                                                                                                                                                                                                                                                                                                                                             |
| NOTIFICATION_STATE   | NUMBER                       | <p>Notification state:</p> <ul style="list-style-type: none"> <li>ACTIVE – Sending notification</li> <li>WAIT_FOR_ACK – Waiting for client acknowledgment</li> <li>INACTIVE - Idle connection</li> </ul>                                                                                                                                                                                                                                               |
| NUM_MESSAGE_SENT     | NUMBER                       | Number of messages sent on the connection                                                                                                                                                                                                                                                                                                                                                                                                              |
| NUM_BYTES_SENT       | NUMBER                       | Number of bytes sent on the connection                                                                                                                                                                                                                                                                                                                                                                                                                 |
| NUM_MESSAGE_RECEIVED | NUMBER                       | Number of messages successfully received by the client                                                                                                                                                                                                                                                                                                                                                                                                 |
| LAST_SEND_TIME       | TIMESTAMP (3) WITH TIME ZONE | Time when the last message was sent on the connection                                                                                                                                                                                                                                                                                                                                                                                                  |
| LAST_RECEIVE_TIME    | TIMESTAMP (3) WITH TIME ZONE | Time when the last message was received over the connection                                                                                                                                                                                                                                                                                                                                                                                            |
| CONNECT_TIME         | TIMESTAMP (3) WITH TIME ZONE | Time at which the client connected                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DISCONNECT_TIME      | TIMESTAMP (3) WITH TIME ZONE | Time at which the client disconnected                                                                                                                                                                                                                                                                                                                                                                                                                  |
| LAST_ERROR           | NUMBER                       | The last error that occurred on the client connection                                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID               | NUMBER                       | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Database Advanced Queueing

## 8.32 V\$AQ\_PARTITION\_STATS

V\$AQ\_PARTITION\_STATS displays usage statistics for the queue partition cache and the dequeue log partition cache.

**Note:**

AQ sharded queues are deprecated in Oracle Database 21c. Oracle recommends that you instead use Transactional Event Queues (TxEventQs) for higher throughput and better performance.

| Column                 | Datatype       | Description                                                                                                                                                                                               |
|------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INST_ID                | NUMBER         | Current instance ID                                                                                                                                                                                       |
| QUEUE_ID               | NUMBER         | Queue ID                                                                                                                                                                                                  |
| QUEUE_TABLE_ID         | NUMBER         | Queue table object ID                                                                                                                                                                                     |
| QUEUE_SCHEMA           | VARCHAR2 (128) | Queue schema name                                                                                                                                                                                         |
| QUEUE_NAME             | VARCHAR2 (128) | Queue name                                                                                                                                                                                                |
| PT_TUNED_SIZ_QT        | NUMBER         | Current tuned size of the queue partition cache, expressed in number of partition cache elements                                                                                                          |
| PT_CACHED_PTNS_QT      | NUMBER         | Current number of cached partitions in the queue partition cache                                                                                                                                          |
| PT_OVER_CACHED_PTNS_QT | NUMBER         | Current number of over-cached partitions in the queue partition cache, that is, the number of cached partitions whose partition cache elements exceed the current tuned size of the queue partition cache |
| PT_TOTAL_UPTUNE_QT     | NUMBER         | Total amount of space added to the queue partition cache due to tune-ups, since the cache was initialized, expressed in number of partition cache elements                                                |
| PT_NO_OF_UPTUNES_QT    | NUMBER         | Total number of times a tune-up was triggered on the queue partition cache, since the cache was initialized                                                                                               |
| PT_TOTAL_DOWNTUNE_QT   | NUMBER         | Total amount of space removed from the queue partition cache due to tune-downs, since the cache was initialized, expressed in number of partition cache elements                                          |
| PT_NO_OF_DOWNTUNES_QT  | NUMBER         | Total number of times a tune-down was triggered on the queue partition cache, since the cache was initialized                                                                                             |
| PT_CACHE_MISS_QT       | NUMBER         | Total number of cache misses during partition lookups on the queue partition cache                                                                                                                        |
| PT_CACHE_HIT_QT        | NUMBER         | Total number of cache hits during partition lookups on the queue partition cache                                                                                                                          |
| PT_TOTAL_CACH_GET_QT   | NUMBER         | Total number of successful fetches from the queue partition cache                                                                                                                                         |
| PT_TOTAL_CACH_PUT_QT   | NUMBER         | Total number of caching operations that occurred on the queue partition cache                                                                                                                             |
| PT_UNBOUNDINGS_QT      | NUMBER         | Total number of times queue partitions were unbounded                                                                                                                                                     |



| Column                 | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PT_TUNED_SIZ_DQ        | NUMBER   | Current tuned size of the dequeue log partition cache, expressed in number of partition cache elements                                                                                                                                                                                                                                                                                                                                                 |
| PT_CACHED_PTNS_DQ      | NUMBER   | Current number of cached partitions in the dequeue log partition cache                                                                                                                                                                                                                                                                                                                                                                                 |
| PT_OVER_CACHED_PTNS_DQ | NUMBER   | Current number of over-cached partitions in the dequeue log partition cache, that is, the number of cached dequeue log partitions whose partition cache elements exceed the current tuned size of the dequeue log partition cache                                                                                                                                                                                                                      |
| PT_TOTAL_UPTUNE_DQ     | NUMBER   | Total amount of space added to the dequeue log partition cache due to tune-ups, since the cache was initialized, expressed in number of partition cache elements                                                                                                                                                                                                                                                                                       |
| PT_NO_OF_UPTUNES_DQ    | NUMBER   | Total number of times a tune-up was triggered on the dequeue log partition cache, since the cache was initialized                                                                                                                                                                                                                                                                                                                                      |
| PT_TOTAL_DOWNTUNE_DQ   | NUMBER   | Total amount of space removed from the dequeue log partition cache due to tune-downs, since the cache was initialized, expressed in number of partition cache elements                                                                                                                                                                                                                                                                                 |
| PT_NO_OF_DOWNTUNES_DQ  | NUMBER   | Total number of times a tune-down was triggered on the dequeue log partition cache, since the cache was initialized                                                                                                                                                                                                                                                                                                                                    |
| PT_CACHE_MISS_DQ       | NUMBER   | Total number of cache misses during partition lookups on the dequeue log partition cache                                                                                                                                                                                                                                                                                                                                                               |
| PT_CACHE_HIT_DQ        | NUMBER   | Total number of cache hits during partition lookups on the dequeue log partition cache                                                                                                                                                                                                                                                                                                                                                                 |
| PT_TOTAL_CACH_GET_DQ   | NUMBER   | Total number of successful fetches from the dequeue log partition cache                                                                                                                                                                                                                                                                                                                                                                                |
| PT_TOTAL_CACH_PUT_DQ   | NUMBER   | Total number of caching operations that occurred on the dequeue log partition cache                                                                                                                                                                                                                                                                                                                                                                    |
| PT_UNBOUNDINGS_DQ      | NUMBER   | Total number of times dequeue log partitions were unbounded                                                                                                                                                                                                                                                                                                                                                                                            |
| ADD_PARTITION_FG_QT    | NUMBER   | Total number of queue partitions created inline during foreground AQ enqueue operations                                                                                                                                                                                                                                                                                                                                                                |
| ADD_PARTITION_BG_QT    | NUMBER   | Total number of queue partitions created asynchronously by the AQ partitioning background process                                                                                                                                                                                                                                                                                                                                                      |
| ADD_PARTITION_FG_DQLOG | NUMBER   | Total number of dequeue log partitions created inline during foreground AQ dequeue operations                                                                                                                                                                                                                                                                                                                                                          |
| ADD_PARTITION_BG_DQLOG | NUMBER   | Total number of dequeue log partitions created asynchronously by the AQ partitioning background process                                                                                                                                                                                                                                                                                                                                                |
| TRUNC_PARTITION_QT     | NUMBER   | Total number of truncated and recycled queue partitions                                                                                                                                                                                                                                                                                                                                                                                                |
| TRUNC_PARTITION_DQLOG  | NUMBER   | Total number of truncated and recycled dequeue log partitions                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID                 | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.33 V\$AQ\_REMOTE\_DEQUEUE\_AFFINITY

V\$AQ\_REMOTE\_DEQUEUE\_AFFINITY lists the dequeue affinity instance of the subscribers not dequeuing locally from the shard's owner instance. Cross instance message forwarding is used for these subscribers.



### Note:

AQ sharded queues are deprecated in Oracle Database 21c. Oracle recommends that you instead use Transactional Event Queues (TxEventQs) for higher throughput and better performance.

| Column             | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUE_ID           | NUMBER         | Queue ID                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SHARD_ID           | NUMBER         | Shard ID which is being forwarded from SOURCE_INSTANCE to INST_ID for the subscriber                                                                                                                                                                                                                                                                                                                                                        |
| SOURCE_INSTANCE_ID | NUMBER         | Owner instance ID from where the shard is being forwarded                                                                                                                                                                                                                                                                                                                                                                                   |
| SUBSCRIBER_ID      | NUMBER         | Subscriber ID                                                                                                                                                                                                                                                                                                                                                                                                                               |
| QUEUE_SCHEMA       | VARCHAR2 (128) | Queue schema name                                                                                                                                                                                                                                                                                                                                                                                                                           |
| QUEUE_NAME         | VARCHAR2 (128) | Queue name                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID             | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.34 V\$AQ\_SERVER\_POOL

V\$AQ\_SERVER\_POOL lists performance statistics for all the servers in the pool.

| Column                  | Datatype      | Description                                                                                                                                          |
|-------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| COORDINATOR_ID          | NUMBER        | ID of the coordinator                                                                                                                                |
| COORDINATOR_INSTANCE_ID | NUMBER        | Instance of the coordinator                                                                                                                          |
| PROCESS_ID              | VARCHAR2 (24) | Operating system process ID of the server                                                                                                            |
| PROCESS_NAME            | VARCHAR2 (48) | Operating system process name of the server                                                                                                          |
| JOB_NAME                | VARCHAR2 (32) | Name of the job handled                                                                                                                              |
| POOL_STATE              | VARCHAR2 (20) | State of the pool: <ul style="list-style-type: none"><li>REMOTE</li><li>IDLE</li><li>ACTIVE</li></ul>                                                |
| CON_ID                  | NUMBER        | The ID of the container to which the data pertains. The CON_ID value in this view is always 0. The rows pertain to the entire CDB or to the non-CDB. |

**See Also:**

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Database Advanced Queuing

## 8.35 V\$AQ\_SHARDED\_SUBSCRIBER\_STAT

V\$AQ\_SHARDED\_SUBSCRIBER\_STAT displays basic statistical information about the subscribers of sharded queues. There is one row per queue per shard per subscriber.

**Note:**

AQ sharded queues are deprecated in Oracle Database 21c. Oracle recommends that you instead use Transactional Event Queues (TxEventQs) for higher throughput and better performance.

| Column                    | Datatype | Description                                                                                                                                                              |
|---------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUE_ID                  | NUMBER   | Queue identifier                                                                                                                                                         |
| SUBSCRIBER_ID             | NUMBER   | Subscriber identifier                                                                                                                                                    |
| SHARD_ID                  | NUMBER   | Shard identifier                                                                                                                                                         |
| PRIORITY                  | NUMBER   | Priority value of the shard                                                                                                                                              |
| MSG_SN                    | NUMBER   | Message serial number                                                                                                                                                    |
| DEQUEUE_SUBSHARD          | NUMBER   | Last known dequeue position in this shard                                                                                                                                |
| ENQUEUED_MSGS             | NUMBER   | Number of enqueued messages                                                                                                                                              |
| DEQUEUED_MSGS             | NUMBER   | Number of dequeued messages                                                                                                                                              |
| ELAPSED_DEQUEUE_TIME      | NUMBER   | Amount of time spent performing dequeues (in seconds)                                                                                                                    |
| CPU_DEQUEUE_TIME          | NUMBER   | Actual amount of CPU time spent performing dequeues (in seconds)                                                                                                         |
| DEQUEUE_RATE              | NUMBER   | Number of messages dequeued per second                                                                                                                                   |
| DEQUEUE_POSITION          | RAW (16) | Message ID at the dequeue position of the subscriber in this shard<br>A NULL value indicates that either the shard is empty or no dequeues have been done on this shard. |
| TIME_SINCE_LAST_DEQUEUE   | NUMBER   | Time since last dequeue activity (in seconds)                                                                                                                            |
| ESTD_TIME_TO_DRAIN        | NUMBER   | Estimated amount of time to drain the shard (in seconds) with current enqueue and dequeue rates. Null, if the enqueue rate is greater than the dequeue rate.             |
| ESTD_TIME_TO_DRAIN_NO_ENQ | NUMBER   | Estimated amount of time to drain the shard (in seconds) with no new enqueues                                                                                            |
| MESSAGE_LATENCY_1         | NUMBER   | Message latency within the last 5 minutes (in milliseconds). Null if no message is consumed or it is delay dequeue.                                                      |
| MESSAGE_LATENCY_2         | NUMBER   | Message latency within the last 1 hour (in milliseconds). Null if no message is consumed or it is delay dequeue.                                                         |
| MESSAGE_LATENCY_3         | NUMBER   | Message latency within the last 5 hours (in milliseconds). Null if no message is consumed or it is delay dequeue.                                                        |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.36 V\$AQ\_SUBSCRIBER\_LOAD

V\$AQ\_SUBSCRIBER\_LOAD describes the load of all subscribers of sharded queues in terms of latency at every instance in an Oracle RAC environment.

Latency denotes the predicted amount of time (in seconds) required from the current time to drain all the messages for that subscriber at each respective instance. The latency calculation considers past enqueue/dequeue rates and future enqueue/dequeue rates based on history.



### Note:

AQ sharded queues are deprecated in Oracle Database 21c. Oracle recommends that you instead use Transactional Event Queues (TxEventQs) for higher throughput and better performance.

| Column           | Datatype       | Description                                                                                                                                                                                                                                                                                              |
|------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUE_ID         | NUMBER         | Queue ID                                                                                                                                                                                                                                                                                                 |
| QUEUE_SCHEMA     | VARCHAR2 (128) | Queue schema                                                                                                                                                                                                                                                                                             |
| QUEUE_NAME       | VARCHAR2 (128) | Queue name                                                                                                                                                                                                                                                                                               |
| SUBSCRIBER_ID    | NUMBER         | Subscriber ID                                                                                                                                                                                                                                                                                            |
| SUBSCRIBER_NAME  | VARCHAR2 (128) | Subscriber name                                                                                                                                                                                                                                                                                          |
| LATENCY_STATE    | VARCHAR2 (8)   | <p>Possible values:</p> <ul style="list-style-type: none"> <li>FINITE - The subscriber will be able to dequeue all the messages in a finite amount of time</li> <li>INFINITE - The subscriber's dequeue rate may not catch up to the enqueue rate</li> <li>UNKNOWN - Latency is not yet known</li> </ul> |
| LATENCY          | NUMBER         | Latency (in seconds). Valid only when LATENCY_STATE is FINITE.                                                                                                                                                                                                                                           |
| DEQUEUE_REQUESTS | NUMBER         | Approximate number of dequeue requests noted recently                                                                                                                                                                                                                                                    |
| ACTIVE_SHARDS    | NUMBER         | Number of queue shards that have messages for this subscriber                                                                                                                                                                                                                                            |
| ACTIVE_LISTENER  | VARCHAR2 (5)   | Indicates whether the subscriber is actively listening at this instance for messages (TRUE) or not (FALSE)                                                                                                                                                                                               |
| DEQUEUE_SESSIONS | NUMBER         | Displays the number of active dequeue sessions for this subscriber                                                                                                                                                                                                                                       |
| FLAGS            | NUMBER         | For internal use only                                                                                                                                                                                                                                                                                    |

| Column                 | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MANDATORY_AFF_SWITCHES | NUMBER   | An affinity switch is a change in the dequeue instance for a shard-subscriber pair. A mandatory affinity switch is when there are local enqueues in the queue at the instance but no local dequeues present, so the dequeue affinity is switched to another instance for that shard-subscriber pair. This column shows the number of times mandatory affinity switches were needed from this instance to another for this subscriber.           |
| OPTIONAL_AFF_SWITCHES  | NUMBER   | Optional affinity switches are affinity switches that are not mandatory. Optional affinity switches are done for global load balancing across the Oracle Real Application Clusters (Oracle RAC) database. This column shows the number of times optional affinity switches were needed from this instance to another for this subscriber.                                                                                                       |
| CON_ID                 | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Database Advanced Queuing

## 8.37 V\$ARCHIVE

V\$ARCHIVE displays information about redo log files in need of archiving.

Each row displays information for one thread. This information is also available in V\$LOG. Oracle recommends that you use V\$LOG.



#### See Also:

"V\$LOG"

| Column        | Datatype     | Description                                                                                                                            |
|---------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------|
| GROUP#        | NUMBER       | Log file group number                                                                                                                  |
| THREAD#       | NUMBER       | Log file thread number                                                                                                                 |
| SEQUENCE#     | NUMBER       | Log file sequence number                                                                                                               |
| ISCURRENT     | VARCHAR2 (3) | This is the current online redo log                                                                                                    |
| CURRENT       | VARCHAR2 (3) | This column is obsolete and maintained for backward compatibility. The value of this column is always equal to the value in ISCURRENT. |
| FIRST_CHANGE# | NUMBER       | First SCN stored in the current log                                                                                                    |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.38 V\$ARCHIVE\_DEST

V\$ARCHIVE\_DEST displays, for the current instance, all of the destinations in the Data Guard configuration, including each destination's current value, mode, and status.

| Column     | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DEST_ID    | NUMBER         | Log archive destination parameter identifier (1 to 31)                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| DEST_NAME  | VARCHAR2 (256) | Log archive destination parameter name                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| STATUS     | VARCHAR2 (9)   | <p>Identifies the current status of the destination:</p> <ul style="list-style-type: none"> <li>VALID - Initialized and available</li> <li>INACTIVE - No destination information</li> <li>DEFERRED - Manually disabled by the user</li> <li>ERROR - Error during open or copy</li> <li>DISABLED - Disabled after error</li> <li>BAD PARAM - Parameter has errors</li> <li>ALTERNATE - Destination is available as an alternate</li> <li>FULL - Exceeded quota size for the destination</li> </ul> |
| BINDING    | VARCHAR2 (9)   | <p>Specifies how failure will affect the archival operation:</p> <ul style="list-style-type: none"> <li>MANDATORY - Successful archival is required</li> <li>OPTIONAL - Successful archival is not required (depends on LOG_ARCHIVE_MIN_SUCCEED_DEST)</li> </ul>                                                                                                                                                                                                                                  |
| NAME_SPACE | VARCHAR2 (7)   | <p>Identifies the scope of parameter setting:</p> <ul style="list-style-type: none"> <li>SYSTEM - System definition</li> <li>SESSION - Session definition</li> </ul>                                                                                                                                                                                                                                                                                                                              |
| TARGET     | VARCHAR2 (7)   | <p>For a primary database, this column specifies whether the archive destination is local or remote to the primary database:</p> <ul style="list-style-type: none"> <li>PRIMARY - local</li> <li>STANDBY - remote</li> </ul> <p>For a standby database, this column specifies whether the archive destination is local or remote to the standby database:</p> <ul style="list-style-type: none"> <li>LOCAL - local</li> <li>REMOTE - remote</li> </ul>                                            |
| ARCHIVER   | VARCHAR2 (10)  | <p>Identifies the archiver process relative to the database where the query is issued:</p> <ul style="list-style-type: none"> <li>ARC<i>n</i></li> <li>FOREGROUND</li> <li>LGWR</li> <li>RFS</li> </ul>                                                                                                                                                                                                                                                                                           |

| Column          | Datatype       | Description                                                                                                                                                                                                                                                                                                                            |
|-----------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCHEDULE        | VARCHAR2 (8)   | Indicates whether the archival of this destination is <code>INACTIVE</code> , <code>PENDING</code> , <code>ACTIVE</code> , or <code>LATENT</code>                                                                                                                                                                                      |
| DESTINATION     | VARCHAR2 (256) | Specifies the location where the archived redo logs are to be archived                                                                                                                                                                                                                                                                 |
| LOG_SEQUENCE    | NUMBER         | Identifies the sequence number of the last archived redo log to be archived                                                                                                                                                                                                                                                            |
| REOPEN_SECS     | NUMBER         | Identifies the retry time (in seconds) after error                                                                                                                                                                                                                                                                                     |
| DELAY_MINS      | NUMBER         | Identifies the delay interval (in minutes) before the archived redo log is automatically applied to a standby database                                                                                                                                                                                                                 |
| NET_TIMEOUT     | NUMBER         | Number of seconds the log writer process will wait for status from the network server of a network operation issued by the log writer process                                                                                                                                                                                          |
| PROCESS         | VARCHAR2 (10)  | Identifies the archiver process relative to the primary database, even if the query is issued on the standby database: <ul style="list-style-type: none"> <li>• <code>ARCn</code></li> <li>• <code>FOREGROUND</code></li> <li>• <code>LGWR</code></li> </ul>                                                                           |
| REGISTER        | VARCHAR2 (3)   | Indicates whether the archived redo log is registered in the remote destination control file ( <code>YES</code> ) or not ( <code>NO</code> ). If the archived redo log is registered, it is available to log apply services.                                                                                                           |
| FAIL_DATE       | DATE           | Date and time of last error                                                                                                                                                                                                                                                                                                            |
| FAIL_SEQUENCE   | NUMBER         | Sequence number of the archived redo log being archived when the last error occurred                                                                                                                                                                                                                                                   |
| FAIL_BLOCK      | NUMBER         | Block number of the archived redo log being archived when the last error occurred                                                                                                                                                                                                                                                      |
| FAILURE_COUNT   | NUMBER         | Current number of contiguous archival operation failures that have occurred for the destination                                                                                                                                                                                                                                        |
| MAX_FAILURE     | NUMBER         | Allows you to control the number of times log transport services will attempt to reestablish communication and resume archival operations with a failed destination                                                                                                                                                                    |
| ERROR           | VARCHAR2 (256) | Displays the error text                                                                                                                                                                                                                                                                                                                |
| ALTERNATE       | VARCHAR2 (256) | Alternate destination, if any                                                                                                                                                                                                                                                                                                          |
| DEPENDENCY      | VARCHAR2 (256) | Reserved for future use                                                                                                                                                                                                                                                                                                                |
| REMOTE_TEMPLATE | VARCHAR2 (256) | Specifies the template to be used to derive the location to be recorded                                                                                                                                                                                                                                                                |
| QUOTA_SIZE      | NUMBER         | Destination quotas, expressed in bytes                                                                                                                                                                                                                                                                                                 |
| QUOTA_USED      | NUMBER         | Size of all the archived redo logs currently residing on the specified destination                                                                                                                                                                                                                                                     |
| MOUNTID         | NUMBER         | Instance mount identifier                                                                                                                                                                                                                                                                                                              |
| TRANSMIT_MODE   | VARCHAR2 (12)  | Specifies network transmission mode: <ul style="list-style-type: none"> <li>• <code>SYNCHRONOUS</code></li> <li>• <code>PARALLELSYNC</code></li> <li>• <code>ASYNCHRONOUS</code></li> </ul>                                                                                                                                            |
| ASYNC_BLOCKS    | NUMBER         | Number of blocks specified for the <code>ASYNC</code> attribute                                                                                                                                                                                                                                                                        |
| AFFIRM          | VARCHAR2 (3)   | Specifies disk I/O mode                                                                                                                                                                                                                                                                                                                |
| TYPE            | VARCHAR2 (7)   | Indicates whether the archived log destination definition is <code>PUBLIC</code> or <code>PRIVATE</code> . Only <code>PUBLIC</code> destinations can be modified at run time using the <code>ALTER SYSTEM SET</code> or <code>ALTER SESSION SET</code> statements. By default, all archived log destinations are <code>PUBLIC</code> . |

| Column         | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VALID_NOW      | VARCHAR2 (16) | <p>Indicates whether the destination is valid right now for archival operations:</p> <ul style="list-style-type: none"> <li>• YES - Redo log type and database role for this destination are valid for the current database</li> <li>• WRONG_VALID_TYPE - Redo log type specified for this destination is not valid for the current database role. For example, WRONG_VALID_TYPE would be returned if a destination specified with the VALID_FOR=(STANDBY_LOGFILE,STANDBY_ROLE) attribute is running in the standby database role but does not have standby redo logs implemented.</li> <li>• WRONG_VALID_ROLE - Database role specified for this destination is not the role in which the database is currently running. For example, the WRONG_VALID_ROLE would be returned when a destination defined with the VALID_FOR=(ONLINE_LOGFILE,STANDBY_ROLE) attribute is running in the primary database role.</li> <li>• INACTIVE - Destination is inactive, probably due to an error</li> </ul> |
| VALID_TYPE     | VARCHAR2 (15) | <p>Redo log type or types that are valid for the destination:</p> <ul style="list-style-type: none"> <li>• ONLINE_LOGFILE</li> <li>• STANDBY_LOGFILE</li> <li>• ALL_LOGFILES</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| VALID_ROLE     | VARCHAR2 (12) | <p>Database role or roles that are valid for the destination:</p> <ul style="list-style-type: none"> <li>• PRIMARY_ROLE</li> <li>• STANDBY_ROLE</li> <li>• ALL_ROLES</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DB_UNIQUE_NAME | VARCHAR2 (30) | Unique database name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| VERIFY         | VARCHAR2 (3)  | Indicates whether the value of the VERIFY attribute on the LOG_ARCHIVE_DEST_n parameter is verified (YES) or not verified (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| COMPRESSION    | VARCHAR2 (7)  | <p>Indicates whether network compression is ENABLED or DISABLED, or whether the ZLIB or LZO algorithm is in use. These values correspond to the values accepted by the COMPRESSION attribute for the database initialization parameter LOG_ARCHIVE_DEST_n. The possible values include:</p> <ul style="list-style-type: none"> <li>• DISABLE: Compression is disabled.</li> <li>• ENABLE: Compression is enabled. The ZLIB compression algorithm is used.</li> <li>• ZLIB: ZLIB compression is used.</li> <li>• LZO: LZO compression is used.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| APPLIED_SCN    | NUMBER        | For a destination that corresponds to a physical or logical standby database, the SCN of the last applied redo. For a destination that corresponds to a snapshot standby database, the SCN of the last redo applied before conversion to a snapshot standby database. This column is only valid for enabled and active standby database destinations on a primary or cascading standby database.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID         | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• n: Where n is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |



| Column     | Datatype     | Description                                                                                                                                                                                      |
|------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ENCRYPTION | VARCHAR2 (7) | Indicates whether encryption of the redo stream sent to Zero Data Loss Recovery Appliance (Recovery Appliance) is enabled (ENABLED) or not (DISABLED)                                            |
| ROLE       | VARCHAR2 (9) | Role of the destination: <ul style="list-style-type: none"><li>• DATACACHE</li><li>• FARSYNC</li><li>• LOCAL</li><li>• LOGICAL</li><li>• PHYSICAL</li><li>• PRIMARY</li><li>• SNAPSHOT</li></ul> |

 **See Also:**

- *Zero Data Loss Recovery Appliance Administrator's Guide* for introductory information about Recovery Appliance
- ["LOG\\_ARCHIVE\\_DEST"](#) and ["LOG\\_ARCHIVE\\_DEST\\_n"](#)
- ["LOG\\_ARCHIVE\\_DUPLEX\\_DEST"](#) and ["LOG\\_ARCHIVE\\_DEST\\_STATE\\_n"](#)
- ["LOG\\_ARCHIVE\\_MIN\\_SUCCEED\\_DEST"](#)

## 8.39 V\$ARCHIVE\_DEST\_STATUS

V\$ARCHIVE\_DEST\_STATUS displays run time and configuration information for the archived redo log destinations.

The information in this view does not persist across an instance shutdown.

| Column    | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DEST_ID   | NUMBER         | Identifies the log archive destination parameter (1 to 31)                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DEST_NAME | VARCHAR2 (256) | Log archive destination parameter name                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| STATUS    | VARCHAR2 (9)   | Current status of the destination: <ul style="list-style-type: none"><li>• VALID - Initialized and available</li><li>• INACTIVE - No destination information</li><li>• DEFERRED - Manually disabled by the user</li><li>• ERROR - Error during open or copy</li><li>• DISABLED - Disabled after error</li><li>• BAD PARAM - Parameter has errors</li><li>• ALTERNATE - Destination is in an alternate state</li><li>• FULL - Exceeded quota size for the destination</li></ul> |

| Column                 | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE                   | VARCHAR2 (14)  | Type of archival destination database: <ul style="list-style-type: none"> <li>LOCAL - Local to primary database</li> <li>PHYSICAL - Physical standby</li> <li>CROSS-INSTANCE - An instance of the primary</li> <li>LOGICAL - Logical standby</li> <li>SNAPSHOT - Snapshot standby database</li> <li>DOWNSTREAM - Streams downstream capture database</li> <li>FAR SYNC - Far Sync Instance</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DATABASE_MODE          | VARCHAR2 (15)  | Current mode of the archival destination database: <ul style="list-style-type: none"> <li>STARTED - Instance started, not mounted</li> <li>MOUNTED - Mounted</li> <li>MOUNTED-STANDBY - Mounted standby</li> <li>OPEN - Open read/write</li> <li>OPEN_READ-ONLY - Open read-only</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| RECOVERY_MODE          | VARCHAR2 (23)  | Current apply mode at the archival destination: <ul style="list-style-type: none"> <li>IDLE - Managed recovery is not active</li> <li>MANAGED - Managed recovery is active. This value is used when the standby database is mounted. In this recovery mode, users cannot query data on the standby.</li> <li>MANAGED WITH QUERY - Managed recovery is active in this recovery mode. In a non-CDB, this value is used when the database is open, and users can query data on the standby. In a CDB, this value is used when one or more PDBs in the CDB are open, and users can query data on the standby.</li> <li>MANAGED REAL TIME APPLY - In this recovery mode, log apply services recover redo data from standby redo logs at the same time the logs are being written to, as opposed to recovering redo from archived redo logs when a log switch occurs. In this recovery mode, users cannot query data on the standby.</li> <li>MANAGED REAL TIME APPLY WITH QUERY - In this recovery mode, log apply services recover redo data from standby redo logs at the same time the logs are being written to, as opposed to recovering redo from archived redo logs when a log switch occurs. In a non-CDB, this mode is used when the database is open, and users can query data on the standby. In a CDB, this value is used when one or more PDBs in the CDB are open, and users can query data on the standby.</li> <li>LOGICAL REAL TIME APPLY - Real time SQL Apply</li> <li>LOGICAL APPLY - SQL Apply</li> </ul> |
| PROTECTION_MODE        | VARCHAR2 (20)  | Indicates whether the database is protected: <ul style="list-style-type: none"> <li>MAXIMUM PROTECTION</li> <li>MAXIMUM AVAILABILITY</li> <li>RESYNCHRONIZATION</li> <li>MAXIMUM PERFORMANCE</li> <li>UNPROTECTED</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| DESTINATION            | VARCHAR2 (256) | Specifies the location where the redo data is to be archived                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| STANDBY_LOGFILE_COUNT  | NUMBER         | Indicates the total number of standby redo logs created on the standby database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| STANDBY_LOGFILE_ACTIVE | NUMBER         | Indicates the total number of standby redo logs on the standby database that are active and contain primary database online redo log information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Column                 | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ARCHIVED_THREAD#       | NUMBER         | Identifies the thread number of the most recent archived redo log received at the destination                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ARCHIVED_SEQ#          | NUMBER         | Identifies the log sequence number of the most recent archived redo log received at the destination                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| APPLIED_THREAD#        | NUMBER         | Identifies the thread number of the most recent applied redo log received at the destination                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| APPLIED_SEQ#           | NUMBER         | Identifies the log sequence number of the most recent applied redo log received at the destination                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ERROR                  | VARCHAR2 (256) | Displays the error text                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SRL                    | VARCHAR2 (3)   | Indicates whether standby redo logfiles are used on the standby database (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DB_UNIQUE_NAME         | VARCHAR2 (30)  | Specifies the unique database name of the current instance that was defined with the DB_UNIQUE_NAME attribute on the LOG_ARCHIVE_DEST_n parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SYNCHRONIZATION_STATUS | VARCHAR2 (22)  | <p>Possible values for this column are as follows:</p> <ul style="list-style-type: none"> <li>CHECK CONFIGURATION - Synchronization with this destination is not possible because this database is either not in MAXIMUM PROTECTION or MAXIMUM AVAILABILITY data protection mode, or the LOG_ARCHIVE_DEST_n parameter associated with this destination has not been configured with the SYNC and AFFIRM attributes.</li> <li>CHECK STANDBY REDO LOG - The standby redo log at this destination is configured improperly.</li> <li>CHECK NETWORK - One or more instances of this database cannot send redo data to this destination.</li> <li>DESTINATION HAS A GAP - This destination is missing redo data needed for synchronization with this database.</li> <li>OK - This destination is synchronized with this database.</li> <li>NOT AVAILABLE - Synchronization status is not available.</li> </ul> <p><b>See Also:</b> <i>Oracle Data Guard Concepts and Administration</i> for more information about redo transport configuration</p> |
| SYNCHRONIZED           | VARCHAR2 (3)   | <p>Possible values are:</p> <ul style="list-style-type: none"> <li>YES - This destination is synchronized with the primary database.</li> <li>NO - The destination is not synchronized with the primary database.</li> <li>UNKNOWN - The synchronization status of this destination cannot be determined.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| GAP_STATUS             | VARCHAR2 (24)  | <p>Redo gap status:</p> <ul style="list-style-type: none"> <li>NO GAP - Destination does not have a redo gap.</li> <li>LOG SWITCH GAP - Destination has not yet received all of the redo from the previous log file.</li> <li>RESOLVABLE GAP - Destination has a redo gap that can be automatically resolved by fetching the missing redo from this database.</li> <li>UNRESOLVABLE GAP - Destination has a redo gap that cannot be automatically resolved by fetching the missing redo from this database and there are no other destinations from which redo can be fetched.</li> <li>LOCALLY UNRESOLVABLE GAP - Destination has a redo gap that cannot be automatically resolved by fetching the missing redo from this database. It may be possible to resolve the gap by fetching the missing redo from another destination.</li> </ul>                                                                                                                                                                                                   |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.40 V\$ARCHIVE\_GAP

V\$ARCHIVE\_GAP displays information about archive gaps on a standby database. This view can be used to find out the current archive gap that is blocking recovery for the current recovery incarnation.

| Column         | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| THREAD#        | NUMBER   | Thread number of the missing archived redo log files. The number is 1 for a single instance. For Oracle Real Application Clusters, this column will contain different numbers.                                                                                                                                                                                                                                                                  |
| LOW_SEQUENCE#  | NUMBER   | Lowest sequence number of the log files received on the standby system                                                                                                                                                                                                                                                                                                                                                                          |
| HIGH_SEQUENCE# | NUMBER   | Highest sequence number of the log files received on the standby system                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID         | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.41 V\$ARCHIVE\_PROCESSES

V\$ARCHIVE\_PROCESSES displays the state of the various ARCH processes for the instance.

| Column       | Datatype      | Description                                                                                                                              |
|--------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------|
| PROCESS      | NUMBER        | Identifier for the ARCH process for the instance, numbered from 0-9                                                                      |
| STATUS       | VARCHAR2 (10) | Status of the ARCH process, displayed as a keyword. Possible values are: STOPPED, SCHEDULED, STARTING, ACTIVE, STOPPING, and TERMINATED. |
| LOG_SEQUENCE | NUMBER        | This is the online redo log sequence number currently being archived, if STATE="BUSY"                                                    |
| STATE        | VARCHAR2 (4)  | This is the current state of the ARCH process, displayed as a keyword. Possible keywords are IDLE or BUSY.                               |
| ROLES        | VARCHAR2 (36) | The list of roles assigned to the archive process. The roles include: HEART_BEAT, NO_FAL, NO_SRL, CLEAR_LOGS                             |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.42 V\$ARCHIVED\_LOG

V\$ARCHIVED\_LOG displays archived log information from the control file, including archive log names.

An archive log record is inserted after the online redo log is successfully archived or cleared (name column is NULL if the log was cleared). If the log is archived twice, there will be two archived log records with the same THREAD#, SEQUENCE#, and FIRST\_CHANGE#, but with a different name. An archive log record is also inserted when an archive log is restored from a backup set or a copy and whenever a copy of a log is made with the RMAN COPY command.

| Column            | Datatype       | Description                                                                                                                                                                                                                                                                       |
|-------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RECID             | NUMBER         | Archived log record ID                                                                                                                                                                                                                                                            |
| STAMP             | NUMBER         | Archived log record stamp                                                                                                                                                                                                                                                         |
| NAME              | VARCHAR2 (513) | Archived log file name. If set to NULL, either the log file was cleared before it was archived or an RMAN backup command with the "delete input" option was executed to back up archivelog all (RMAN> backup archivelog all delete input;).                                       |
| DEST_ID           | NUMBER         | Original destination from which the archive log was generated. The value is 0 if the destination identifier is not available.                                                                                                                                                     |
| THREAD#           | NUMBER         | Redo thread number                                                                                                                                                                                                                                                                |
| SEQUENCE#         | NUMBER         | Redo log sequence number                                                                                                                                                                                                                                                          |
| RESETLOGS_CHANGE# | NUMBER         | Resetlogs change number of the database when the log was written                                                                                                                                                                                                                  |
| RESETLOGS_TIME    | DATE           | Resetlogs time of the database when the log was written                                                                                                                                                                                                                           |
| RESETLOGS_ID      | NUMBER         | Resetlogs identifier associated with the archived redo log                                                                                                                                                                                                                        |
| FIRST_CHANGE#     | NUMBER         | First change number in the archived log                                                                                                                                                                                                                                           |
| FIRST_TIME        | DATE           | Timestamp of the first change                                                                                                                                                                                                                                                     |
| NEXT_CHANGE#      | NUMBER         | First change in the next log                                                                                                                                                                                                                                                      |
| NEXT_TIME         | DATE           | Timestamp of the next change                                                                                                                                                                                                                                                      |
| BLOCKS            | NUMBER         | Size of the archived log (in blocks)                                                                                                                                                                                                                                              |
| BLOCK_SIZE        | NUMBER         | Redo log block size. This is the logical block size of the archived log, which is the same as the logical block size of the online log from which the archived log was copied. The online log logical block size is a platform-specific value that is not adjustable by the user. |

| Column           | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CREATOR          | VARCHAR2 (7) | <p>Creator of the archivelog:</p> <ul style="list-style-type: none"> <li>• ARCH - Archiver process</li> <li>• FGRD - Foreground process</li> <li>• RMAN - Recovery Manager</li> <li>• SRMN - RMAN at standby</li> <li>• LGWR - Logwriter process</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| REGISTRAR        | VARCHAR2 (7) | <p>Registrar of the entry:</p> <ul style="list-style-type: none"> <li>• RFS - Remote File Server process</li> <li>• ARCH - Archiver process</li> <li>• FGRD - Foreground process</li> <li>• RMAN - Recovery manager</li> <li>• SRMN - RMAN at standby</li> <li>• LGWR - Logwriter process</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| STANDBY_DEST     | VARCHAR2 (3) | Indicates whether the entry is an archivelog destination (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ARCHIVED         | VARCHAR2 (3) | Indicates whether the online redo log was archived (YES) or whether RMAN only inspected the log and created a record for future application of redo logs during recovery (NO).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| APPLIED          | VARCHAR2 (9) | <p>Indicates whether an archived redo log file has been applied to the corresponding physical standby database. The value is always NO for local destinations.</p> <p>This column is meaningful on a physical standby database for rows where REGISTRAR = RFS:</p> <ul style="list-style-type: none"> <li>• If REGISTRAR = RFS and APPLIED = NO, then the log file has been received but has not yet been applied.</li> <li>• If REGISTRAR = RFS and APPLIED = IN-MEMORY, then the log file has been applied in memory, but the data files have not yet been updated.</li> <li>• If REGISTRAR = RFS and APPLIED = YES, then the log file has been applied and the data files have been updated.</li> </ul> <p>This column can be used to identify log files that can be backed up and deleted. When used for this purpose, the value IN-MEMORY should be treated as if it were NO.</p> |
| DELETED          | VARCHAR2 (3) | Indicates whether an RMAN DELETE command has physically deleted the archived log file from disk, as well as logically removing it from the control file of the target database and from the recovery catalog (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| STATUS           | VARCHAR2 (1) | <p>Status of the archived log:</p> <p>A - Available</p> <p>D - Deleted</p> <p>U - Unavailable</p> <p>X - Expired</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| COMPLETION_TIME  | DATE         | Time when the archiving completed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| DICTIONARY_BEGIN | VARCHAR2 (3) | Indicates whether the log contains the start of a LogMiner dictionary (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| DICTIONARY_END   | VARCHAR2 (3) | Indicates whether the log contains the end of a LogMiner dictionary (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| END_OF_REDO      | VARCHAR2 (3) | Indicates whether the archived redo log contains the end of all redo information from the primary database (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Column                | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BACKUP_COUNT          | NUMBER        | Indicates the number of times this file has been backed up. Values range from 0-15. If the file has been backed up more than 15 times, the value remains 15.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ARCHIVAL_THREAD#      | NUMBER        | Redo thread number of the instance that performed the archival operation. This column differs from the <code>THREAD#</code> column only when a closed thread is archived by another instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ACTIVATION#           | NUMBER        | Number assigned to the database instantiation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| IS_RECOVERY_DEST_FILE | VARCHAR2 (3)  | Indicates whether the file was created in the fast recovery area (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| COMPRESSED            | VARCHAR2 (3)  | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| FAL                   | VARCHAR2 (3)  | Indicates whether the archive log was generated as the result of a FAL request (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| END_OF_REDO_TYPE      | VARCHAR2 (10) | Possible values are as follows: <ul style="list-style-type: none"> <li>SWITCHOVER - Shows archived redo log files that are produced at the end of a switchover</li> <li>TERMINAL - Shows archived redo log files produced after a failover</li> <li>RESETLOGS - Shows online redo log files archived on the primary database after an <code>ALTER DATABASE OPEN RESETLOGS</code> statement is issued</li> <li>ACTIVATION - Shows any log files archived on a physical standby database after an <code>ALTER DATABASE ACTIVATE STANDBY DATABASE</code> statement is issued</li> <li>"empty string" - Any empty string implies that the log is just a normal archival and was not archived due to any of the other events</li> </ul> |
| BACKED_BY_VSS         | VARCHAR2 (3)  | Whether or not the file has been backed up by Volume Shadow Copy Service (VSS). This column is reserved for internal use.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID                | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                    |

## 8.43 V\$ASM\_ACFS\_ENCRYPTION\_INFO

V\$ASM\_ACFS\_ENCRYPTION\_INFO displays encryption information for every mounted Oracle ACFS.

| Column         | Datatype        | Description                                                                                                    |
|----------------|-----------------|----------------------------------------------------------------------------------------------------------------|
| FS_NAME        | VARCHAR2 (1024) | File system mount point (foreign key to <code>V\$ASM_FILESYSTEM</code> )                                       |
| VOL_DEVICE     | VARCHAR2 (256)  | Name of the Oracle ADVM device                                                                                 |
| SET_STATUS     | VARCHAR2 (7)    | Indicates whether encryption parameters have been set on the file system (YES) or not (NO); otherwise UNKNOWN. |
| ENABLED_STATUS | VARCHAR2 (8)    | Indicates whether file system level encryption is enabled (ENABLED) or not (DISABLED); otherwise UNKNOWN.      |

| Column          | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALGORITHM       | VARCHAR2 (7) | Encryption algorithm used. AES is the only supported algorithm.                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| KEY_LENGTH      | VARCHAR2 (7) | Key length used for the encryption key                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| LAST_REKEY_TIME | DATE         | Time that the volume was last rekeyed                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID          | NUMBER       | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> <p>For this view, the value is always 0.</p> |

#### See Also:

- *Oracle Automatic Storage Management Administrator's Guide* for more information about Oracle Advanced Cluster File System (Oracle ACFS)
- *Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle Advanced Cluster File System (Oracle ACFS) and Oracle ASM Dynamic Volume Manager (Oracle ADVM) information

#### Note:

To display information about Oracle ACFS file systems or volumes that are located on nodes in an Oracle Flex ASM configuration, you must connect to the Oracle ASM proxy instance instead of the local Oracle ASM instance. For information about Oracle Flex ASM, refer to *Oracle Automatic Storage Management Administrator's Guide*.

## 8.44 V\$ASM\_ACFSAUTORESIZE

V\$ASM\_ACFSAUTORESIZE displays the auto-resize settings for each mounted Oracle ACFS file system.

| Column           | Datatype        | Description                                               |
|------------------|-----------------|-----------------------------------------------------------|
| FS_NAME          | VARCHAR2 (1024) | Full path name of the Oracle ACFS file system mount point |
| RESIZE_INCREMENT | NUMBER          | Auto-resize increment (in megabytes)                      |
| RESIZE_MAXIMUM   | NUMBER          | Auto-resize maximum (in megabytes)                        |



| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

 **See Also:**

- *Oracle Automatic Storage Management Administrator's Guide* for more information about Oracle Advanced Cluster File System (Oracle ACFS)
- *Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle Advanced Cluster File System (Oracle ACFS) and Oracle ASM Dynamic Volume Manager (Oracle ADVM) information

 **Note:**

To display information about Oracle ACFS file systems or volumes that are located on nodes in an Oracle Flex ASM configuration, you must connect to the Oracle ASM proxy instance instead of the local Oracle ASM instance. For information about Oracle Flex ASM, refer to *Oracle Automatic Storage Management Administrator's Guide*.

## 8.45 V\$ASM\_ACFSSREPL

V\$ASM\_ACFSSREPL displays information for Oracle ACFS file systems that are initialized for replication.

| Column | Datatype        | Description                                                                                                                                                                        |
|--------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FSNAME | VARCHAR2 (1024) | File system mount point (foreign key to V\$ASM_FILESYSTEM)                                                                                                                         |
| VOLDEV | VARCHAR2 (256)  | Name of the Oracle ADVM device                                                                                                                                                     |
| SITE   | VARCHAR2 (7)    | Replication site role: <ul style="list-style-type: none"><li>PRIMARY - File system is initialized as a primary</li><li>STANDBY - File system is initialized as a standby</li></ul> |
| LAG    | VARCHAR2 (128)  | Amount of time standby is behind primary in hours:minutes:seconds (primary only)                                                                                                   |

| Column      | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS      | VARCHAR2 (12)   | Replication primary or standby status: <ul style="list-style-type: none"> <li>• <b>ONLINE</b> - Replication is initialized and processing real-time changes</li> <li>• <b>INITIALIZING</b> - Replication is still processing files on the primary that existed before replication started</li> <li>• <b>PAUSED</b> - The primary is not sending logs to the standby or the standby is not applying logged changes</li> </ul>                                                                |
| INITSTATUS  | VARCHAR2 (11)   | Replication primary or standby initialization status: <ul style="list-style-type: none"> <li>• <b>NONE</b> - Replication is <b>ONLINE</b> and not initializing</li> <li>• <b>DIRECTORIES</b> - Directories are being initialized</li> <li>• <b>FILES</b> - Files are being initialized</li> </ul>                                                                                                                                                                                           |
| DIRSSCAN    | NUMBER          | Number of directories scanned and logged (primary only)                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PERCENT     | NUMBER          | Percentage of files initialized that existed before replication started (primary only)                                                                                                                                                                                                                                                                                                                                                                                                      |
| LASTSYNC    | DATE            | Time of last apply on the standby site (standby only)                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CRSRUN      | NUMBER          | Number of Cluster Ready Services replication daemons currently running                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CRSTOTAL    | NUMBER          | Number of Cluster Ready Services replication daemons expected to be running                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PMNTPT      | VARCHAR2 (1024) | Replication primary site mount point                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SMNTPT      | VARCHAR2 (1024) | Replication standby site mount point                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PSVCNAME    | VARCHAR2 (1024) | Replication primary site service name                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SSVCNAME    | VARCHAR2 (1024) | Replication standby site service name                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| PHOST       | VARCHAR2 (1024) | A replication primary cluster host name                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SHOST       | VARCHAR2 (1024) | A replication standby cluster host name                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| REMAlias    | VARCHAR2 (4096) | Replication remote alias name                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TAGS        | NUMBER          | TRUE (1) if replicating tagged files                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| COMPRESSION | VARCHAR2 (3)    | Replication log compression status: <ul style="list-style-type: none"> <li>• <b>OFF</b> - Replication logs are not being compressed</li> <li>• <b>ON</b> - Replication logs are being compressed</li> </ul>                                                                                                                                                                                                                                                                                 |
| DBGLVL      | NUMBER          | Replication trace log debug level                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID      | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> For this view, the value is always 0. |

**Note:**

This view only contains records for Oracle ASM releases prior to Oracle Database 12c Release 2 (12.2.0.1). To display Oracle ACFS replication information for Oracle Database 12c Release 2 (12.2.0.1) or higher, use the `acfsutil repl info` command.

**See Also:**

- *Oracle Automatic Storage Management Administrator's Guide* for more information about Oracle Advanced Cluster File System (Oracle ACFS)
- *Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle Advanced Cluster File System (Oracle ACFS) and Oracle ASM Dynamic Volume Manager (Oracle ADVM) information

**Note:**

To display information about Oracle ACFS file systems or volumes that are located on nodes in an Oracle Flex ASM configuration, you must connect to the Oracle ASM proxy instance instead of the local Oracle ASM instance. For information about Oracle Flex ASM, refer to *Oracle Automatic Storage Management Administrator's Guide*.

## 8.46 V\$ASM\_ACFSREPLTAG

V\$ASM\_ACFSREPLTAG displays replicated tag information for Oracle ACFS file systems that are initialized for replication.

| Column | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FSNAME | VARCHAR2 (1024) | File system mount point (foreign key to V\$ASM_FILESYSTEM)                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| VOLDEV | VARCHAR2 (256)  | Name of the Oracle ADVM device                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TAG    | VARCHAR2 (32)   | Tag name that is being replicated                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID | NUMBER          | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> <p>For this view, the value is always 0.</p> |

**Note:**

This view only contains records for Oracle ASM releases prior to Oracle Database 12c Release 2 (12.2.0.1). To display Oracle ACFS replication information for Oracle Database 12c Release 2 (12.2.0.1) or higher, use the `acfsutil repl info` command.

**See Also:**

- *Oracle Automatic Storage Management Administrator's Guide* for more information about Oracle Advanced Cluster File System (Oracle ACFS)
- *Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle Advanced Cluster File System (Oracle ACFS) and Oracle ASM Dynamic Volume Manager (Oracle ADVM) information

**Note:**

To display information about Oracle ACFS file systems or volumes that are located on nodes in an Oracle Flex ASM configuration, you must connect to the Oracle ASM proxy instance instead of the local Oracle ASM instance. For information about Oracle Flex ASM, refer to *Oracle Automatic Storage Management Administrator's Guide*.

## 8.47 V\$ASM\_ACFSSNAPSHOTS

V\$ASM\_ACFSSNAPSHOTS displays snapshot information for every mounted Oracle ACFS.

| Column             | Datatype        | Description                                                                                                                                                                                                                                                                                                        |
|--------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FS_NAME            | VARCHAR2 (1024) | File system mount point (foreign key to V\$ASM_FILESYSTEM)                                                                                                                                                                                                                                                         |
| VOL_DEVICE         | VARCHAR2 (256)  | Name of the Oracle ADVM device                                                                                                                                                                                                                                                                                     |
| SNAP_NAME          | VARCHAR2 (1024) | Name of the snapshot                                                                                                                                                                                                                                                                                               |
| CREATE_TIME        | DATE            | Time when the snapshot was created                                                                                                                                                                                                                                                                                 |
| TYPE               | VARCHAR2 (2)    | Snapshot type. Possible types are read-only (RO) or read/write (RW).                                                                                                                                                                                                                                               |
| PARENT             | VARCHAR2 (1024) | Parent name used to create the snapshot. If the snapshot was created using the mount point as a base, parent name will be NULL. If the snapshot was created using an existing snapshot as the base, the parent name will be the name of the snapshot passed to the <code>acfsutil snap create -p</code> operation. |
| LINK               | VARCHAR2 (1024) | If link has been set, the path of the link. If unset, NULL.                                                                                                                                                                                                                                                        |
| ADDITIONAL_STORAGE | NUMBER          | Equivalent to "storage added to snapshot" output                                                                                                                                                                                                                                                                   |
| QUOTA              | NUMBER          | Value of quota. If unset, NULL.                                                                                                                                                                                                                                                                                    |

| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REPL   | VARCHAR2 (5)  | Indicates whether the snapshot is being used for replication ( <b>TRUE</b> ) or not ( <b>FALSE</b> )                                                                                                                                                                                                                                                                                                                                                                                  |
| STATE  | VARCHAR2 (14) | The state of the snapshot: <ul style="list-style-type: none"> <li>AVAILABLE - Default</li> <li>DELETE_WAITING - Maps to "delete waiting for last close"</li> <li>DELETE_IN_PROGRESS - Maps to "delete in progress"</li> </ul>                                                                                                                                                                                                                                                         |
| CON_ID | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> For this view, the value is always 0. |

#### See Also:

- *Oracle Automatic Storage Management Administrator's Guide* for more information about Oracle Advanced Cluster File System (Oracle ACFS)
- *Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle Advanced Cluster File System (Oracle ACFS) and Oracle ASM Dynamic Volume Manager (Oracle ADVM) information

#### Note:

To display information about Oracle ACFS file systems or volumes that are located on nodes in an Oracle Flex ASM configuration, you must connect to the Oracle ASM proxy instance instead of the local Oracle ASM instance. For information about Oracle Flex ASM, refer to *Oracle Automatic Storage Management Administrator's Guide*.

## 8.48 V\$ASM\_ACFSTAG

V\$ASM\_ACFSTAG displays every file or directory that has a tag and its tag name for every mounted Oracle ACFS.

| Column    | Datatype        | Description                   |
|-----------|-----------------|-------------------------------|
| TAG_NAME  | VARCHAR2 (32)   | Tag name on file or directory |
| FS_NAME   | VARCHAR2 (1024) | File system mount point       |
| PATH_NAME | VARCHAR2 (4096) | Complete file path name       |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> <p>For this view, the value is always 0.</p> |

 **See Also:**

- *Oracle Automatic Storage Management Administrator's Guide* for more information about Oracle Advanced Cluster File System (Oracle ACFS)
- *Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle Advanced Cluster File System (Oracle ACFS) and Oracle ASM Dynamic Volume Manager (Oracle ADVM) information

 **Note:**

To display information about Oracle ACFS file systems or volumes that are located on nodes in an Oracle Flex ASM configuration, you must connect to the Oracle ASM proxy instance instead of the local Oracle ASM instance. For information about Oracle Flex ASM, refer to *Oracle Automatic Storage Management Administrator's Guide*.

## 8.49 V\$ASM\_ACFSVOLUMES

V\$ASM\_ACFSVOLUMES displays information about mounted Oracle ACFS volumes, correlated with V\$ASM\_FILESYSTEM.

| Column      | Datatype        | Description                                                                                         |
|-------------|-----------------|-----------------------------------------------------------------------------------------------------|
| FS_NAME     | VARCHAR2 (1024) | File system mount point (foreign key to V\$ASM_FILESYSTEM)                                          |
| VOL_DEVICE  | VARCHAR2 (256)  | Name of the Oracle ADVM device                                                                      |
| VOL_LABEL   | VARCHAR2 (64)   | Volume label (optional name) assigned through <code>mkfs/acfsformat</code> ; NULL if no name exists |
| PRIMARY_VOL | VARCHAR2 (5)    | Indicates whether the volume is the primary volume for the file system (TRUE) or not (FALSE)        |
| TOTAL_MB    | NUMBER          | Size of the volume device (in megabytes)                                                            |
| FREE_MB     | NUMBER          | Available space on the volume device (in megabytes)                                                 |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> <p>For this view, the value is always 0.</p> |

#### See Also:

- ["V\\$ASM\\_FILESYSTEM"](#)
- *Oracle Automatic Storage Management Administrator's Guide* for more information about Oracle Advanced Cluster File System (Oracle ACFS)
- *Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle Advanced Cluster File System (Oracle ACFS) and Oracle ASM Dynamic Volume Manager (Oracle ADVM) information

#### Note:

To display information about Oracle ACFS file systems or volumes that are located on nodes in an Oracle Flex ASM configuration, you must connect to the Oracle ASM proxy instance instead of the local Oracle ASM instance. For information about Oracle Flex ASM, refer to *Oracle Automatic Storage Management Administrator's Guide*.

## 8.50 V\$ASM\_ALIAS

In an Oracle Automatic Storage Management (Oracle ASM) instance, V\$ASM\_ALIAS displays one row for every alias present in every disk group mounted by the Oracle ASM instance.

| Column            | Datatype      | Description                                                                      |
|-------------------|---------------|----------------------------------------------------------------------------------|
| NAME              | VARCHAR2 (70) | Oracle ASM alias or alias directory name                                         |
| GROUP_NUMBER      | NUMBER        | Owning disk group number of the alias (foreign key to the V\$ASM_DISKGROUP view) |
| FILE_NUMBER       | NUMBER        | Oracle ASM file number of the alias (foreign key to the V\$ASM_FILE view)        |
| FILE_INCARNATION  | NUMBER        | Oracle ASM file incarnation number for the alias                                 |
| ALIAS_INDEX       | NUMBER        | Alias entry number for the alias                                                 |
| ALIAS_INCARNATION | NUMBER        | Incarnation number for the parent of the alias                                   |

| Column          | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PARENT_INDEX    | NUMBER       | A 32-bit number consisting of a disk group number in the high-order 8 bits and an alias entry number in the low-order 24 bits (number of the directory containing the alias)                                                                                                                                                                                                                                                                                                                        |
| REFERENCE_INDEX | NUMBER       | A 32-bit number consisting of a disk group number in the high-order 8 bits and an alias entry number in the low-order 24 bits (number of the directory describing the current entry)                                                                                                                                                                                                                                                                                                                |
| ALIAS_DIRECTORY | VARCHAR2 (1) | Indicates whether the alias is to a directory (Y) or to an Oracle ASM file (N)                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SYSTEM_CREATED  | VARCHAR2 (1) | Indicates whether the alias is system created (Y) or user created (N)                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID          | NUMBER       | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> <p>For this view, the value is always 0.</p> |



#### See Also:

*Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle ASM information

## 8.51 V\$ASM\_ATTRIBUTE

V\$ASM\_ATTRIBUTE displays one row for each attribute defined. In addition to attributes specified by CREATE DISKGROUP and ALTER DISKGROUP statements, the view may show other attributes that are created automatically.

Note that attributes are only displayed for disk groups where COMPATIBLE.ASM is set to 11.1 or higher.

| Column                | Datatype       | Description                                                                     |
|-----------------------|----------------|---------------------------------------------------------------------------------|
| NAME                  | VARCHAR2 (256) | Full name of the attribute                                                      |
| VALUE                 | VARCHAR2 (256) | Value of the attribute                                                          |
| GROUP_NUMBER          | NUMBER         | Number of the disk group in which this attribute exists (composite primary key) |
| ATTRIBUTE_INDEX       | NUMBER         | Number of this attribute in the disk group (composite primary key)              |
| ATTRIBUTE_INCARNATION | NUMBER         | Incarnation number for this attribute (composite primary key)                   |
| READ_ONLY             | VARCHAR2 (7)   | Indicates whether the attribute is read-only (Y) or not (N)                     |
| SYSTEM_CREATED        | VARCHAR2 (7)   | Indicates whether this is a system-created attribute (Y) or not (N)             |



| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> For this view, the value is always 0. |

**Note:**

In an Oracle Database instance, this view returns 0 rows when queried from a PDB.

**See Also:**

- Oracle Automatic Storage Management Administrator's Guide* for more information about viewing Oracle ASM disk group attributes using this view
- Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle ASM information

## 8.52 V\$ASM\_AUDIT\_CLEANUP\_JOBS

In an Oracle Automatic Storage Management (Oracle ASM) instance, V\$ASM\_AUDIT\_CLEANUP\_JOBS displays information about the configured audit trail purge jobs.

In a database instance, V\$ASM\_AUDIT\_CLEANUP\_JOBS displays no rows.

| Column        | Datatype      | Description                                                                                                       |
|---------------|---------------|-------------------------------------------------------------------------------------------------------------------|
| JOB_NAME      | VARCHAR2 (64) | Name of the audit trail purge job                                                                                 |
| JOB_STATUS    | VARCHAR2 (64) | Current status of the audit trail purge job (ENABLED) or (DISABLED)                                               |
| AUDIT_TRAIL   | VARCHAR2 (64) | Audit trail for which the audit trail purge job is configured: OS AUDIT TRAIL and UNIFIED AUDIT TRAIL             |
| JOB_FREQUENCY | NUMBER        | Frequency at which the audit trail purge job runs                                                                 |
| USE_TIMESTAMP | VARCHAR2 (64) | Indicates whether the audit trail purge job is configured to use the last archive timestamp (TRUE) or not (FALSE) |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> For this view, the value is always 0. |

**See Also:**

*Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle ASM information

## 8.53 V\$ASM\_AUDIT\_CONFIG\_PARAMS

In an Oracle Automatic Storage Management (Oracle ASM) instance, V\$ASM\_AUDIT\_CONFIG\_PARAMS displays information about the currently configured audit trail properties that are used by the DBMS\_AUDIT\_MGMT package.

In a database instance, V\$ASM\_AUDIT\_CONFIG\_PARAMS displays no rows.

| Column          | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PARAMETER_NAME  | VARCHAR2 (64) | Name of the property                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| PARAMETER_VALUE | VARCHAR2 (64) | Value of the property                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| AUDIT_TRAIL     | VARCHAR2 (64) | Audit trails for which the property is configured: OS AUDIT TRAIL and UNIFIED AUDIT TRAIL                                                                                                                                                                                                                                                                                                                                                                                               |
| PARAMETER_UNIT  | VARCHAR2 (64) | Provides description of units of audit properties (file size in KB and file age in day(s))                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID          | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> For this view, the value is always 0. |

 **See Also:**

- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_AUDIT_MGMT` package
- *Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle ASM information

## 8.54 V\$ASM\_AUDIT\_LAST\_ARCH\_TS

In an Oracle Automatic Storage Management (Oracle ASM) instance, `V$ASM_AUDIT_LAST_ARCH_TS` displays information about the last archive timestamps set for audit trail cleanup or purges.

In a database instance, `V$ASM_AUDIT_LAST_ARCH_TS` displays no rows.

| Column          | Datatype                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AUDIT_TRAIL     | VARCHAR2 (64)                | Audit trail for which the last archive timestamp applies: OS AUDIT TRAIL and UNIFIED AUDIT TRAIL                                                                                                                                                                                                                                                                                                                                                                                        |
| LAST_ARCHIVE_TS | TIMESTAMP (6) WITH TIME ZONE | Timestamp of the last audit file that has been archived                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID          | NUMBER                       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> For this view, the value is always 0. |

 **See Also:**

*Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle ASM information

## 8.55 V\$ASM\_CLIENT

In an Oracle Automatic Storage Management (Oracle ASM) instance, `V$ASM_CLIENT` identifies databases using disk groups managed by the Oracle ASM instance.

In a database instance, `V$ASM_CLIENT` displays information about the Oracle ASM instance if the database has any open Oracle ASM files.

| Column             | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUP_NUMBER       | NUMBER        | <p>Number of the disk group being used by the database instance (foreign key to the V\$ASM_DISKGROUP view). When a client is connected to an Oracle ASM instance, but is not currently using any disk groups, V\$ASM_CLIENT.GROUP_NUMBER contains 0.</p> <p>When the Cluster Ready Services Daemon (CRSD) or Cluster Synchronization Services (OCSSD) connects to the Oracle ASM instance, this will represent the number of the disk group used for their OCR and voting files respectively.</p>                                    |
| INSTANCE_NAME      | VARCHAR2 (64) | <p>Identifier for the database instance client</p> <p>When CRSD or OCSSD has opened its files in the disk group mounted by the Oracle ASM instance, this will contain the node name where CRSD or OCSSD is running.</p>                                                                                                                                                                                                                                                                                                              |
| DB_NAME            | VARCHAR2 (8)  | <p>Unique database name of the database client instance</p> <p>When CRSD has opened the Oracle Cluster Registry (OCR) file in the disk group mounted by the Oracle ASM instance, DB_NAME will contain _OCR.</p> <p>When OCSSD has opened the voting file in the disk group mounted by the Oracle ASM instance, DB_NAME will contain _CSS.</p>                                                                                                                                                                                        |
| CLUSTER_NAME       | VARCHAR2 (31) | Name of the cluster                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| STATUS             | VARCHAR2 (12) | <p>Status of the client connection:</p> <ul style="list-style-type: none"> <li>CONNECTED - Database instance client has an active connection to the Oracle ASM instance</li> <li>DISCONNECTED - Database instance client normally ended its connection to the Oracle ASM instance</li> <li>BROKEN - Connection with the database instance client terminated in a nonstandard way</li> </ul> <p>When CRSD or OCSSD has opened its files in the disk group mounted by the Oracle ASM instance, it will report Connected as status.</p> |
| SOFTWARE_VERSION   | VARCHAR2 (60) | Software version number of the database or Oracle ASM instance for the selected disk group connection                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMPATIBLE_VERSION | VARCHAR2 (60) | <p>Compatibility setting of the database or Oracle ASM instance for the selected disk group connection</p> <p>The value will be - when CRSD or OCSSD has opened its files in the disk group mounted by the Oracle ASM instance.</p>                                                                                                                                                                                                                                                                                                  |
| CON_ID             | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul> <p>For this view, the value is always 0.</p>                                                |

**Note:**

In an Oracle Database instance, this view returns 0 rows when queried from a PDB.

**See Also:**

*Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle ASM information

## 8.56 V\$ASM\_DBCLONE\_INFO

V\$ASM\_DBCLONE\_INFO shows the relationship between the parent database and point-in-time database clones.

| Column                | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUP_NUMBER          | NUMBER         | Disk group number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DBCLONE_NAME          | VARCHAR2 (128) | Name of the point-in-time database clone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| MIRRORCOPY_NAME       | VARCHAR2 (128) | Name of the mirror copy associated with the database clone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DBCLONE_STATUS        | VARCHAR2 (128) | Status of the database clone. Possible values: <ul style="list-style-type: none"> <li>PREPARING — The process to prepare the database for splitting has started, but the database is not yet ready to be split.</li> <li>PREPARED — The preparation process is complete and the database is ready to be split.</li> <li>SPLITTING — The process to split the database files has started.</li> <li>SPLIT_COMPLETED — The database has been split.</li> <li>DROPPING — The process to drop the prepared database clone has started.</li> <li>FAILED — The clone operation has failed. The incomplete clone will be dropped.</li> </ul> |
| PARENT_DBNAME         | VARCHAR2 (128) | Name of the parent database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PARENT_FILEGROUP_NAME | VARCHAR2 (128) | Name of the file group associated with the parent database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID                | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                      |

**See Also:**

*Oracle Automatic Storage Management Administrator's Guide* for information about point-in-time database clones

## 8.57 V\$ASM\_DISK

V\$ASM\_DISK displays one row for every disk discovered by the Oracle Automatic Storage Management (Oracle ASM) instance, including disks that are not part of any disk group.

| Column         | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUP_NUMBER   | NUMBER        | Number of the disk group containing the disk (foreign key to the V\$ASM_DISKGROUP view)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| DISK_NUMBER    | NUMBER        | Number assigned to the disk within its disk group                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| COMPOUND_INDEX | NUMBER        | A 32-bit number consisting of a disk group number in the high-order 8 bits and a disk number in the low-order 24 bits (for efficient access to the view)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| INCARNATION    | NUMBER        | Incarnation number for the disk                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| MOUNT_STATUS   | VARCHAR2 (7)  | <p>Per-instance status of the disk relative to group mounts:</p> <ul style="list-style-type: none"> <li>• <b>MISSING</b> - Oracle ASM metadata indicates that the disk is known to be part of the Oracle ASM disk group but no disk in the storage system was found with the indicated name</li> <li>• <b>CLOSED</b> - Disk is present in the storage system but is not being accessed by Oracle ASM</li> <li>• <b>OPENED</b> - Disk is present in the storage system and is being accessed by Oracle ASM. This is the normal state for disks in a database instance which are part of a disk group being actively used by the instance.</li> <li>• <b>CACHED</b> - Disk is present in the storage system and is part of a disk group being accessed by the Oracle ASM instance. This is the normal state for disks in an Oracle ASM instance which are part of a mounted disk group.</li> <li>• <b>IGNORED</b> - Disk is present in the system but is ignored by Oracle ASM because of one of the following: <ul style="list-style-type: none"> <li>– The disk is detected by the system library but is ignored because an Oracle ASM library discovered the same disk</li> <li>– Oracle ASM has determined that the membership claimed by the disk header is no longer valid</li> </ul> </li> <li>• <b>CLOSING</b> - Oracle ASM is in the process of closing this disk</li> </ul>                                                                                                                                                                                           |
| HEADER_STATUS  | VARCHAR2 (12) | <p>Per-instance status of the disk as seen by discovery:</p> <ul style="list-style-type: none"> <li>• <b>UNKNOWN</b> - Oracle ASM disk header has not been read</li> <li>• <b>CANDIDATE</b> - Disk is not part of a disk group and may be added to a disk group with the <code>ALTER DISKGROUP</code> statement</li> <li>• <b>INCOMPATIBLE</b> - Version number in the disk header is not compatible with the Oracle ASM software version</li> <li>• <b>PROVISIONED</b> - Disk is not part of a disk group and may be added to a disk group with the <code>ALTER DISKGROUP</code> statement. The <b>PROVISIONED</b> header status is different from the <b>CANDIDATE</b> header status in that <b>PROVISIONED</b> implies that an additional platform-specific action has been taken by an administrator to make the disk available for Oracle ASM.</li> <li>• <b>MEMBER</b> - Disk is a member of an existing disk group. No attempt should be made to add the disk to a different disk group. The <code>ALTER DISKGROUP</code> statement will reject such an addition unless overridden with the <code>FORCE</code> option.</li> <li>• <b>FORMER</b> - Disk was once part of a disk group but has been dropped cleanly from the group. It may be added to a new disk group with the <code>ALTER DISKGROUP</code> statement.</li> <li>• <b>CONFLICT</b> - Oracle ASM disk was not mounted due to a conflict</li> <li>• <b>FOREIGN</b> - Disk contains data created by an Oracle product other than Oracle ASM. This includes data files, logfiles, and OCR disks.</li> </ul> |

| Column                    | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MODE_STATUS               | VARCHAR2 (7)   | Global status about which kinds of I/O requests are allowed to the disk: <ul style="list-style-type: none"> <li>• ONLINE - Disk is online and operating normally. Reads and writes are attempted when the disk is mounted. Reads are attempted as part of disk discovery.</li> <li>• OFFLINE - Disk is offline and access to data is not permitted. Reads and writes are not attempted. An offline disk remains logically part of its disk group.</li> <li>• SYNCING - Disk is offline for reads, but online for writes. Oracle ASM is resyncing stale data on the disk. See V\$ASM_OPERATION to view resync progress.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                     |
| STATE                     | VARCHAR2 (8)   | Global state of the disk with respect to the disk group: <ul style="list-style-type: none"> <li>• UNKNOWN - Oracle ASM disk state is not known (typically the disk is not mounted)</li> <li>• NORMAL - Disk is online and operating normally</li> <li>• ADDING - Disk is being added to a disk group, and is pending validation by all instances that have the disk group mounted</li> <li>• DROPPING - Disk has been manually taken offline and space allocation or data access for the disk halts. Rebalancing will commence to relocate data off the disks to other disks in the disk group. Upon completion of the rebalance, the disk is expelled from the group.</li> <li>• HUNG - Disk drop operation cannot continue because there is insufficient space to relocate the data from the disk being dropped</li> <li>• FORCING - Disk is being removed from the disk group without attempting to offload its data. The data will be recovered from redundant copies, where possible.</li> </ul> |
| REDUNDANCY                | VARCHAR2 (7)   | Hardware redundancy of the disk: <ul style="list-style-type: none"> <li>• UNKNOWN</li> <li>• UNPROT</li> <li>• MIRROR</li> <li>• PARITY</li> </ul> <p><b>Note:</b> This column is valid only if an ASMLIB is present that supports returning hardware redundancy information. This column is not related to the redundancy of the disk group of which the disk is a member.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LIBRARY                   | VARCHAR2 (64)  | Name of the library that discovered the disk                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| OS_MB                     | NUMBER         | Size of the disk (in megabytes) as reported by the host operating system                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TOTAL_MB                  | NUMBER         | Total capacity of the disk (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| FREE_MB                   | NUMBER         | Unused capacity of the disk (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| HOT_USED_MB <sup>1</sup>  | NUMBER         | Number of used megabytes in the hot region                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| COLD_USED_MB <sup>1</sup> | NUMBER         | Number of used megabytes in the cold region                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NAME                      | VARCHAR2 (30)  | Name of the disk                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| FAILGROUP                 | VARCHAR2 (30)  | Name of the failure group containing the disk                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LABEL                     | VARCHAR2 (31)  | Disk label portion of the name returned by discovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PATH                      | VARCHAR2 (256) | Operating system path name portion of the name returned by discovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| UDID                      | VARCHAR2 (64)  | Unique Device ID portion of the name returned by discovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PRODUCT                   | VARCHAR2 (32)  | Name of the manufacturer and the name of the product. All disks with the same product id will have the same performance and reliability characteristics.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Column                          | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CREATE_DATE                     | DATE         | Date and time when the disk was added to the disk group                                                                                                                                                                                                                                                                                                                                                                                 |
| MOUNT_DATE                      | DATE         | Date and time when the disk was mounted by the first instance                                                                                                                                                                                                                                                                                                                                                                           |
| REPAIR_TIMER                    | NUMBER       | Seconds remaining until the disk is automatically dropped (0 if not failed)                                                                                                                                                                                                                                                                                                                                                             |
| READS                           | NUMBER       | Total number of I/O read requests for the disk                                                                                                                                                                                                                                                                                                                                                                                          |
| WRITES                          | NUMBER       | Total number of I/O write requests for the disk                                                                                                                                                                                                                                                                                                                                                                                         |
| READ_ERRS                       | NUMBER       | Total number of failed I/O read requests for the disk                                                                                                                                                                                                                                                                                                                                                                                   |
| WRITE_ERRS                      | NUMBER       | Total number of failed I/O write requests for the disk                                                                                                                                                                                                                                                                                                                                                                                  |
| READ_TIMEOUT                    | NUMBER       | Number of read I/Os that are timed out                                                                                                                                                                                                                                                                                                                                                                                                  |
| WRITE_TIMEOUT                   | NUMBER       | Number of write I/Os that are timed out                                                                                                                                                                                                                                                                                                                                                                                                 |
| READ_TIME                       | NUMBER       | Total I/O time (in seconds) for read requests for the disk if the <code>TIMED_STATISTICS</code> initialization parameter is set to <code>true</code> (0 if set to <code>false</code> )                                                                                                                                                                                                                                                  |
| WRITE_TIME                      | NUMBER       | Total I/O time (in seconds) for write requests for the disk if the <code>TIMED_STATISTICS</code> initialization parameter is set to <code>true</code> (0 if set to <code>false</code> )                                                                                                                                                                                                                                                 |
| BYTES_READ                      | NUMBER       | Total number of bytes read from the disk                                                                                                                                                                                                                                                                                                                                                                                                |
| BYTES_WRITTEN                   | NUMBER       | Total number of bytes written to the disk                                                                                                                                                                                                                                                                                                                                                                                               |
| PREFERRED_READ                  | VARCHAR2 (1) | <p>Status of the preferred read failure group:</p> <ul style="list-style-type: none"> <li>U - Disk group has no preferred read failure group</li> <li>Y - Disk is a preferred read disk</li> <li>N - Disk is not a preferred read disk</li> </ul> <p>For a disk group with one or more preferred read failure groups, if the disk is in one of the preferred read failure groups, the value of this column is Y; otherwise it is N.</p> |
| HASH_VALUE                      | NUMBER       | A unique hash value for an Oracle ASM disk, computed using the Oracle ASM disk name (as specified by <code>NAME</code> column in <code>v\$asm_disk</code> ) and the Oracle ASM disk group name (as specified by <code>NAME</code> column in <code>v\$asm_diskgroup</code> ).                                                                                                                                                            |
| HOT_READS <sup>1</sup>          | NUMBER       | This column is not meaningful and its value is always 0                                                                                                                                                                                                                                                                                                                                                                                 |
| HOT_WRITES <sup>1</sup>         | NUMBER       | This column is not meaningful and its value is always 0                                                                                                                                                                                                                                                                                                                                                                                 |
| HOT_BYTES_READ <sup>1</sup>     | NUMBER       | This column is not meaningful and its value is always 0                                                                                                                                                                                                                                                                                                                                                                                 |
| HOT_BYTES_WRITTEN <sup>1</sup>  | NUMBER       | This column is not meaningful and its value is always 0                                                                                                                                                                                                                                                                                                                                                                                 |
| COLD_READS <sup>1</sup>         | NUMBER       | Number of reads from the disk                                                                                                                                                                                                                                                                                                                                                                                                           |
| COLD_WRITES <sup>1</sup>        | NUMBER       | Number of writes to the disk                                                                                                                                                                                                                                                                                                                                                                                                            |
| COLD_BYTES_READ <sup>1</sup>    | NUMBER       | Number of bytes read from the disk                                                                                                                                                                                                                                                                                                                                                                                                      |
| COLD_BYTES_WRITTEN <sup>1</sup> | NUMBER       | Number of bytes written to the disk                                                                                                                                                                                                                                                                                                                                                                                                     |
| VOTING_FILE                     | VARCHAR2 (1) | Indicates whether the disk contains a voting file (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                        |
| SECTOR_SIZE                     | NUMBER       | Physical block size (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                          |
| LOGICAL_SECTOR_SIZE             | NUMBER       | <p>Shows the logical sector size value of the disk in bytes. This is the smallest possible I/O that can be done by the disk.</p> <p>If the value of the <code>LOGICAL_SECTOR_SIZE</code> column is 512, while the value in the <code>SECTOR_SIZE</code> column is 4096, then the disk supports 512 sector size emulation. This means the disk can be used for both 512 native and 4096 native disk groups.</p>                          |



| Column                 | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FAILGROUP_TYPE         | VARCHAR2 (7)  | Type of the failure group: <ul style="list-style-type: none"> <li>REGULAR</li> <li>QUORUM</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID                 | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> For this view, the value is always 0.                                                                                                                                                                                                                                                                            |
| THIN_PROVISION_CAPABLE | VARCHAR2 (1)  | Indicates whether the disk supports Storage Thin Provisioning (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DATA_INTEGRITY_CAPABLE | VARCHAR2 (1)  | Indicates whether the disk supports the Data Integrity feature (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SITE_NAME              | VARCHAR2 (30) | The name of the site to which the specific disk belongs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SITE_GUID              | VARCHAR2 (33) | The GUID for the site to which the specific disk belongs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| FAILGROUP_LABEL        | VARCHAR2 (30) | This is the suggested name for the failure group to which the disk belongs, as returned by discovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SITE_LABEL             | VARCHAR2 (30) | This is the suggested name for the site to which the disk belongs, as returned by discovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SITE_STATUS            | VARCHAR2 (11) | This column is populated only for disks in Oracle ASM extended disk groups. The site status is computed after every Partnership and Status Table (PST) refresh or when the PST is read from disks into memory. The possible states include: <ul style="list-style-type: none"> <li>UNKNOWN: This is the state before any checks have been performed.</li> <li>UNAVAILABLE: This is the state when all the disks in the site are offline.</li> <li>COMPROMISED: The state when enough disks or PST copies are offline, such that the site can no longer provide data availability.</li> <li>AVAILABLE: The state when there is enough redundancy within the site to provide data availability in case another site becomes compromised or unavailable.</li> </ul> |

<sup>1</sup> Intelligent Data Placement is desupported starting with Oracle Database 21c. As a result, the individual values for the HOT\_USED\_MB and COLD\_USED\_MB columns are not meaningful. However, the sum of the HOT\_USED\_MB and COLD\_USED\_MB values represents the total number of used megabytes on the disk. Also, the HOT\_READS, HOT\_WRITES, HOT\_BYTES\_READ, and HOT\_BYTES\_WRITTEN columns are no longer meaningful and always return 0, and the COLD\_READS, COLD\_WRITES, COLD\_BYTES\_READ, and COLD\_BYTES\_WRITTEN columns return statistics for the entire disk.



#### Note:

The GROUP\_NUMBER and DISK\_NUMBER columns will only be valid if the disk is part of a disk group which is currently mounted by the instance. Otherwise, GROUP\_NUMBER will be 0, and DISK\_NUMBER will be a unique value with respect to the other disks that also have a group number of 0.

**Note:**

In an Oracle Database instance, this view returns 0 rows when queried from a PDB.

**Note:**

This view performs disk discovery every time it is queried. Because performing disk discovery is very resource intensive, Oracle recommends against using this view for monitoring scripts. Instead, use the less expensive view [V\\$ASM\\_DISK\\_STAT](#).

**See Also:**

*Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle ASM information

## 8.58 V\$ASM\_DISK\_IOSTAT

V\$ASM\_DISK\_IOSTAT displays information about disk I/O statistics for each Oracle Automatic Storage Management (Oracle ASM) client.

If this view is queried from the database instance, only the rows for that instance are shown.

| Column        | Datatype      | Description                                                                                                                                     |
|---------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| INSTNAME      | VARCHAR2 (64) | Identifier for the DB/ADVM instance client                                                                                                      |
| DBNAME        | VARCHAR2 (8)  | Unique database name (DB_UNIQUE_NAME)                                                                                                           |
| CLUSTERNAME   | VARCHAR2 (31) | Name of the cluster                                                                                                                             |
| GROUP_NUMBER  | NUMBER        | Number of the disk group containing the disk                                                                                                    |
| DISK_NUMBER   | NUMBER        | Number assigned to the disk within its disk group                                                                                               |
| FAILGROUP     | VARCHAR2 (30) | Name of the failure group to which the disk belongs                                                                                             |
| SITE_NAME     | VARCHAR2 (30) | This is the name of the site to which the disk belongs                                                                                          |
| READS         | NUMBER        | Total number of I/O read requests for the disk                                                                                                  |
| WRITES        | NUMBER        | Total number of I/O write requests for the disk                                                                                                 |
| READ_ERRS     | NUMBER        | Total number of failed I/O read requests for the disk                                                                                           |
| WRITE_ERRS    | NUMBER        | Total number of failed I/O write requests for the disk                                                                                          |
| READ_TIMEOUT  | NUMBER        | Number of read I/Os that are timed out                                                                                                          |
| WRITE_TIMEOUT | NUMBER        | Number of write I/Os that are timed out                                                                                                         |
| READ_TIME     | NUMBER        | Total I/O time (in seconds) for read requests for the disk if the TIMED_STATISTICS initialization parameter is set to TRUE (0 if set to FALSE). |
| WRITE_TIME    | NUMBER        | Total I/O time (in seconds) for write requests for the disk if the TIMED_STATISTICS initialization parameter is set to TRUE (0 if set to FALSE) |

| Column                          | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BYTES_READ                      | NUMBER   | Total number of bytes read from the disk                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| BYTES_WRITTEN                   | NUMBER   | Total number of bytes written from the disk                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| HOT_READS <sup>1</sup>          | NUMBER   | This column is not meaningful and its value is always 0                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| HOT_WRITES <sup>1</sup>         | NUMBER   | This column is not meaningful and its value is always 0                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| HOT_BYTES_READ <sup>1</sup>     | NUMBER   | This column is not meaningful and its value is always 0                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| HOT_BYTES_WRITTEN <sup>1</sup>  | NUMBER   | This column is not meaningful and its value is always 0                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| COLD_READS <sup>1</sup>         | NUMBER   | Number of reads from the disk                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| COLD_WRITES <sup>1</sup>        | NUMBER   | Number of writes to the disk                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| COLD_BYTES_READ <sup>1</sup>    | NUMBER   | Number of bytes read from the disk                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| COLD_BYTES_WRITTEN <sup>1</sup> | NUMBER   | Number of bytes written to the disk                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID                          | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> <p>For this view, the value is always 0.</p> |

<sup>1</sup> Intelligent Data Placement is desupported starting with Oracle Database 21c. As a result, the HOT\_READS, HOT\_WRITES, HOT\_BYTES\_READ, and HOT\_BYTES\_WRITTEN columns are no longer meaningful and always return 0, and the COLD\_READS, COLD\_WRITES, COLD\_BYTES\_READ, and COLD\_BYTES\_WRITTEN columns return statistics for the entire disk.



#### Note:

In an Oracle Database instance, this view returns 0 rows when queried from a PDB.



#### See Also:

*Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle ASM information

## 8.59 V\$ASM\_DISK\_STAT

V\$ASM\_DISK\_STAT displays performance statistics in the same way that V\$ASM\_DISK does, but without performing discovery of new disks

This results in a less expensive operation. However, since discovery is not performed, the output of this view does not include any data about disks that are new to the system.

The columns for V\$ASM\_DISK\_STAT are the same as those for V\$ASM\_DISK.

**Note:**

In an Oracle Database instance, this view returns 0 rows when queried from a PDB.

**See Also:**

"V\$ASM\_DISK"

## 8.60 V\$ASM\_DISKGROUP

V\$ASM\_DISKGROUP displays one row for every Oracle Automatic Storage Management (Oracle ASM) disk group discovered by the Oracle ASM instance on the node.

| Column               | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUP_NUMBER         | NUMBER        | Cluster-wide number assigned to the disk group (primary key)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| NAME                 | VARCHAR2 (30) | Name of the disk group                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SECTOR_SIZE          | NUMBER        | Physical block size (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| LOGICAL_SECTOR_SIZE  | NUMBER        | <p>This column represents the logical sector size value of the disk group in bytes. This is the smallest possible I/O that can be done in this disk group. Any I/O smaller than the logical sector size will cause an assert in the code.</p> <p>If the value of the LOGICAL_SECTOR_SIZE column is 512, while the value in the SECTOR_SIZE column is 4096, then the disk group supports 512 sector size emulation. This means that I/O operations can be both 512 or 4096 aligned. For example, this means that you can have redo log files with a file block size of 512 bytes in this disk group that can be both read and written to, as well as create new redo log files with a file block size of 4096 bytes.</p>                                                                                                                                                                                                                                                                                       |
| BLOCK_SIZE           | NUMBER        | Oracle ASM metadata block size (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ALLOCATION_UNIT_SIZE | NUMBER        | Size of the allocation unit (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| STATE                | VARCHAR2 (11) | <p>State of the disk group relative to the instance:</p> <ul style="list-style-type: none"> <li><b>BROKEN</b> - Database instance lost connectivity to the Oracle ASM instance that mounted the disk group</li> <li><b>CONNECTED</b> - Disk group is in use by the database instance</li> <li><b>DISMOUNTED</b> - Disk group was cleanly dismounted by the Oracle ASM instance following a successful mount</li> <li><b>MOUNTED</b> - Instance is successfully serving the disk group to its database clients</li> <li><b>QUIESCING</b> - CRSCTL utility attempted to dismount a disk group that contains the Oracle Cluster Registry (OCR). The disk group cannot be dismounted until Cluster Ready Services (CRS) exits, because the disk group contains the OCR.</li> <li><b>RESTRICTED</b> - A disk group mounted in this mode can only be seen by this Oracle ASM instance for maintenance purposes</li> <li><b>UNKNOWN</b> - Oracle ASM instance has never attempted to mount the disk group</li> </ul> |

| Column                    | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE                      | VARCHAR2 (6)  | Redundancy type for the disk group: <ul style="list-style-type: none"> <li>• EXTEND</li> <li>• EXTERN</li> <li>• FLEX</li> <li>• HIGH</li> <li>• NORMAL</li> </ul>                                                                                                                                                                                                                                                                                                                          |
| TOTAL_MB                  | NUMBER        | Total capacity of the disk group, excluding that of quorum disks (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                                             |
| FREE_MB                   | NUMBER        | Unused capacity of the disk group (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| HOT_USED_MB <sup>1</sup>  | NUMBER        | Number of used megabytes in the hot region                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| COLD_USED_MB <sup>1</sup> | NUMBER        | Number of used megabytes in the cold region                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| REQUIRED_MIRROR_FREE_MB   | NUMBER        | Amount of space that is required to be available in a given disk group in order to restore redundancy after one or more disk failures. The amount of space displayed in this column takes mirroring effects into account.                                                                                                                                                                                                                                                                   |
| USABLE_FILE_MB            | NUMBER        | Amount of free space that can be safely utilized taking mirroring into account and yet be able to restore redundancy after a disk failure                                                                                                                                                                                                                                                                                                                                                   |
| OFFLINE_DISKS             | NUMBER        | Number of disks in the disk group that are currently offline                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMPATIBILITY             | VARCHAR2 (60) | Minimum software version required for an Oracle ASM instance to mount this disk group                                                                                                                                                                                                                                                                                                                                                                                                       |
| DATABASE_COMPATIBILITY    | VARCHAR2 (60) | Minimum software version required for a database instance to use files in this disk group                                                                                                                                                                                                                                                                                                                                                                                                   |
| VOTING_FILES              | VARCHAR2 (1)  | Indicates whether the disk contains voting files (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID                    | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> For this view, the value is always 0. |

<sup>1</sup> Intelligent Data Placement is desupported starting with Oracle Database 21c. As a result, the individual values for the HOT\_USED\_MB and COLD\_USED\_MB columns are not meaningful. However, the sum of the HOT\_USED\_MB and COLD\_USED\_MB values represents the total number of used megabytes in the disk group.



#### Note:

The GROUP\_NUMBER, TOTAL\_MB, and FREE\_MB columns are only meaningful if the disk group is mounted by the instance. Otherwise, their values will be 0.

**Note:**

This view performs disk discovery every time it is queried. Because performing disk discovery is very resource intensive, Oracle recommends against using this view for monitoring scripts. Instead, use the less expensive view [V\\$ASM\\_DISKGROUP\\_STAT](#).

**See Also:**

*Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle ASM information

## 8.61 V\$ASM\_DISKGROUP\_STAT

V\$ASM\_DISKGROUP\_STAT displays performance statistics in the same way that V\$ASM\_DISKGROUP does, but without performing discovery of new disk groups.

This results in a less expensive operation. However, since discovery is not performed, the output of this view does not include any data about disk groups that are new to the system.

The columns for V\$ASM\_DISKGROUP\_STAT are the same as those for V\$ASM\_DISKGROUP.

**See Also:**

["V\\$ASM\\_DISKGROUP"](#)

## 8.62 V\$ASM\_ESTIMATE

V\$ASM\_ESTIMATE displays an estimate of the work involved in execution plans for Oracle Automatic Storage Management (Oracle ASM) disk group rebalance and resync operations.

| Column       | Datatype      | Description                                                                          |
|--------------|---------------|--------------------------------------------------------------------------------------|
| GROUP_NUMBER | NUMBER        | Oracle ASM disk group number                                                         |
| STATEMENT_ID | VARCHAR2 (30) | Value of the optional STATEMENT_ID parameter specified in the EXPLAIN WORK statement |
| TIMESTAMP    | DATE          | Date and time when the EXPLAIN WORK statement was issued                             |
| EST_WORK     | NUMBER        | Estimated number of Allocation Units that have to be moved by the operation          |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> For this view, the value is always 0. |

**See Also:**

*Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle ASM information

## 8.63 V\$ASM\_FILE

In an Oracle Automatic Storage Management (Oracle ASM) instance, V\$ASM\_FILE displays one row for each file in each disk group mounted by the Oracle ASM instance.

For example, if there are three disk groups and five files in each, fifteen rows are displayed (unless the query is qualified with a WHERE clause).

| Column         | Datatype | Description                                                                                                                                              |
|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUP_NUMBER   | NUMBER   | Number of the disk group containing the file (composite primary key)                                                                                     |
| FILE_NUMBER    | NUMBER   | Number of the file within the disk group (composite primary key)                                                                                         |
| COMPOUND_INDEX | NUMBER   | A 32-bit number consisting of a disk group number in the high-order 8 bits and a file number in the low-order 24 bits (for efficient access to the view) |
| INCARNATION    | NUMBER   | Incarnation number for the file (composite primary key)                                                                                                  |
| BLOCK_SIZE     | NUMBER   | Block size of the file (in bytes)                                                                                                                        |
| BLOCKS         | NUMBER   | Number of blocks in the file                                                                                                                             |
| BYTES          | NUMBER   | Number of bytes in the file                                                                                                                              |
| SPACE          | NUMBER   | Number of bytes allocated to the file                                                                                                                    |

| Column                         | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE                           | VARCHAR2 (64) | Type of the file. Possible values are as follows: <ul style="list-style-type: none"> <li>ARCHIVELOG</li> <li>AUTOBACKUP</li> <li>BACKUPSET</li> <li>CHANGETRACKING</li> <li>CONTROLFILE</li> <li>DATAFILE</li> <li>DATAGUARDCONFIG</li> <li>DUMPSET</li> <li>FLASHBACK</li> <li>ONLINELOG</li> <li>PARAMETERFILE</li> <li>TEMPFILE</li> <li>XTRANSPORT</li> </ul>                                                                                                          |
| REDUNDANCY                     | VARCHAR2 (6)  | Redundancy of the file: <ul style="list-style-type: none"> <li>HIGH</li> <li>MIRROR</li> <li>PARITY</li> <li>UNPROT</li> </ul>                                                                                                                                                                                                                                                                                                                                             |
| STRIPED                        | VARCHAR2 (6)  | Indicates how the file is striped: <ul style="list-style-type: none"> <li>FINE</li> <li>COARSE</li> </ul>                                                                                                                                                                                                                                                                                                                                                                  |
| CREATION_DATE                  | DATE          | Date on which the file was created                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| MODIFICATION_DATE              | DATE          | Date of the last open/close for writing, rounded back to the nearest hour                                                                                                                                                                                                                                                                                                                                                                                                  |
| REDUNDANCY_LOWERED             | VARCHAR2 (1)  | Indicates whether a file has lower redundancy than what was expected (Y) or not (N). Redundancy is said to have been lowered for a file when one or more data extents in that file are not mirrored at the level specified by the administrator. In case of unprotected files, data extents could be missing altogether. Another possible value for this column is (U), which means that it is unknown.<br>This column is deprecated, and it always displays a value of U. |
| PERMISSIONS                    | VARCHAR2 (16) | Access permissions of the file, in order of user, group, and other                                                                                                                                                                                                                                                                                                                                                                                                         |
| USER_NUMBER                    | NUMBER        | User number                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| USER_INCARNATION               | NUMBER        | Incarnation number of the user                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| USERGROUP_NUMBER               | NUMBER        | User group number                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| USERGROUP_INCARNATION          | NUMBER        | Incarnation number of the user group                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| PRIMARY_REGION <sup>1</sup>    | VARCHAR2 (4)  | Region used for allocating primary extents: <ul style="list-style-type: none"> <li>HOT</li> <li>COLD</li> </ul>                                                                                                                                                                                                                                                                                                                                                            |
| MIRROR_REGION <sup>1</sup>     | VARCHAR2 (4)  | Region for allocating mirrored extents: <ul style="list-style-type: none"> <li>HOT</li> <li>COLD</li> </ul>                                                                                                                                                                                                                                                                                                                                                                |
| HOT_READS <sup>1</sup>         | NUMBER        | This column is not meaningful and its value is always 0                                                                                                                                                                                                                                                                                                                                                                                                                    |
| HOT_WRITES <sup>1</sup>        | NUMBER        | This column is not meaningful and its value is always 0                                                                                                                                                                                                                                                                                                                                                                                                                    |
| HOT_BYTES_READ <sup>1</sup>    | NUMBER        | This column is not meaningful and its value is always 0                                                                                                                                                                                                                                                                                                                                                                                                                    |
| HOT_BYTES_WRITTEN <sup>1</sup> | NUMBER        | This column is not meaningful and its value is always 0                                                                                                                                                                                                                                                                                                                                                                                                                    |
| COLD_READS <sup>1</sup>        | NUMBER        | Number of reads from the file                                                                                                                                                                                                                                                                                                                                                                                                                                              |



| Column                          | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COLD_WRITES <sup>1</sup>        | NUMBER       | Number of writes to the file                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| COLD_BYTES_READ <sup>1</sup>    | NUMBER       | Number of bytes read from the file                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| COLD_BYTES_WRITTEN <sup>1</sup> | NUMBER       | Number of bytes written to the file                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| FILEGROUP_NUMBER                | NUMBER       | Shows the number of the associated file group                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| FILEGROUP_INCARNATION           | NUMBER       | The incarnation number for the file group the file belongs to in a flex redundancy disk group                                                                                                                                                                                                                                                                                                                                                                                         |
| REMIRROR                        | VARCHAR2 (1) | This column has the value <b>Y</b> when rebalance is needed for the file after a redundancy change in a flex redundancy disk group, <b>N</b> otherwise. A redundancy change can occur when the file is moved to a file group with a different redundancy, or when the redundancy property of the file group is changed. After rebalance is run for the file, the value changes to <b>N</b> .                                                                                          |
| PARENT_FILNUM                   | NUMBER       | For internal use only.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| PARENT_FILNUMINC                | NUMBER       | For internal use only.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID                          | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> For this view, the value is always 0. |

<sup>1</sup> Intelligent Data Placement is desupported starting with Oracle Database 21c. As a result, the `PRIMARY_REGION` and `MIRROR_REGION` columns are no longer meaningful. Also, the `HOT_READS`, `HOT_WRITES`, `HOT_BYTES_READ`, and `HOT_BYTES_WRITTEN` columns are no longer meaningful and always return 0, and the `COLD_READS`, `COLD_WRITES`, `COLD_BYTES_READ`, and `COLD_BYTES_WRITTEN` columns return statistics for the entire file.



#### See Also:

*Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle ASM information

## 8.64 V\$ASM\_FILEGROUP

`V$ASM_FILEGROUP` describes the properties of the Oracle Automatic Storage Management (Oracle ASM) File Groups.

In both Oracle ASM and Oracle Database instances, `V$ASM_FILEGROUP` displays one row for every File Group present in every Disk Group mounted by the Oracle ASM instance. File Groups are only displayed for Disk Groups where `COMPATIBLE.ASM` is set to 12.2 or higher.

**Note:**

There will not be an entry for the default File Group.

| Column                 | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUP_NUMBER           | NUMBER         | Number of the Disk Group in which this File Group exists (composite primary key)                                                                                                                                                                                                                                                                                                                                                                |
| FILEGROUP_NUMBER       | NUMBER         | Number associated to the File Group within its Disk Group (composite primary key)                                                                                                                                                                                                                                                                                                                                                               |
| INCARNATION            | NUMBER         | Incarnation number for the File Group (composite primary key)                                                                                                                                                                                                                                                                                                                                                                                   |
| COMPOUND_INDEX         | NUMBER         | A 32-bit number consisting of a Disk Group number in the high-order 8 bits and a File Group number in the low-order 24 bits (for efficient access to the view)                                                                                                                                                                                                                                                                                  |
| NAME                   | VARCHAR2 (128) | Name of the File Group                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CLIENT_TYPE            | NUMBER         | Type of client that the File Group is associated to: <ul style="list-style-type: none"> <li>DATABASE</li> <li>CLUSTER</li> <li>VOLUME</li> </ul>                                                                                                                                                                                                                                                                                                |
| CLIENT_NAME            | VARCHAR2 (128) | Name of the client (database, PDB, CDB, cluster, or volume) that the File Group is associated to                                                                                                                                                                                                                                                                                                                                                |
| GUID                   | VARCHAR2 (32)  | If the CLIENT_TYPE is DATABASE: <ul style="list-style-type: none"> <li>In a CDB environment, it is the GUID of the PDB or CDB associated with the file group, the same value as the GUID in V\$CONTAINERS.</li> <li>In a non-CDB environment it is the database identifier (DBID) of the database associated with that file group.</li> </ul> If the CLIENT_TYPE is VOLUME or CLUSTER, the GUID column is empty.                                |
| QUOTAGROUP_NUMBER      | NUMBER         | Number of the quota group associated with this File Group (foreign key to the V\$ASM_QUOTAGROUP view)                                                                                                                                                                                                                                                                                                                                           |
| QUOTAGROUP_INCARNATION | NUMBER         | Incarnation number for the Quota Group                                                                                                                                                                                                                                                                                                                                                                                                          |
| USED_QUOTA_MB          | NUMBER         | Used quota of the quota group in GB                                                                                                                                                                                                                                                                                                                                                                                                             |
| USER_NUMBER            | NUMBER         | User number                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| USER_INCARNATION       | NUMBER         | Incarnation number of the user                                                                                                                                                                                                                                                                                                                                                                                                                  |
| USERGROUP_NUMBER       | NUMBER         | User group number                                                                                                                                                                                                                                                                                                                                                                                                                               |
| USERGROUP_INCARNATION  | NUMBER         | Incarnation number of the user group                                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID                 | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**

["V\\$ASM\\_FILEGROUP\\_PROPERTY"](#)

## 8.65 V\$ASM\_FILEGROUP\_FILE

V\$ASM\_FILEGROUP\_FILE lists all the Oracle Automatic Storage Management (Oracle ASM) files associated with each File Group.

In both Oracle ASM and Oracle Database instances, V\$ASM\_FILEGROUP\_FILE will display one row for every file associated with a File Group contained in every Disk Group mounted by the instance.

| Column           | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUP_NUMBER     | NUMBER   | Number of the Disk Group in which this File Group exists                                                                                                                                                                                                                                                                                                                                                                                    |
| FILEGROUP_NUMBER | NUMBER   | Number associated to the File Group within its Disk Group                                                                                                                                                                                                                                                                                                                                                                                   |
| FILEGROUP_INCARN | NUMBER   | Incarnation number for the File Group                                                                                                                                                                                                                                                                                                                                                                                                       |
| FILE_NUMBER      | NUMBER   | Number associated to the ASM File (same file number as in V\$ASM_FILE)                                                                                                                                                                                                                                                                                                                                                                      |
| INCARNATION      | NUMBER   | Incarnation number for the ASM File                                                                                                                                                                                                                                                                                                                                                                                                         |
| COMPOUND_INDEX   | NUMBER   | A 32-bit number consisting of a Disk Group number in the high-order 8 bits and a File number in the low-order 24 bits (for efficient access to the view)                                                                                                                                                                                                                                                                                    |
| CON_ID           | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

- ["V\\$ASM\\_FILE"](#)
- ["V\\$ASM\\_FILEGROUP"](#)

## 8.66 V\$ASM\_FILEGROUP\_PROPERTY

V\$ASM\_FILEGROUP\_PROPERTY describes all the properties of every Oracle Automatic Storage Management (Oracle ASM) File Group.

In both Oracle ASM and Oracle Database instances, V\$ASM\_FILEGROUP\_PROPERTY will display one row for every property of every file type of every File Group contained in every Disk Group mounted by the instance.

File Group properties are only displayed for File Groups on Disk Groups where COMPATIBLE.ASM is set to 12.2 or higher.


**Note:**

There will not be an entry for the default File Group.

| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUP_NUMBER     | NUMBER        | Number of the Disk Group in which this File Group exists (composite primary key)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| FILEGROUP_NUMBER | NUMBER        | Number associated to the File Group within its Disk Group (composite primary key)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| COMPOUND_INDEX   | NUMBER        | A 32-bit number consisting of a Disk Group number in the high-order 8 bits and a Property Number in the low-order 24 bits (for efficient access to the view)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| PROPERTY_INDEX   | NUMBER        | Number of this property in the Disk Group for the File Group (composite primary key)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| INCARNATION      | NUMBER        | Incarnation number for this property (composite primary key)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| FILE_TYPE        | VARCHAR2 (30) | Type of file the property will be applied to: <ul style="list-style-type: none"> <li>• ARCHIVELOG</li> <li>• ASMPARAMETERFILE</li> <li>• ASMVDR</li> <li>• ASMVOL</li> <li>• AUDIT_SPILLFILES</li> <li>• AUTOBACKUP</li> <li>• BACKUPSET</li> <li>• CHANGETRACKING</li> <li>• CONTAINER</li> <li>• CONTROLFILE</li> <li>• DATAFILE</li> <li>• DATAGUARDCONFIG</li> <li>• DUMPSET</li> <li>• FLASHBACK</li> <li>• FLASHFILE</li> <li>• KEY_STORE</li> <li>• OCRBACKUP</li> <li>• OCRFILE</li> <li>• ONLINELOG</li> <li>• PARAMETERFILE</li> <li>• TEMPFILE</li> <li>• VOTINGFILE</li> <li>• XTRANSPORT</li> </ul> <p>The value can be NULL for properties with a File Group granularity.</p> |

| Column | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME   | VARCHAR2 (64)  | <p>Full name of the property. Possible values:</p> <ul style="list-style-type: none"> <li>COMPATIBLE.CLIENT</li> <li>DBCLONE_STATUS</li> <li>OWNER</li> <li>PARENT_FILEGROUP_NUMBER</li> <li>POWER_LIMIT</li> <li>PRIORITY</li> <li>REDUNDANCY</li> <li>STRIPING</li> <li>USER_GROUP</li> </ul>                                                                                                                                                        |
| VALUE  | VARCHAR2 (256) | <p>Value of the property</p> <p>See <i>Oracle Automatic Storage Management Administrator's Guide</i> for information about file group property values.</p>                                                                                                                                                                                                                                                                                             |
| CON_ID | NUMBER         | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$ASM\_FILEGROUP"

## 8.67 V\$ASM\_FILESYSTEM

V\$ASM\_FILESYSTEM displays information for every mounted Oracle ACFS.

| Column         | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FS_NAME        | VARCHAR2 (1024) | Mount point (primary key)                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| AVAILABLE_TIME | DATE            | Mount time or the time that the file system became available again; NULL if the file system is not available                                                                                                                                                                                                                                                                                                                                                                                   |
| BLOCK_SIZE     | NUMBER          | File system block size (in kilobytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| STATE          | VARCHAR2 (13)   | <p>File system status::</p> <ul style="list-style-type: none"> <li>NOT AVAILABLE</li> <li>AVAILABLE</li> <li>OFFLINE - Either the Oracle ASM instance is down, the disk group has been forced dismounted, or less commonly, a metadata I/O failure occurred or serious metadata corruption was detected. In the case of a metadata I/O failure, the file system is also marked as corrupt. An offline file system can only be unmounted; other attempts at access result in errors.</li> </ul> |
| CORRUPT        | VARCHAR2 (5)    | Indicates whether the file system needs the fixer (fsck, acfschkdsk) to be run (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                                                           |

| Column                 | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM_VOL                | NUMBER        | Number of volumes in the file system                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TOTAL_SIZE             | NUMBER        | Total capacity of the file system (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TOTAL_FREE             | NUMBER        | Total free space in the file system (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TOTAL_SNAP_SPACE_USAGE | NUMBER        | Total space used by snapshots (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| REPLSTATE              | VARCHAR2 (7)  | Replication status: <ul style="list-style-type: none"> <li>• NO REPL - Replication is not initialized</li> <li>• PRIMARY - File system is initialized for replication as a primary</li> <li>• STANDBY - File system is initialized for replication as a standby</li> </ul>                                                                                                                                                                                                                  |
| RESIZE_STATE           | VARCHAR2 (5)  | Possible resize states: <ul style="list-style-type: none"> <li>• NONE - AutoResize not configured</li> <li>• AUTO - Equivalent to AutoResizeEnabled flag</li> <li>• ERROR - Equivalent to AutoResizeError flag</li> </ul>                                                                                                                                                                                                                                                                   |
| COMPRESS_STATE         | VARCHAR2 (7)  | Compression status of the file system. Possible values: <ul style="list-style-type: none"> <li>• DISABLED - Compression is not active</li> <li>• ENABLED - Compression is active</li> <li>• PARTIAL - Compression is disabled, but the file system may contain compressed files</li> </ul>                                                                                                                                                                                                  |
| FROZEN_STATE           | VARCHAR2 (5)  | Indicates whether the filesystem is frozen (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                                                                                            |
| ACFS_COMPATIBILITY     | VARCHAR2 (60) | Oracle Release streams where Oracle ACFS has shipped                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| METADATA_BLOCK_SIZE    | NUMBER        | Metadata block size of the file system. Possible values: <ul style="list-style-type: none"> <li>• 512</li> <li>• 4096</li> </ul>                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID                 | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> For this view, the value is always 0. |



#### See Also:

*Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle ASM information

## 8.68 V\$ASM\_OPERATION

In an Oracle Automatic Storage Management (Oracle ASM) instance, V\$ASM\_OPERATION displays one row for every active Oracle ASM long running operation executing in the Oracle ASM instance.

| Column       | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUP_NUMBER | NUMBER       | Disk group number (primary key). This is the foreign key to the V\$ASM_DISKGROUP view.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| OPERATION    | CHAR (5)     | Type of the operation: <ul style="list-style-type: none"> <li>REBAL - Rebalance pending for this group. The disk group is rebalancing.</li> <li>REMIRROR - Remirror is pending for this group.</li> <li>SCRUB - Scrubbing is pending for this group.</li> </ul> Starting with Oracle Database 12c, new queries should use the PASS column instead of this column.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PASS         | VARCHAR2 (9) | Type of the operation: <ul style="list-style-type: none"> <li>COMPACT - Oracle ASM is moving user data closer together, which improves performance by reducing seek distance</li> <li>PREPARE - Completing work corresponding to the prepare SQL operation. This phase is enabled only for FLEX or EXTENDED redundancy disk groups and COMPATIBLE.ASM must be set to 12.2 or higher.</li> <li>REBALANCE - Rebalance pending for this group. The disk group is rebalancing.</li> <li>REBUILD - Restoring the redundancy of forcing disks. Forcing disks are those disks that have been dropped with the FORCE option.</li> <li>RESILVER - This value appears in Oracle Exadata environments when WriteBack FlashCache is enabled</li> <li>RESYNC - Resync operation in progress to bring one or more Oracle ASM disks online</li> <li>SCRUBBING - The disk group is scrubbing.</li> </ul> Starting with Oracle Database 12c, new queries should use this column instead of the OPERATION column. |
| STATE        | VARCHAR2 (4) | State of the operation: <ul style="list-style-type: none"> <li>WAIT - No operations running for the group</li> <li>EST - An estimate is computed on the amount of work to be done for the rebalance</li> <li>RUN - Operation running for the group</li> <li>REAP - Operation is being run down</li> <li>DONE - Displayed for a pass that is complete</li> <li>ERRS - Operation halted by errors</li> </ul> Estimates are computed in parallel in the background while the work is being executed. Thus, the transition from the EST to the RUN state may be extremely fast.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| POWER        | NUMBER       | Power requested for the operation as specified by the ASM_POWER_LIMIT initialization parameter or command syntax. Or, power requested for the operation as specified by the power option of the scrubbing SQL syntax.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ACTUAL       | NUMBER       | Power allocated to the operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| SO FAR       | NUMBER       | Number of Allocation Units that are being moved per minute by the operation. Or, the number of Allocation Units that have been scrubbed so far.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EST_WORK     | NUMBER       | Estimated number of Allocation Units that have to be moved by the operation. Or, the estimated number of Allocation Units that have to be scrubbed by the scrubbing operation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EST_RATE     | NUMBER       | Estimated number of Allocation Units that are being moved per minute by the operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Column      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EST_MINUTES | NUMBER        | Estimated amount of time (in minutes) that the remainder of the operation is expected to take                                                                                                                                                                                                                                                                                                                                                                                           |
| ERROR_CODE  | VARCHAR2 (44) | Oracle external error code; NULL if no error                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> For this view, the value is always 0. |

**See Also:**

*Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle ASM information

## 8.69 V\$ASM\_QUOTAGROUP

V\$ASM\_QUOTAGROUP displays one row for every Oracle Automatic Storage Management (Oracle ASM) quota group discovered by the Oracle ASM instance on the node.

| Column            | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUP_NUMBER      | NUMBER        | Number of the disk group containing the quota group (composite primary key)                                                                                                                                                                                                                                                                                                                                                                       |
| QUOTAGROUP_NUMBER | NUMBER        | Number of the quota group within the disk group (composite primary key)                                                                                                                                                                                                                                                                                                                                                                           |
| INCARNATION       | NUMBER        | Incarnation of the quota group (composite primary key)                                                                                                                                                                                                                                                                                                                                                                                            |
| NAME              | VARCHAR2 (30) | Name of the quota group                                                                                                                                                                                                                                                                                                                                                                                                                           |
| USED_QUOTA_MB     | NUMBER        | Used quota of the quota group in GB                                                                                                                                                                                                                                                                                                                                                                                                               |
| QUOTA_LIMIT_MB    | NUMBER        | Quota limit (capacity) of the quota group in GB                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID            | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



## 8.70 V\$ASM\_TEMPLATE

In an Oracle Automatic Storage Management (Oracle ASM) instance, V\$ASM\_TEMPLATE displays one row for every template present in every disk group mounted by the Oracle ASM instance.

In a database instance, V\$ASM\_TEMPLATE displays one row for every template present in every disk group mounted by the Oracle ASM instance with which the database instance communicates.

| Column                      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUP_NUMBER                | NUMBER        | Owning disk group number (foreign key to the V\$ASM_DISKGROUP view)                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ENTRY_NUMBER                | NUMBER        | Template number (primary key)                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| REDUNDANCY                  | VARCHAR2 (6)  | Redundancy of the template: <ul style="list-style-type: none"> <li>• HIGH</li> <li>• MIRROR</li> <li>• PARITY</li> <li>• UNPROT</li> </ul>                                                                                                                                                                                                                                                                                                                                                  |
| STRIPE                      | VARCHAR2 (6)  | Indicates how the template is striped: <ul style="list-style-type: none"> <li>• FINE</li> <li>• COARSE</li> </ul>                                                                                                                                                                                                                                                                                                                                                                           |
| SYSTEM                      | VARCHAR2 (1)  | Indicates whether the template is a system template (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NAME                        | VARCHAR2 (30) | Name of the template                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PRIMARY_REGION <sup>1</sup> | VARCHAR2 (4)  | Region used for allocating primary extents: <ul style="list-style-type: none"> <li>• HOT</li> <li>• COLD</li> </ul>                                                                                                                                                                                                                                                                                                                                                                         |
| MIRROR_REGION <sup>1</sup>  | VARCHAR2 (4)  | Region for allocating mirrored extents: <ul style="list-style-type: none"> <li>• HOT</li> <li>• COLD</li> </ul>                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID                      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> For this view, the value is always 0. |

<sup>1</sup> Intelligent Data Placement is desupported starting with Oracle Database 21c. As a result, the PRIMARY\_REGION and MIRROR\_REGION columns are no longer meaningful.



### Note:

In an Oracle Database instance, this view returns 0 rows when queried from a PDB.

**See Also:**

*Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle ASM information

## 8.71 V\$ASM\_USER

V\$ASM\_USER displays the effective operating system user names of connected database instances and of file owners.

| Column         | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUP_NUMBER   | NUMBER         | Oracle ASM disk group number                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| USER_NUMBER    | NUMBER         | Oracle ASM internal unique user number                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| COMPOUND_INDEX | NUMBER         | A 32-bit number consisting of a disk group number in the high-order 8 bits and a user number in the low-order 24 bits (for efficient access to the view)                                                                                                                                                                                                                                                                                                                          |
| INCARNATION    | NUMBER         | Incarnation number of the user                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CLUSTER_ID     | VARCHAR2 (128) | Oracle ASM cluster ID. The CLUSTER_ID and OS_NAME pair can be used to uniquely identify a user.                                                                                                                                                                                                                                                                                                                                                                                   |
| OS_ID          | VARCHAR2 (128) | Operating system user ID                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| OS_NAME        | VARCHAR2 (33)  | Operating system user name                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID         | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> For this view, the value is always 0. |

**Note:**

In an Oracle Database instance, this view returns 0 rows when queried from a PDB.

**See Also:**

*Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle ASM information

## 8.72 V\$ASM\_USERGROUP

V\$ASM\_USERGROUP displays the creator for each Oracle Automatic Storage Management (Oracle ASM) File Access Control group.

| Column            | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUP_NUMBER      | NUMBER        | Oracle ASM disk group number                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| USERGROUP_NUMBER  | NUMBER        | Number of the user group                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| COMPOUND_INDEX    | NUMBER        | A 32-bit number consisting of a disk group number in the high-order 8 bits and a user group number in the low-order 24 bits (for efficient access to the view)                                                                                                                                                                                                                                                                                                                    |
| INCARNATION       | NUMBER        | Incarnation number of the user group                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| OWNER_NUMBER      | NUMBER        | User group owner identified by a unique number                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| OWNER_INCARNATION | NUMBER        | Incarnation number of the user group owner                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| NAME              | VARCHAR2 (64) | User group name                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID            | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> For this view, the value is always 0. |

**Note:**

In an Oracle Database instance, this view returns 0 rows when queried from a PDB.

**See Also:**

*Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle ASM information

## 8.73 V\$ASM\_USERGROUP\_MEMBER

V\$ASM\_USERGROUP\_MEMBER displays the members for each Oracle Automatic Storage Management (Oracle ASM) File Access Control group.

| Column                | Datatype | Description                                 |
|-----------------------|----------|---------------------------------------------|
| GROUP_NUMBER          | NUMBER   | Oracle ASM disk group number                |
| MEMBER_NUMBER         | NUMBER   | Number of the user group member             |
| MEMBER_INCARNATION    | NUMBER   | Incarnation number of the user group member |
| USERGROUP_NUMBER      | NUMBER   | User group number                           |
| USERGROUP_INCARNATION | NUMBER   | Incarnation number of the user group        |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> <p>For this view, the value is always 0.</p> |

**Note:**

In an Oracle Database instance, this view returns 0 rows when queried from a PDB.

**See Also:**

*Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle ASM information

## 8.74 V\$ASM\_VOLUME

In an Oracle Automatic Storage Management (Oracle ASM) instance, V\$ASM\_VOLUME displays information about each Oracle ADVM volume.

| Column         | Datatype      | Description                                                                                                                                                |
|----------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUP_NUMBER   | NUMBER        | Cluster-wide number assigned to the disk group (composite primary key)                                                                                     |
| VOLUME_NAME    | VARCHAR2 (30) | Name of the volume                                                                                                                                         |
| COMPOUND_INDEX | NUMBER        | A 32-bit number consisting of a disk group number in the high-order 8 bits and a volume number in the low-order 24 bits (for efficient access to the view) |
| SIZE_MB        | NUMBER        | Size of the volume (in megabytes)                                                                                                                          |
| VOLUME_NUMBER  | NUMBER        | Number of the Volume within the disk group (composite primary key)                                                                                         |
| REDUNDANCY     | VARCHAR2 (6)  | <p>Redundancy type for the volume:</p> <ul style="list-style-type: none"> <li>UNPROT</li> <li>HIGH</li> <li>MIRROR</li> </ul>                              |
| STRIPE_COLUMNS | NUMBER        | Number of columns in a stripe set                                                                                                                          |
| STRIPE_WIDTH_K | NUMBER        | Stripe width of the volume (in kilobytes)                                                                                                                  |
| STATE          | VARCHAR2 (8)  | Indicates whether the volume is enabled (ENABLED), disabled (DISABLED), or remote (REMOTE)                                                                 |
| FILE_NUMBER    | NUMBER        | Volume file number                                                                                                                                         |

| Column                      | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INCARNATION                 | NUMBER          | Volume file incarnation number                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| DRL_FILE_NUMBER             | NUMBER          | Volume Dirty Region Logging (DRL) file used for mirrored volumes                                                                                                                                                                                                                                                                                                                                                                                                                      |
| RESIZE_UNIT_MB              | NUMBER          | Volume allocation unit (in megabytes) that a volume can be created                                                                                                                                                                                                                                                                                                                                                                                                                    |
| USAGE                       | VARCHAR2 (30)   | Optional usage string for the volume                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| VOLUME_DEVICE               | VARCHAR2 (256)  | OSD path for the volume device                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| MOUNTPATH                   | VARCHAR2 (1024) | Optional mount path string for the volume                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| PRIMARY_REGION <sup>1</sup> | VARCHAR2 (4)    | Region used for allocating primary extents: <ul style="list-style-type: none"> <li>HOT</li> <li>COLD</li> </ul>                                                                                                                                                                                                                                                                                                                                                                       |
| MIRROR_REGION <sup>1</sup>  | VARCHAR2 (4)    | Region used for allocating mirrored extents: <ul style="list-style-type: none"> <li>HOT</li> <li>COLD</li> </ul>                                                                                                                                                                                                                                                                                                                                                                      |
| CON_ID                      | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> For this view, the value is always 0. |

<sup>1</sup> Intelligent Data Placement is desupported starting with Oracle Database 21c. As a result, the PRIMARY\_REGION and MIRROR\_REGION columns are no longer meaningful.



#### See Also:

*Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle ASM information

## 8.75 V\$ASM\_VOLUME\_STAT

In an Oracle Automatic Storage Management (Oracle ASM) instance, V\$ASM\_VOLUME\_STAT displays information about statistics for each Oracle ADVM volume.

| Column         | Datatype      | Description                                                                                                                                                |
|----------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUP_NUMBER   | NUMBER        | Cluster-wide number assigned to the disk group (composite primary key)                                                                                     |
| VOLUME_NAME    | VARCHAR2 (30) | Name of the volume                                                                                                                                         |
| COMPOUND_INDEX | NUMBER        | A 32-bit number consisting of a disk group number in the high-order 8 bits and a volume number in the low-order 24 bits (for efficient access to the view) |
| VOLUME_NUMBER  | NUMBER        | Number of the Volume within the disk group (composite primary key)                                                                                         |
| READS          | NUMBER        | Total number of read requests for this volume                                                                                                              |
| WRITES         | NUMBER        | Total number of write requests for this volume                                                                                                             |

| Column        | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| READ_ERRS     | NUMBER   | Total number of failed read I/O operations for this volume                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| WRITE_ERRS    | NUMBER   | Total number of failed write I/O operations for this volume                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| READ_TIME     | NUMBER   | Total I/O time (in seconds) for read requests for this volume                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| WRITE_TIME    | NUMBER   | Total I/O time (in seconds) for write requests for this volume                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| BYTES_READ    | NUMBER   | Total number of bytes read for this volume                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| BYTES_WRITTEN | NUMBER   | Total number of bytes written for this volume                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID        | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> <p>For this view, the value is always 0.</p> |



#### See Also:

*Oracle Automatic Storage Management Administrator's Guide* for additional information about using views to display Oracle ASM information

## 8.76 V\$AUTHPOOL\_STATS

V\$AUTHPOOL\_STATS displays statistics for the authentication pool. This pool authenticates user connections when client applications connect to Database Resident Connection Pooling (DRCP).

| Column      | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM_SRVS    | NUMBER   | Total number of servers in the authentication pool                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| NUM_BUSY    | NUMBER   | Number of busy servers in the authentication pool                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| NUM_FREE    | NUMBER   | Number of free servers in the authentication pool                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| NUM_WAITERS | NUMBER   | Number of connections waiting for a server in the authentication pool to become available                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID      | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire multitenant container database (CDB). This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.77 V\$AUTO\_IM\_FEATURES

V\$AUTO\_IM\_FEATURES describes the In-Memory Column Store performance features that are optimized by Automatic In-Memory (AIM).

| Column      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FEATURE_ID  | NUMBER        | Unique feature ID                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DESCRIPTION | VARCHAR2 (64) | Feature description. Possible values: <ul style="list-style-type: none"><li>Autonomous Bloom Filter Optimization</li><li>Autonomous Join Groups</li><li>Autonomous Optimized Arithmetic</li><li>Autonomous Vector Optimization</li></ul>                                                                                                                                                                                                    |
| CON_ID      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

## 8.78 V\$AWAggregate\_OP

V\$AWAggregate\_OP displays the aggregation operators available in analytic workspaces. You can use this view in an application to provide a list of choices.

| Column         | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME           | VARCHAR2 (14) | Keyword for the aggregation operator                                                                                                                                                                                                                                                                                                                                                                                                        |
| LONGNAME       | VARCHAR2 (30) | Descriptive name for the operator                                                                                                                                                                                                                                                                                                                                                                                                           |
| DEFAULT_WEIGHT | NUMBER        | Default weight factor for weighted operators                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID         | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.79 V\$AW\_ALLOCATE\_OP

V\$AW\_ALLOCATE\_OP displays the allocation operators available in analytic workspaces. You can use this view in an application to provide a list of choices.

| Column   | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME     | VARCHAR2 (14) | Keyword for the allocation operator                                                                                                                                                                                                                                                                                                                                                                                                             |
| LONGNAME | VARCHAR2 (30) | Descriptive name for the operator                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID   | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.80 V\$AW\_CALC

V\$AW\_CALC reports on the effectiveness of various caches used by Oracle OLAP during dynamic aggregation.

| Column                 | Datatype      | Description                                                                                                                                                                                 |
|------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SESSION_ID             | NUMBER        | A unique numeric identifier for the session.                                                                                                                                                |
| AGGREGATE_CACHE_HITS   | NUMBER        | The number of times a dimension member is found in the aggregate cache (a hit).<br>The number of hits for run-time aggregation can be increased by fetching data across the dense dimension |
| AGGREGATE_CACHE_MISSES | NUMBER        | The number of times a dimension member is not found in the aggregate cache and must be read from disk (a miss).                                                                             |
| SESSION_CACHE_HITS     | NUMBER        | The number of times the data is found in the session cache (a hit).                                                                                                                         |
| SESSION_CACHE_MISSES   | NUMBER        | The number of times the data is not found in the session cache (a miss).                                                                                                                    |
| POOL_HITS              | NUMBER        | The number of times the data is found in a page in the OLAP page pool (a hit).                                                                                                              |
| POOL_MISSES            | NUMBER        | The number of times the data is not found in the OLAP page pool (a miss).                                                                                                                   |
| POOL_NEW_PAGES         | NUMBER        | The number of newly created pages in the OLAP page pool that have not yet been written to the workspace LOB.                                                                                |
| POOL_RECLAIMED_PAGES   | NUMBER        | The number of previously unused pages that have been recycled with new data.                                                                                                                |
| CACHE_WRITES           | NUMBER        | The number of times the data from the OLAP page pool has been written to the database cache.                                                                                                |
| POOL_SIZE              | NUMBER        | The number of kilobytes in the OLAP page pool.                                                                                                                                              |
| CURR_DML_COMMAND       | VARCHAR2 (64) | The command currently being executed.                                                                                                                                                       |
| PREV_DML_COMMAND       | VARCHAR2 (64) | The command most recently completed.                                                                                                                                                        |



| Column               | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AGGR_FUNC_LOGICAL_NA | NUMBER   | The number of times the aggregation engine returns a logical NA because the AGGINDEX option is on and the composite tuple does not exist.                                                                                                                                                                                                                                                                                                       |
| AGGR_FUNC_PRECOMPUTE | NUMBER   | The number of times the aggregation engine finds a value in a position that it was called to calculate.                                                                                                                                                                                                                                                                                                                                         |
| AGGR_FUNC_CALCS      | NUMBER   | The number of times the aggregation engine calculates a parent value based on the values of its children.                                                                                                                                                                                                                                                                                                                                       |
| CON_ID               | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.81 V\$AW\_LONGOPS

V\$AW\_LONGOPS displays status information about active SQL cursors initiated in an analytic workspace.

| Column         | Datatype      | Description                                                                                                                                                                                                                                                                                                                        |
|----------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SESSION_ID     | NUMBER        | Identifier for the session in which the fetch is executing. This table can be joined with V\$SESSION to obtain the user name.                                                                                                                                                                                                      |
| CURSOR_NAME    | VARCHAR2 (64) | Name assigned to the cursor                                                                                                                                                                                                                                                                                                        |
| COMMAND        | VARCHAR2 (17) | Command that is actively fetching data from relational tables: <ul style="list-style-type: none"> <li>QUERY</li> <li>FETCH</li> <li>IMPORT</li> <li>EXECUTE</li> <li>UPDATE</li> <li>SOLVE</li> <li>CLEAR</li> <li>LOAD CUBE</li> <li>LOAD DIMENSION</li> <li>DIMENSION COMPILE</li> </ul>                                         |
| STATUS         | VARCHAR2 (9)  | Status of the current operation: <ul style="list-style-type: none"> <li>EXECUTING - Command has begun executing</li> <li>FETCHING - Data is being fetched into the analytic workspace</li> <li>FINISHED - Command has finished executing. This status appears very briefly before the record disappears from the table.</li> </ul> |
| ROWS_PROCESSED | NUMBER        | Number of rows already inserted, updated, or deleted                                                                                                                                                                                                                                                                               |
| SEQ_NUMBER     | NUMBER        | Sequence number in the Cube Build log                                                                                                                                                                                                                                                                                              |
| SQL_ID         | VARCHAR2 (13) | SQL ID of the statement                                                                                                                                                                                                                                                                                                            |
| TARGET         | VARCHAR2 (64) | Operated object name                                                                                                                                                                                                                                                                                                               |
| TARGET_DESC    | VARCHAR2 (64) | A brief description of the operated object                                                                                                                                                                                                                                                                                         |
| START_TIME     | DATE          | Time the command started executing                                                                                                                                                                                                                                                                                                 |

| Column           | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LAST_UPDATE_TIME | DATE           | Last updated time                                                                                                                                                                                                                                                                                                                                                                                                                               |
| ELAPSED_SECONDS  | NUMBER         | Number of seconds between START_TIME and LAST_UPDATE_TIME                                                                                                                                                                                                                                                                                                                                                                                       |
| SOFAR            | NUMBER         | Number of units so far                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TOTALWORK        | NUMBER         | Total number of units                                                                                                                                                                                                                                                                                                                                                                                                                           |
| UNITS            | VARCHAR2 (6)   | Units description: <ul style="list-style-type: none"> <li>ROWS</li> <li>NODES</li> <li>VALUES</li> </ul>                                                                                                                                                                                                                                                                                                                                        |
| MESSAGE          | VARCHAR2 (512) | Message for the user                                                                                                                                                                                                                                                                                                                                                                                                                            |
| USERNAME         | VARCHAR2 (32)  | User name                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID           | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.82 V\$AW\_OLAP

V\$AW\_OLAP provides a record of active sessions and their use with analytic workspaces.

A row is generated whenever an analytic workspace is created or attached. The first row for a session is created when the first command is issued. It identifies the SYS.EXPRESS workspace, which is attached automatically to each session. Rows related to a particular analytic workspace are deleted when the workspace is detached from the session or the session ends.

| Column               | Datatype      | Description                                                                                                                                                                                                |
|----------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SESSION_ID           | NUMBER        | A unique numeric identifier for a session                                                                                                                                                                  |
| AW_NUMBER            | NUMBER        | A unique numeric identifier for an analytic workspace. To get the name of the analytic workspace, join this column to the AW_NUMBER column of the USER_AWS view or to the AWSEQ# column of the AW\$ table. |
| ATTACH_MODE          | VARCHAR2 (10) | READ ONLY or READ WRITE                                                                                                                                                                                    |
| GENERATION           | NUMBER        | The generation of an analytic workspace. Each UPDATE creates a new generation. Sessions attaching the same workspace between UPDATE commands share the same generation.                                    |
| TEMP_SPACE_PAGES     | NUMBER        | The number of pages stored in temporary segments for the analytic workspace.                                                                                                                               |
| TEMP_SPACE_READS     | NUMBER        | The number of times data has been read from a temporary segment and not from the page pool.                                                                                                                |
| LOB_READS            | NUMBER        | The number of times data has been read from the table where the analytic workspace is stored (the permanent LOB).                                                                                          |
| POOL_CHANGED_PAGES   | NUMBER        | The number of pages in the page pool that have been modified in this analytic workspace.                                                                                                                   |
| POOL_UNCHANGED_PAGES | NUMBER        | The number of pages in the page pool that have not been modified in this analytic workspace.                                                                                                               |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.83 V\$AW\_SESSION\_INFO

V\$AW\_SESSION\_INFO provides information about each active session.

A transaction is a single exchange between a client session and Oracle OLAP. Multiple commands can execute within a single transaction.

| Column                       | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SESSION_ID                   | NUMBER        | A unique numeric identifier for a session                                                                                                                                                                                                                                                                                                                                                                                                              |
| CLIENT_TYPE                  | VARCHAR2 (64) | OLAP                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SESSION_STATE                | VARCHAR2 (64) | TRANSACTIONING, NOT_TRANSACTIONING, EXCEPTION_HANDLING, CONSTRUCTING, CONSTRUCTED, DECONSTRUCTING, or DECONSTRUCTED                                                                                                                                                                                                                                                                                                                                    |
| SESSION_HANDLE               | NUMBER        | The session identifier                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| USERID                       | VARCHAR2 (64) | The database user name under which the session opened                                                                                                                                                                                                                                                                                                                                                                                                  |
| TOTAL_TRANSACTION            | NUMBER        | The total number of transactions executed within the session; this number provides a general indication of the level of activity in the session                                                                                                                                                                                                                                                                                                        |
| TRANSACTION_TIME             | NUMBER        | The elapsed time in milliseconds of the mostly recently completed transaction                                                                                                                                                                                                                                                                                                                                                                          |
| TOTAL_TRANSACTION_TIME       | NUMBER        | The total elapsed time in milliseconds in which transactions were being executed                                                                                                                                                                                                                                                                                                                                                                       |
| AVERAGE_TRANSACTION_TIME     | NUMBER        | The average elapsed time in milliseconds to complete a transaction                                                                                                                                                                                                                                                                                                                                                                                     |
| TRANSACTION_CPU_TIME         | NUMBER        | The total CPU time in milliseconds used to complete the most recent transaction                                                                                                                                                                                                                                                                                                                                                                        |
| TOTAL_TRANSACTION_CPU_TIME   | NUMBER        | The total CPU time used to execute all transactions in this session; this total does not include transactions that are currently in progress                                                                                                                                                                                                                                                                                                           |
| AVERAGE_TRANSACTION_CPU_TIME | NUMBER        | The average CPU time to complete a transaction; this average does not include transactions that are currently in progress                                                                                                                                                                                                                                                                                                                              |
| CON_ID                       | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.84 V\$BACKUP

V\$BACKUP displays the backup status of all online data files.

| Column  | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE#   | NUMBER        | File identifier                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| STATUS  | VARCHAR2 (18) | File status: NOT ACTIVE, ACTIVE (backup in progress), OFFLINE NORMAL, or description of an error.<br><br>NOT ACTIVE indicates that the file is not currently in backup mode (that is, an ALTER TABLESPACE ... BEGIN BACKUP or ALTER DATABASE BEGIN BACKUP statement has not been issued), whereas ACTIVE indicates that the file is currently in backup mode.                                                                                   |
| CHANGE# | NUMBER        | System change number when backup started                                                                                                                                                                                                                                                                                                                                                                                                        |
| TIME    | DATE          | Time the backup started                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID  | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.85 V\$BACKUP\_ARCHIVELOG\_DETAILS

V\$BACKUP\_ARCHIVELOG\_DETAILS contains information about all restorable archive logs.

It will include all archived logs backed up in a backup set or proxy copies.

| Column            | Datatype | Description                                                                            |
|-------------------|----------|----------------------------------------------------------------------------------------|
| BTYPE             | CHAR (9) | Backup type container, either BACKUPSET or PROXYCOPY                                   |
| BTYPE_KEY         | NUMBER   | Unique identifier for the backup type. For BACKUPSET, it is BS_KEY.                    |
| SESSION_KEY       | NUMBER   | Session identifier                                                                     |
| SESSION_RECID     | NUMBER   | Session recid                                                                          |
| SESSION_STAMP     | NUMBER   | Session stamp                                                                          |
| ID1               | NUMBER   | If BACKUPSET, it contains SET_STAMP<br>If PROXYCOPY, it is RECID from the control file |
| ID2               | NUMBER   | If BACKUPSET, it contains SET_COUNT<br>If PROXYCOPY, it is STAMP                       |
| THREAD#           | NUMBER   | Thread number                                                                          |
| SEQUENCE#         | NUMBER   | Sequence number                                                                        |
| RESETLOGS_CHANGE# | NUMBER   | Resetlogs change SCN                                                                   |
| RESETLOGS_TIME    | DATE     | Resetlogs change time                                                                  |
| FIRST_CHANGE#     | NUMBER   | First change SCN                                                                       |
| FIRST_TIME        | DATE     | First change time                                                                      |
| NEXT_CHANGE#      | NUMBER   | Next change SCN                                                                        |

| Column            | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NEXT_TIME         | DATE            | Next change time                                                                                                                                                                                                                                                                                                                                                                                                                                |
| FILESIZE          | NUMBER          | File size                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| COMPRESSION_RATIO | NUMBER          | The ratio between the total blocks in the archive log and the blocks that RMAN backed up. This is <i>not</i> the ratio from the <code>AS COMPRESSED BACKUPSET</code> clause of the <code>BACKUP</code> command.                                                                                                                                                                                                                                 |
| FILESIZE_DISPLAY  | VARCHAR2 (4000) | Same value as the <code>FILESIZE</code> column, but converted to a user-displayable format, for example <code>nM</code> , <code>nG</code> , <code>nT</code> , <code>nP</code> , and so on                                                                                                                                                                                                                                                       |
| CON_ID            | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.86 V\$BACKUP\_ARCHIVELOG\_SUMMARY

V\$BACKUP\_ARCHIVELOG\_SUMMARY provides archive log summary information based on archive logs in the backup set or on proxy copies.

| Column                    | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM_FILES_BACKED          | NUMBER          | Number of files backed up                                                                                                                                                                                                                                                                                                                                                                                                                       |
| NUM_DISTINCT_FILES_BACKED | NUMBER          | Number of distinct archive log files backed up                                                                                                                                                                                                                                                                                                                                                                                                  |
| MIN_FIRST_CHANGE#         | NUMBER          | Lowest SCN range value                                                                                                                                                                                                                                                                                                                                                                                                                          |
| MAX_NEXT_CHANGE#          | NUMBER          | Highest SCN range value                                                                                                                                                                                                                                                                                                                                                                                                                         |
| MIN_FIRST_TIME            | DATE            | Lowest SCN range time                                                                                                                                                                                                                                                                                                                                                                                                                           |
| MAX_NEXT_TIME             | DATE            | Highest SCN range time                                                                                                                                                                                                                                                                                                                                                                                                                          |
| INPUT_BYTES               | NUMBER          | Total input bytes read                                                                                                                                                                                                                                                                                                                                                                                                                          |
| OUTPUT_BYTES              | NUMBER          | Output size of backups                                                                                                                                                                                                                                                                                                                                                                                                                          |
| COMPRESSION_RATIO         | NUMBER          | The ratio between the total blocks in the archive log and the blocks that RMAN backed up. This is <i>not</i> the ratio from the <code>AS COMPRESSED BACKUPSET</code> clause of the <code>BACKUP</code> command.                                                                                                                                                                                                                                 |
| INPUT_BYTES_DISPLAY       | VARCHAR2 (4000) | Displayable format for input bytes                                                                                                                                                                                                                                                                                                                                                                                                              |
| OUTPUT_BYTES_DISPLAY      | VARCHAR2 (4000) | Displayable format for output bytes                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID                    | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.87 V\$BACKUP\_ASYNC\_IO

V\$BACKUP\_ASYNC\_IO displays performance information about ongoing and recently completed RMAN backups and restores.

For each backup, it contains one row for each input data file, one row for the aggregate total performance of all data files, and one row for the output backup piece. This data is not stored persistently, and is not preserved when the instance is re-started.

| Column                     | Datatype       | Description                                                                                                                                  |
|----------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| SID                        | NUMBER         | Oracle SID of the session doing the backup or restore                                                                                        |
| SERIAL                     | NUMBER         | Use count for the SID doing the backup or restore                                                                                            |
| USE_COUNT                  | NUMBER         | A counter that can be used to identify rows from different backup sets                                                                       |
| RMAN_STATUS_RECID          | NUMBER         | Owning V\$RMAN_STATUS record ID                                                                                                              |
| RMAN_STATUS_STAMP          | NUMBER         | Owning V\$RMAN_STATUS record stamp                                                                                                           |
| DEVICE_TYPE                | VARCHAR2 (17)  | Device type where the file is located                                                                                                        |
| TYPE                       | VARCHAR2 (9)   | INPUT, OUTPUT, or AGGREGATE                                                                                                                  |
| STATUS                     | VARCHAR2 (11)  | NOT STARTED, IN PROGRESS, or FINISHED                                                                                                        |
| FILENAME                   | VARCHAR2 (513) | Name of the backup file being read or written                                                                                                |
| SET_COUNT                  | NUMBER         | Set count of the backup set being read or written                                                                                            |
| SET_STAMP                  | NUMBER         | Set stamp of the backup set being read or written                                                                                            |
| BUFFER_SIZE                | NUMBER         | Size of the buffers being used to read/write the file, in bytes                                                                              |
| BUFFER_COUNT               | NUMBER         | Number of buffers being used to read/write the file                                                                                          |
| TOTAL_BYTES                | NUMBER         | Total number of bytes that will be read or written for the file, if known. If not known, this column will be null                            |
| OPEN_TIME                  | DATE           | Time the file was opened. If TYPE='AGGREGATE', then this is the time that the first file in the aggregate was opened                         |
| CLOSE_TIME                 | DATE           | Time the file was closed. If TYPE='AGGREGATE', then this is the time that the last file in the aggregate was closed                          |
| ELAPSED_TIME               | NUMBER         | Time, in hundredths of a second, that the file was open                                                                                      |
| MAXOPENFILES               | NUMBER         | Number of concurrently open DISK files. This value is only present in rows where TYPE='AGGREGATE'.                                           |
| BYTES                      | NUMBER         | Number of bytes read or written so far                                                                                                       |
| EFFECTIVE_BYTES_PER_SECOND | NUMBER         | I/O rate that was achieved with this device during this backup                                                                               |
| IO_COUNT                   | NUMBER         | Number of I/Os that were performed to this file                                                                                              |
| READY                      | NUMBER         | Number of asynchronous requests for which a buffer was immediately ready for use                                                             |
| SHORT_WAITS                | NUMBER         | Number of times that a buffer was not immediately available, but a buffer became available after doing a nonblocking poll for I/O completion |
| SHORT_WAIT_TIME_TOTAL      | NUMBER         | Total time, in hundredths of a second, taken by nonblocking polls for I/O completion                                                         |
| SHORT_WAIT_TIME_MAX        | NUMBER         | Maximum time taken for a nonblocking poll for I/O completion, in hundredths of a second                                                      |

| Column               | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LONG_WAITS           | NUMBER   | The number of times that a buffer was not immediately available, and only became available after a blocking wait was issued                                                                                                                                                                                                                                                                                                                     |
| LONG_WAIT_TIME_TOTAL | NUMBER   | The total time, in hundredths of a second, taken by blocking waits for I/O completion                                                                                                                                                                                                                                                                                                                                                           |
| LONG_WAIT_TIME_MAX   | NUMBER   | The maximum time taken for a blocking wait for I/O completion, in hundredths of a second                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID               | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.88 V\$BACKUP\_CONTROLFILE\_DETAILS

V\$BACKUP\_CONTROLFILE\_DETAILS contains information about restorable control files.

It will include all the control files backed up in the backup set, image copies, and proxy copies.

| Column             | Datatype       | Description                                                                                                                                                                        |
|--------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BTYPE              | CHAR(9)        | Backup type container. Possible values are BACKUPSET, IMAGECOPY, PROXYCOPY.                                                                                                        |
| BTYPE_KEY          | NUMBER         | Unique identifier for the backup type, either BS_KEY or COPY_KEY.                                                                                                                  |
| SESSION_KEY        | NUMBER         | Session identifier                                                                                                                                                                 |
| SESSION_RECID      | NUMBER         | Session recid                                                                                                                                                                      |
| SESSION_STAMP      | NUMBER         | Session stamp                                                                                                                                                                      |
| ID1                | NUMBER         | If BACKUPSET, it contains SET_STAMP<br>If IMAGECOPY or PROXYCOPY, it is RECID from the control file                                                                                |
| ID2                | NUMBER         | If BACKUPSET, it contains SET_COUNT<br>If IMAGECOPY or PROXYCOPY, it is STAMP                                                                                                      |
| CREATION_TIME      | DATE           | File creation time                                                                                                                                                                 |
| RESETLOGS_CHANGE#  | NUMBER         | Resetlogs change SCN                                                                                                                                                               |
| RESETLOGS_TIME     | DATE           | Resetlogs change time                                                                                                                                                              |
| CHECKPOINT_CHANGE# | NUMBER         | Checkpoint change SCN                                                                                                                                                              |
| CHECKPOINT_TIME    | DATE           | Checkpoint change time                                                                                                                                                             |
| FILESIZE           | NUMBER         | File size, in bytes, for the output of backing up this control file                                                                                                                |
| COMPRESSION_RATIO  | NUMBER         | The ratio between the total blocks in the datafile and the blocks that RMAN backed up. This is <i>not</i> the ratio from the AS COMPRESSED BACKUPSET clause of the BACKUP command. |
| FILESIZE_DISPLAY   | VARCHAR2(4000) | Same value as the FILESIZE column, but converted to a user-displayable format, for example <i>nM</i> , <i>nG</i> , <i>nT</i> , <i>nP</i> , and so on                               |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.89 V\$BACKUP\_CONTROLFILE\_SUMMARY

V\$BACKUP\_CONTROLFILE\_SUMMARY provides control file summary information, based on either a backup set of files, image copies, or proxy copies.

| Column                    | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM_FILES_BACKED          | NUMBER         | Number of files backed up for specific criteria                                                                                                                                                                                                                                                                                                                                                                                             |
| NUM_DISTINCT_FILES_BACKED | NUMBER         | Number of distinct files backed up                                                                                                                                                                                                                                                                                                                                                                                                          |
| MIN_CHECKPOINT_CHANGE#    | NUMBER         | Minimum checkpoint change number of the data file for specified criteria                                                                                                                                                                                                                                                                                                                                                                    |
| MAX_CHECKPOINT_CHANGE#    | NUMBER         | Maximum checkpoint change number of the data file for specified criteria                                                                                                                                                                                                                                                                                                                                                                    |
| MIN_CHECKPOINT_TIME       | DATE           | Minimum checkpoint time of the data file for specified criteria                                                                                                                                                                                                                                                                                                                                                                             |
| MAX_CHECKPOINT_TIME       | DATE           | Maximum checkpoint time of the data file for specified criteria                                                                                                                                                                                                                                                                                                                                                                             |
| INPUT_BYTES               | NUMBER         | Total input bytes of files read                                                                                                                                                                                                                                                                                                                                                                                                             |
| OUTPUT_BYTES              | NUMBER         | Total output bytes written                                                                                                                                                                                                                                                                                                                                                                                                                  |
| COMPRESSION_RATIO         | NUMBER         | The ratio between the total blocks in the datafile and the blocks that RMAN backed up. This is <i>not</i> the the ratio from the AS COMPRESSED BACKUPSET clause of the BACKUP command.                                                                                                                                                                                                                                                      |
| INPUT_BYTES_DISPLAY       | VARCHAR2(4000) | Displayable format for input bytes                                                                                                                                                                                                                                                                                                                                                                                                          |
| OUTPUT_BYTES_DISPLAY      | VARCHAR2(4000) | Displayable format for output bytes                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID                    | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.90 V\$BACKUP\_COPY\_DETAILS

V\$BACKUP\_COPY\_DETAILS contains information about all available control file and data file copies.

| Column      | Datatype | Description        |
|-------------|----------|--------------------|
| SESSION_KEY | NUMBER   | Session identifier |



| Column                | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SESSION_RECID         | NUMBER          | Session recid                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SESSION_STAMP         | NUMBER          | Session stamp                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| COPY_KEY              | NUMBER          | Unique identifier for this data file or control file copy                                                                                                                                                                                                                                                                                                                                                                                       |
| FILE#                 | NUMBER          | Absolute data file number                                                                                                                                                                                                                                                                                                                                                                                                                       |
| NAME                  | VARCHAR2 (513)  | File name of the data file copy. The maximum length of the name is dependent on your operating system.                                                                                                                                                                                                                                                                                                                                          |
| TAG                   | VARCHAR2 (32)   | Data file copy tag                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CREATION_CHANGE#      | NUMBER          | Data file creation change number                                                                                                                                                                                                                                                                                                                                                                                                                |
| CREATION_TIME         | DATE            | Data file creation timestamp                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CHECKPOINT_CHANGE#    | NUMBER          | Checkpoint change number of the data file when the copy was made                                                                                                                                                                                                                                                                                                                                                                                |
| CHECKPOINT_TIME       | DATE            | Checkpoint timestamp of the data file when the copy was made                                                                                                                                                                                                                                                                                                                                                                                    |
| MARKED_CORRUPT        | NUMBER          | Number of blocks marked corrupt by this copy operation. That is, blocks that were not marked corrupted in the source data file, but were detected and marked as corrupted during the copy operation.                                                                                                                                                                                                                                            |
| OUTPUT_BYTES          | NUMBER          | Total output bytes written                                                                                                                                                                                                                                                                                                                                                                                                                      |
| COMPLETION_TIME       | DATE            | Time when the copy was completed                                                                                                                                                                                                                                                                                                                                                                                                                |
| CONTROLFILE_TYPE      | VARCHAR2 (1)    | Type of control file. B indicates normal copies. S indicates standby copies.                                                                                                                                                                                                                                                                                                                                                                    |
| KEEP                  | VARCHAR2 (3)    | (YES NO) Indicates whether or not this backup set has a retention policy that is different than the value for the configure retention policy                                                                                                                                                                                                                                                                                                    |
| KEEP_UNTIL            | DATE            | If specified, this is the date after which the backup becomes obsolete. If this column is null, then the backup never expires.                                                                                                                                                                                                                                                                                                                  |
| KEEP_OPTIONS          | VARCHAR2 (11)   | Lists additional retention options for this backup set. Possible values are: <ul style="list-style-type: none"> <li>LOGS - The logs needed to recover this backup set are kept</li> <li>NOLOGS - The logs needed to recover this backup set are not kept</li> </ul>                                                                                                                                                                             |
| IS_RECOVERY_DEST_FILE | VARCHAR2 (3)    | Indicates whether the file was created in the fast recovery area (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                              |
| SPARSE_BACKUP         | VARCHAR2 (3)    | Indicates whether the file is sparse (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                          |
| OUTPUT_BYTES_DISPLAY  | VARCHAR2 (4000) | Size of backup set to display                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID                | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.91 V\$BACKUP\_COPY\_SUMMARY

V\$BACKUP\_COPY\_SUMMARY provides summary information for the output data file and control file copy.

| Column                 | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM_COPIES             | NUMBER          | Number of copies created                                                                                                                                                                                                                                                                                                                                                                                                                        |
| NUM_DISTINCT_COPIES    | NUMBER          | Number of distinct copies (that contain data files with different checkpoints)                                                                                                                                                                                                                                                                                                                                                                  |
| MIN_CHECKPOINT_CHANGE# | NUMBER          | Minimum checkpoint change SCN                                                                                                                                                                                                                                                                                                                                                                                                                   |
| MAX_CHECKPOINT_CHANGE# | NUMBER          | Maximum checkpoint change SCN                                                                                                                                                                                                                                                                                                                                                                                                                   |
| MIN_CHECKPOINT_TIME    | DATE            | Minimum checkpoint change time                                                                                                                                                                                                                                                                                                                                                                                                                  |
| MAX_CHECKPOINT_TIME    | DATE            | Maximum checkpoint change time                                                                                                                                                                                                                                                                                                                                                                                                                  |
| OUTPUT_BYTES           | NUMBER          | Total number of output bytes                                                                                                                                                                                                                                                                                                                                                                                                                    |
| OUTPUT_BYTES_DISPLAY   | VARCHAR2 (4000) | Displayable format for output bytes                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID                 | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.92 V\$BACKUP\_CORRUPTION

V\$BACKUP\_CORRUPTION displays information about corrupt block ranges in data file backups from the control file.

Note that corruptions are not tolerated in the control file and archived redo log backups.

| Column             | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RECID              | NUMBER       | Backup corruption record ID                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| STAMP              | NUMBER       | Backup corruption record stamp                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SET_STAMP          | NUMBER       | Backup set stamp                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SET_COUNT          | NUMBER       | Backup set count                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PIECE#             | NUMBER       | backup piece that contains this corrupt block                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| FILE#              | NUMBER       | Absolute file number of the data file that contains the corrupt blocks                                                                                                                                                                                                                                                                                                                                                                                                               |
| BLOCK#             | NUMBER       | Block number of the first corrupt block in the range of corrupted blocks                                                                                                                                                                                                                                                                                                                                                                                                             |
| BLOCKS             | NUMBER       | Number of corrupted blocks found starting with BLOCK#                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CORRUPTION_CHANGE# | NUMBER       | Change number at which the logical corruption was detected. Set to 0 to indicate media corruption.                                                                                                                                                                                                                                                                                                                                                                                   |
| MARKED_CORRUPT     | VARCHAR2 (3) | Indicates whether this corruption was not previously detected by the Oracle Database (YES) or the Oracle Database had already discovered this corrupt block and marked it as corrupt (NO). Note that when a corrupt block is encountered in a backup, and was not already marked corrupt by the Oracle Database, then the backup process does not mark the block as corrupt in the production data file. Thus, this field may be YES for the same block in more than one backup set. |

| Column          | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CORRUPTION_TYPE | VARCHAR2 (9) | Type of block corruption in the data file: <ul style="list-style-type: none"> <li>• ALL_ZERO - Block header on disk contained only zeros. The block may be valid if it was never filled and if it is in an Oracle7 file. The buffer will be reformatted to the Oracle8 standard for an empty block.</li> <li>• FRACTURED - Block header looks reasonable, but the front and back of the block are different versions.</li> <li>• CHECKSUM - optional check value shows that the block is not self-consistent. It is impossible to determine exactly why the check value fails, but it probably fails because sectors in the middle of the block are from different versions.</li> <li>• CORRUPT - Block is wrongly identified or is not a data block (for example, the data block address is missing)</li> <li>• LOGICAL - Block is logically corrupt</li> <li>• NOLOGGING - Block does not have redo log entries (for example, NOLOGGING operations on primary database can introduce this type of corruption on a physical standby)</li> </ul> |
| CON_ID          | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## 8.93 V\$BACKUP\_DATAFILE

V\$BACKUP\_DATAFILE displays information about control files and data files in backup sets from the control file.

| Column              | Datatype | Description                                                                                                                             |
|---------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------|
| RECID               | NUMBER   | Backup data file record ID                                                                                                              |
| STAMP               | NUMBER   | Backup data file record stamp                                                                                                           |
| SET_STAMP           | NUMBER   | Backup set stamp                                                                                                                        |
| SET_COUNT           | NUMBER   | Backup set count                                                                                                                        |
| FILE#               | NUMBER   | Data file number; set to 0 for control file                                                                                             |
| CREATION_CHANGE#    | NUMBER   | Creation system change number (SCN) of the data file                                                                                    |
| CREATION_TIME       | DATE     | Creation timestamp of the data file                                                                                                     |
| RESETLOGS_CHANGE#   | NUMBER   | Resetlogs system change number (SCN) of the data file when it was backed up                                                             |
| RESETLOGS_TIME      | DATE     | Resetlogs timestamp of the data file when it was backed up                                                                              |
| INCREMENTAL_LEVEL   | NUMBER   | Normal full backups have a NULL value, level 0 incremental backups have a value of 0, and level 1 incremental backups have a value of 1 |
| INCREMENTAL_CHANGE# | NUMBER   | All blocks changed after the incremental change number is included in this backup; set to 0 for a full backup                           |
| CHECKPOINT_CHANGE#  | NUMBER   | All changes up to the checkpoint change number are included in this backup                                                              |

| Column                   | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CHECKPOINT_TIME          | DATE         | Timestamp of the checkpoint                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ABSOLUTE_FUZZY_CHANGE#   | NUMBER       | Highest change number in this backup                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| MARKED_CORRUPT           | NUMBER       | Number of blocks marked corrupt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| MEDIA_CORRUPT            | NUMBER       | Number of blocks media corrupt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| LOGICALLY_CORRUPT        | NUMBER       | Number of blocks logically corrupt                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| DATAFILE_BLOCKS          | NUMBER       | Size of the data file in blocks at backup time. This value is also the number of blocks taken by the data file restarted from this backup.                                                                                                                                                                                                                                                                                                                                                                      |
| BLOCKS                   | NUMBER       | Size of the backup data file (in blocks). Unused blocks are not copied to the backup.                                                                                                                                                                                                                                                                                                                                                                                                                           |
| BLOCK_SIZE               | NUMBER       | Block size                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| OLDEST_OFFLINE_RANGE     | NUMBER       | RECID of the oldest offline range record in this backup control file. 0 for data file backups.                                                                                                                                                                                                                                                                                                                                                                                                                  |
| COMPLETION_TIME          | DATE         | Time completed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CONTROLFILE_TYPE         | VARCHAR2 (1) | B - Normal copies<br>S - Standby copies                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| USED_CHANGE_TRACKING     | VARCHAR2 (3) | Indicates whether change tracking data was used to accelerate this incremental backup (YES) or whether change tracking data was not used (NO)                                                                                                                                                                                                                                                                                                                                                                   |
| BLOCKS_READ              | NUMBER       | Number of blocks that were scanned while taking this backup. If this was an incremental backup, and change tracking was used to optimize the backup, then the value of this column will be smaller than DATAFILE_BLOCKS. Otherwise, the value of this column will be the same as DATAFILE_BLOCKS. Even when change tracking data is used, the value of this column may be larger than BLOCKS, because the data read by change tracking is further refined during the process of creating an incremental backup. |
| USED_OPTIMIZATION        | VARCHAR2 (3) | Indicates whether backup optimization was applied (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| FOREIGN_DBID             | NUMBER       | Foreign DBID of the database from which this data file was transported. The value is 0 if the file backed up is not a foreign database file.                                                                                                                                                                                                                                                                                                                                                                    |
| PLUGGED_READONLY         | VARCHAR2 (3) | YES if this is a backup of a transported read-only foreign file; otherwise NO.                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PLUGIN_CHANGE#           | NUMBER       | SCN at which the foreign data file was transported into the database. The value is 0 if this file is not a foreign database file.                                                                                                                                                                                                                                                                                                                                                                               |
| PLUGIN_RESETLOGS_CHANGE# | NUMBER       | The SCN of the RESETLOGS operation for the incarnation into which this foreign file was transported. The value is 0 if this file is not a foreign database file.                                                                                                                                                                                                                                                                                                                                                |
| PLUGIN_RESETLOGS_TIME    | DATE         | The time of the RESETLOGS operation for the incarnation into which this foreign file was transported. The value is 0 if this file is not a foreign database file.                                                                                                                                                                                                                                                                                                                                               |
| SECTION_SIZE             | NUMBER       | Specifies the number of blocks in each section of a multisection backup. Value is 0 for whole file backups.                                                                                                                                                                                                                                                                                                                                                                                                     |
| UNDO_OPTIMIZED           | VARCHAR2 (3) | Indicates whether undo blocks were ignored when creating the backup data file (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                 |
| BLOCKS_SKIPPED_IN_CELL   | NUMBER       | Number of blocks that were not backed up because they were skipped by the Exadata cell<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                                                                                                                                                                                                                                                                            |

| Column        | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID        | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| BACKED_BY_PDB | VARCHAR2 (3) | Recovery Manager (RMAN) allows a PDB to be backed up in two ways. The value in this column indicates how the PDB backup was taken: <ul style="list-style-type: none"> <li>YES: The backup was taken when connected to the PDB</li> <li>NO: The backup was taken when connected to the root container</li> </ul>                                                                                                                                 |
| SPARSE_BACKUP | VARCHAR2 (3) | Indicates whether the file is sparse (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                          |
| GUID          | RAW (16)     | The GUID of the PDB to which the backup belongs. This is useful after the PDB is dropped to identify which PDB the backup belongs to.                                                                                                                                                                                                                                                                                                           |

## 8.94 V\$BACKUP\_DATAFILE\_DETAILS

V\$BACKUP\_DATAFILE\_DETAILS contains information about restorable data files.

It will include all data files backed in the backup set, image copies, and proxy copies.

| Column              | Datatype | Description                                                                                                                             |
|---------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------|
| BTYPE               | CHAR (9) | Backup type container. Possible values are: BACKUPSET, IMAGECOPY, PROXYCOPY.                                                            |
| BTYPE_KEY           | NUMBER   | Unique identifier for the backup type. For BACKUPSET, it is BS_KEY.                                                                     |
| SESSION_KEY         | NUMBER   | Session identifier                                                                                                                      |
| SESSION_RECID       | NUMBER   | Session record ID                                                                                                                       |
| SESSION_STAMP       | NUMBER   | Session stamp                                                                                                                           |
| ID1                 | NUMBER   | If BACKUPSET, it contains SET_STAMP.<br>If IMAGECOPY or PROXYCOPY, it is RECID from the control file.                                   |
| ID2                 | NUMBER   | If BACKUPSET, it contains SET_COUNT.<br>If IMAGECOPY or PROXYCOPY, it is STAMP.                                                         |
| FILE#               | NUMBER   | File number                                                                                                                             |
| CREATION_CHANGE#    | NUMBER   | File creation change SCN                                                                                                                |
| CREATION_TIME       | DATE     | File creation time                                                                                                                      |
| RESETLOGS_CHANGE#   | NUMBER   | Resetlogs change SCN                                                                                                                    |
| RESETLOGS_TIME      | DATE     | Resetlogs change time                                                                                                                   |
| INCREMENTAL_LEVEL   | NUMBER   | Normal full backups have a NULL value, level 0 incremental backups have a value of 0, and level 1 incremental backups have a value of 1 |
| INCREMENTAL_CHANGE# | NUMBER   | Incremental change SCN                                                                                                                  |
| CHECKPOINT_CHANGE#  | NUMBER   | Checkpoint change SCN                                                                                                                   |
| CHECKPOINT_TIME     | DATE     | Checkpoint change time                                                                                                                  |
| MARKED_CORRUPT      | NUMBER   | Number of blocks marked corrupt                                                                                                         |
| FILESIZE            | NUMBER   | File size, in bytes                                                                                                                     |

| Column            | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPRESSION_RATIO | NUMBER          | The ratio between the total blocks in the datafile and the blocks that RMAN backed up. This is <i>not</i> the the ratio from the <code>AS COMPRESSED BACKUPSET</code> clause of the <code>BACKUP</code> command.                                                                                                                                                                                                                                |
| SPARSE_BACKUP     | VARCHAR2 (3)    | Indicates whether the file is sparse (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                          |
| TS#               | NUMBER          | Tablespace number                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TSNAME            | VARCHAR2 (30)   | Tablespace name                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| FILESIZE_DISPLAY  | VARCHAR2 (4000) | Same value as the <code>FILESIZE</code> column, but converted to a user-displayable format, for example <i>nM</i> , <i>nG</i> , <i>nT</i> , <i>nP</i> , and so on                                                                                                                                                                                                                                                                               |
| CON_ID            | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.95 V\$BACKUP\_DATAFILE\_SUMMARY

V\$BACKUP\_DATAFILE\_SUMMARY provides summary information for a specific criteria set, based on a backup job, a time range applicable to jobs, or a specific data file).

| Column                    | Datatype        | Description                                                                                                                                                                                                      |
|---------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM_FILES_BACKED          | NUMBER          | Number of files backed up for specified criteria                                                                                                                                                                 |
| NUM_DISTINCT_FILES_BACKED | NUMBER          | Number of distinct files backed up                                                                                                                                                                               |
| NUM_DISTINCT_TS_BACKED    | NUMBER          | Number of distinct tablespaces backed up                                                                                                                                                                         |
| MIN_CHECKPOINT_CHANGE#    | NUMBER          | Minimum checkpoint change number of the data file for specified criteria                                                                                                                                         |
| MAX_CHECKPOINT_CHANGE#    | NUMBER          | Maximum checkpoint change number of the data file for specified criteria                                                                                                                                         |
| MIN_CHECKPOINT_TIME       | DATE            | Minimum checkpoint time of the data file for specified criteria                                                                                                                                                  |
| MAX_CHECKPOINT_TIME       | DATE            | Maximum checkpoint time of the data file for specified criteria                                                                                                                                                  |
| INPUT_BYTES               | NUMBER          | Total input bytes of files read                                                                                                                                                                                  |
| OUTPUT_BYTES              | NUMBER          | Total output bytes written                                                                                                                                                                                       |
| COMPRESSION_RATIO         | NUMBER          | The ratio between the total blocks in the datafile and the blocks that RMAN backed up. This is <i>not</i> the the ratio from the <code>AS COMPRESSED BACKUPSET</code> clause of the <code>BACKUP</code> command. |
| INPUT_BYTES_DISPLAY       | VARCHAR2 (4000) | Displayable format for input bytes                                                                                                                                                                               |
| OUTPUT_BYTES_DISPLAY      | VARCHAR2 (4000) | Displayable format for output bytes                                                                                                                                                                              |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.96 V\$BACKUP\_DEVICE

V\$BACKUP\_DEVICE displays information about supported backup devices.

If a device type does not support named devices, then one row with the device type and a null device name is returned for that device type. If a device type supports named devices then one row is returned for each available device of that type. The special device type DISK is not returned by this view because it is always available.

| Column      | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DEVICE_TYPE | VARCHAR2 (17)  | Type of the backup device                                                                                                                                                                                                                                                                                                                                                                                                                         |
| DEVICE_NAME | VARCHAR2 (513) | Name of the backup device                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID      | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.97 V\$BACKUP\_FILES

V\$BACKUP\_FILES displays information about all RMAN backups (both image copies and backup sets) and archived logs.

This view simulates the LIST BACKUP and LIST COPY RMAN commands. This view requires that the database be set using the DBMS\_RCVMAN.SETDATABASE procedure.

| Column      | Datatype      | Description                                                                                                          |
|-------------|---------------|----------------------------------------------------------------------------------------------------------------------|
| PKEY        | NUMBER        | Primary key for the backup                                                                                           |
| BACKUP_TYPE | VARCHAR2 (32) | Type of the backup: <ul style="list-style-type: none"><li>• BACKUP SET</li><li>• COPY</li><li>• PROXY COPY</li></ul> |

| Column          | Datatype        | Description                                                                                                                                                                                                                                                                                                                                |
|-----------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE_TYPE       | VARCHAR2 (32)   | Type of the file: <ul style="list-style-type: none"> <li>• DATAFILE</li> <li>• CONTROLFILE</li> <li>• SPFILE</li> <li>• REDO LOG</li> <li>• ARCHIVED LOG</li> <li>• COPY (for an image copy backup)</li> <li>• PIECE (for a backup piece)</li> </ul>                                                                                       |
| KEEP            | VARCHAR2 (3)    | Indicates whether the backup has a retention policy different from the value for <code>CONFIGURE RETENTION POLICY (YES)</code> or not ( <code>NO</code> )                                                                                                                                                                                  |
| KEEP_UNTIL      | DATE            | If the <code>KEEP UNTIL TIME</code> clause of the <code>BACKUP</code> command was specified, then this column shows the date after which the backup becomes obsolete. If the column is null and <code>KEEP_OPTIONS</code> is not null, the backup never becomes obsolete.                                                                  |
| KEEP_OPTIONS    | VARCHAR2 (13)   | KEEP options for the backup: <ul style="list-style-type: none"> <li>• LOGS - RMAN keeps the logs needed to recover the backup</li> <li>• NOLOGS - RMAN does not keep the logs needed to recover the backup</li> </ul> If this column is null, then the backup has no KEEP options and will be made obsolete based on the retention policy. |
| STATUS          | VARCHAR2 (16)   | Status of the backup: <ul style="list-style-type: none"> <li>• AVAILABLE</li> <li>• UNAVAILABLE</li> <li>• EXPIRED</li> <li>• OTHER</li> </ul>                                                                                                                                                                                             |
| FNAME           | VARCHAR2 (1024) | Name of the file                                                                                                                                                                                                                                                                                                                           |
| TAG             | VARCHAR2 (32)   | Tag of the piece, copy, or proxy copy                                                                                                                                                                                                                                                                                                      |
| MEDIA           | VARCHAR2 (80)   | Media ID of the piece or proxy copy                                                                                                                                                                                                                                                                                                        |
| RECID           | NUMBER          | Recid of the record in the control file                                                                                                                                                                                                                                                                                                    |
| STAMP           | NUMBER          | Stamp of the record in the control file                                                                                                                                                                                                                                                                                                    |
| DEVICE_TYPE     | VARCHAR2 (255)  | Type of media device that stores the backup                                                                                                                                                                                                                                                                                                |
| BLOCK_SIZE      | NUMBER          | Block size for the backup (in bytes)                                                                                                                                                                                                                                                                                                       |
| COMPLETION_TIME | DATE            | Time when the backup completed                                                                                                                                                                                                                                                                                                             |
| COMPRESSED      | VARCHAR2 (3)    | Indicates whether the backup piece is compressed ( <code>YES</code> ) or not ( <code>NO</code> ); valid only if <code>FILE_TYPE</code> is <code>PIECE</code> . Image copies cannot be compressed.                                                                                                                                          |
| OBSOLETE        | VARCHAR2 (3)    | Indicates whether the backup piece or copy is obsolete ( <code>YES</code> ) or not ( <code>NO</code> ); valid only if <code>FILE_TYPE</code> is <code>PIECE</code> or <code>COPY</code>                                                                                                                                                    |
| BYTES           | NUMBER          | Size of the file (in bytes)                                                                                                                                                                                                                                                                                                                |
| BS_KEY          | NUMBER          | Primary key of the backup set (valid only if <code>BACKUP_TYPE</code> is <code>BACKUP SET</code> )                                                                                                                                                                                                                                         |
| BS_COUNT        | NUMBER          | Count of the backup set from the control file record (valid only if <code>BACKUP_TYPE</code> is <code>BACKUP SET</code> )                                                                                                                                                                                                                  |
| BS_STAMP        | NUMBER          | Stamp of the backup set from the control file record (valid only if <code>BACKUP_TYPE</code> is <code>BACKUP SET</code> )                                                                                                                                                                                                                  |
| BS_TYPE         | VARCHAR2 (32)   | Type of the backup set (valid only if <code>BACKUP_TYPE</code> is <code>BACKUP SET</code> ): <ul style="list-style-type: none"> <li>• DATAFILE</li> <li>• ARCHIVED LOG</li> </ul>                                                                                                                                                          |



| Column                | Datatype        | Description                                                                                                                                                                                                                                                                                                       |
|-----------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BS_INCR_TYPE          | VARCHAR2 (32)   | Incremental type of the backup set (valid only if BACKUP_TYPE is BACKUP SET)                                                                                                                                                                                                                                      |
| BS_PIECES             | NUMBER          | Number of backup pieces in the backup set (valid only if BACKUP_TYPE is BACKUP SET)                                                                                                                                                                                                                               |
| BS_COPIES             | NUMBER          | Number of copies of the backup set (valid only if FILE_TYPE is PIECE and BACKUP_TYPE is BACKUP SET)                                                                                                                                                                                                               |
| BS_COMPLETION_TIME    | DATE            | Completion time of the backup set (valid only if BACKUP_TYPE is BACKUP SET)                                                                                                                                                                                                                                       |
| BS_STATUS             | VARCHAR2 (16)   | Status of the backup set (valid only if BACKUP_TYPE is BACKUP SET): <ul style="list-style-type: none"> <li>• AVAILABLE</li> <li>• UNAVAILABLE</li> <li>• EXPIRED</li> <li>• OTHER - Pieces which are part of the backup set do not have uniform status (that is, some of them are available, some not)</li> </ul> |
| BS_BYTES              | NUMBER          | Sum of all backup piece sizes in the backup set (valid only if BACKUP_TYPE is BACKUP SET)                                                                                                                                                                                                                         |
| BS_COMPRESSED         | VARCHAR2 (3)    | Indicates whether the backup pieces of the backup set are compressed (YES) or not (NO); valid only if BACKUP_TYPE is BACKUP SET                                                                                                                                                                                   |
| BS_TAG                | VARCHAR2 (1024) | Tags of the backup set. If pieces have different tags, then all piece tags are concatenated and separated by commas. Valid only if BACKUP_TYPE is BACKUP SET)                                                                                                                                                     |
| BS_DEVICE_TYPE        | VARCHAR2 (255)  | Device type of the backup set. If there is more than one device type, then they are separated by commas. Valid only if BACKUP_TYPE is BACKUP SET                                                                                                                                                                  |
| BP_PIECE#             | NUMBER          | Number of pieces inside the backup set (valid only if FILE_TYPE is PIECE and BACKUP_TYPE is BACKUP SET)                                                                                                                                                                                                           |
| BP_COPY#              | NUMBER          | Number of copies of the backup set (valid only if FILE_TYPE is PIECE and BACKUP_TYPE is BACKUP SET)                                                                                                                                                                                                               |
| DF_FILE#              | NUMBER          | Absolute file number of the data file (valid only if FILE_TYPE is DATAFILE)                                                                                                                                                                                                                                       |
| DF_TABLESPACE         | VARCHAR2 (30)   | Tablespace name of the data file (valid only if FILE_TYPE is DATAFILE)                                                                                                                                                                                                                                            |
| DF_RESETLOGS_CHANGE#  | NUMBER          | System change number (SCN) of the most recent RESETLOGS when the control file or data file was created (valid only if FILE_TYPE is DATAFILE)                                                                                                                                                                      |
| DF_CREATION_CHANGE#   | NUMBER          | Creation SCN of the control file or data file (valid only if FILE_TYPE is CONTROLFILE or DATAFILE)                                                                                                                                                                                                                |
| DF_CHECKPOINT_CHANGE# | NUMBER          | System change number (SCN) of the most recent control file or data file checkpoint (valid only if FILE_TYPE is CONTROLFILE or DATAFILE)                                                                                                                                                                           |
| DF_CKP_MOD_TIME       | DATE            | Modification time in case of SPFILE, otherwise time when the control file or data file was checkpointed (valid only if FILE_TYPE is SPFILE, CONTROLFILE, or DATAFILE)                                                                                                                                             |
| RL_THREAD#            | NUMBER          | Redo log thread number of the archived log (valid only if FILE_TYPE is REDO LOG)                                                                                                                                                                                                                                  |
| RL_SEQUENCE#          | NUMBER          | Redo log sequence number of the archived log (valid only if FILE_TYPE is REDO LOG)                                                                                                                                                                                                                                |
| RL_RESETLOGS_CHANGE#  | NUMBER          | System change number (SCN) of the most recent RESETLOGS when the record was created (valid only if FILE_TYPE is REDO LOG)                                                                                                                                                                                         |
| RL_FIRST_CHANGE#      | NUMBER          | First SCN of the redo log (valid only if FILE_TYPE is REDO LOG)                                                                                                                                                                                                                                                   |

| Column          | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RL_FIRST_TIME   | DATE     | Time when the Oracle Database switched into the redo log (valid only if FILE_TYPE is REDO LOG)                                                                                                                                                                                                                                                                                                                                                  |
| RL_NEXT_CHANGE# | NUMBER   | First SCN of the next redo log in the thread (valid only if FILE_TYPE is REDO LOG)                                                                                                                                                                                                                                                                                                                                                              |
| RL_NEXT_TIME    | DATE     | First timestamp of the next redo log in the thread (valid only if FILE_TYPE is REDO LOG)                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID          | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

*Oracle Database Backup and Recovery User's Guide* for more information about the DBMS\_RCVMAN.SETDATABASE procedure

## 8.98 V\$BACKUP\_NONLOGGED

V\$BACKUP\_NONLOGGED displays information about nonlogged block ranges in data file backups, recorded in the control file.

| Column            | Datatype | Description                                                                                                    |
|-------------------|----------|----------------------------------------------------------------------------------------------------------------|
| RECID             | NUMBER   | Nologged backup record ID                                                                                      |
| STAMP             | NUMBER   | Nonlogged backup record stamp                                                                                  |
| SET_STAMP         | NUMBER   | Backup set stamp                                                                                               |
| SET_COUNT         | NUMBER   | Backup set count                                                                                               |
| PIECE#            | NUMBER   | Backup piece that contains the range of nonlogged blocks                                                       |
| FILE#             | NUMBER   | Absolute file number of the data file that contains this range of nonlogged blocks                             |
| BLOCK#            | NUMBER   | Block number of the first nonlogged block in the range of nologged blocks                                      |
| BLOCKS            | NUMBER   | Number of nonlogged blocks found starting with BLOCK#                                                          |
| NONLOGGED_CHANGE# | NUMBER   | The smallest SCN on which any block in this block range became nonlogged. NULL if unknown.                     |
| NONLOGGED_TIME    | VARCHAR2 | The time that corresponds to NONLOGGED_CHANGE#. NULL if unknown.                                               |
| RESETLOGS_CHANGE# | VARCHAR2 | The resetlogs SCN of the incarnation on which this block range was first marked as nonlogged. NULL if unknown. |
| RESETLOGS_TIME    | VARCHAR2 | The resetlogs time of the incarnation on which this block range was first marked as nologged. NULL if unknown. |

| Column  | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT# | VARCHAR2 | The object ID this range belongs to. If this field is NULL, the object number is unknown.                                                                                                                                                                                                                                                                                                                                                       |
| REASON  | CHAR (7) | The reason why this block range appears in this list, for example, primary file offline, could not talk to primary, non-standby recovery, and so on. For Oracle Database 12c and later releases, it is always UNKNOWN.                                                                                                                                                                                                                          |
| CON_ID  | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.99 V\$BACKUP\_PIECE

V\$BACKUP\_PIECE displays information about backup pieces from the control file. Each backup set consists of one or more backup pieces.

| Column          | Datatype       | Description                                                                                                                                                     |
|-----------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RECID           | NUMBER         | Backup piece record ID                                                                                                                                          |
| STAMP           | NUMBER         | Backup piece record stamp                                                                                                                                       |
| SET_STAMP       | NUMBER         | Backup set stamp                                                                                                                                                |
| SET_COUNT       | NUMBER         | Backup set count                                                                                                                                                |
| PIECE#          | NUMBER         | Backup piece number (1-N)                                                                                                                                       |
| COPY#           | NUMBER         | Indicates the copy number for backup pieces created with duplex enabled. 1 if the backup piece is not duplexed.                                                 |
| DEVICE_TYPE     | VARCHAR2 (17)  | Type of the device on which the backup piece resides. Set to DISK for backup sets on disk.<br><b>See Also:</b> V\$BACKUP_DEVICE                                 |
| HANDLE          | VARCHAR2 (513) | Backup piece handle identifies the backup piece on restore                                                                                                      |
| COMMENTS        | VARCHAR2 (64)  | Comment returned by the operating system or storage subsystem. Set to NULL for backup pieces on disk. This value is informational only; not needed for restore. |
| MEDIA           | VARCHAR2 (65)  | Name of the media on which the backup piece resides. This value is informational only; not needed for restore.                                                  |
| MEDIA_POOL      | NUMBER         | The media pool in which the copy resides. This is the same value that was entered in the POOL operand of the Recovery Manager BACKUP command.                   |
| CONCUR          | VARCHAR2 (3)   | (YES   NO) Indicates whether the piece on a media that can be accessed concurrently                                                                             |
| TAG             | VARCHAR2 (32)  | Backup piece tag. The tag is specified at backup set level, but stored at piece level.                                                                          |
| STATUS          | VARCHAR2 (1)   | Indicates the status of the piece: A (available), D (deleted), or X (expired)                                                                                   |
| START_TIME      | DATE           | Starting time                                                                                                                                                   |
| COMPLETION_TIME | DATE           | Completion time                                                                                                                                                 |

| Column                | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ELAPSED_SECONDS       | NUMBER       | Number of elapsed seconds                                                                                                                                                                                                                                                                                                                                                                                                                       |
| DELETED               | VARCHAR2 (3) | (YES/NO) NO indicates that the file still exists. YES indicates the file no longer exists because it has been deleted.                                                                                                                                                                                                                                                                                                                          |
| BYTES                 | NUMBER       | Size of the backup piece (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                             |
| IS_RECOVERY_DEST_FILE | VARCHAR2 (3) | Indicates whether the file was created in the fast recovery area (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                              |
| RMAN_STATUS_RECID     | NUMBER       | Owning V\$RMAN_STATUS record ID                                                                                                                                                                                                                                                                                                                                                                                                                 |
| RMAN_STATUS_STAMP     | NUMBER       | Owning V\$RMAN_STATUS record stamp                                                                                                                                                                                                                                                                                                                                                                                                              |
| COMPRESSED            | VARCHAR2 (3) | Indicates whether the backup piece is compressed (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                              |
| BACKED_BY_VSS         | VARCHAR2 (3) | Whether or not the file has been backed up by Volume Shadow Copy Service (VSS). This column is reserved for internal use.                                                                                                                                                                                                                                                                                                                       |
| ENCRYPTED             | VARCHAR2 (3) | A value of YES means an encrypted backup, otherwise not an encrypted backup.                                                                                                                                                                                                                                                                                                                                                                    |
| BACKED_BY_OSB         | VARCHAR2 (3) | A value of YES means the backup was done to Oracle Secure Backup. Otherwise, backed up by other third party tape library.                                                                                                                                                                                                                                                                                                                       |
| FOR_XTTS              | VARCHAR2 (3) | Indicates whether this is a cross platform backup piece: <ul style="list-style-type: none"> <li>YES: This is a cross platform backup piece.</li> <li>NO: This is not a cross platform backup piece.</li> </ul>                                                                                                                                                                                                                                  |
| SAME_ENDIAN           | VARCHAR2 (3) | If the value of FOR_XTTS is YES, then this column indicates whether the backup piece has the same endianness as the current database (YES) or not (NO); otherwise NULL.                                                                                                                                                                                                                                                                         |
| CON_ID                | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| GUID                  | RAW (16)     | The GUID of the PDB to which the backup belongs. This is useful after the PDB is dropped to identify which PDB the backup belongs to.                                                                                                                                                                                                                                                                                                           |

## 8.100 V\$BACKUP\_PIECE\_DETAILS

V\$BACKUP\_PIECE\_DETAILS displays information about all available backup pieces.

| Column        | Datatype | Description               |
|---------------|----------|---------------------------|
| SESSION_KEY   | NUMBER   | Session identifier        |
| SESSION_RECID | NUMBER   | Session recid             |
| SESSION_STAMP | NUMBER   | Session stamp             |
| BS_KEY        | NUMBER   | Backup set identifier     |
| BP_KEY        | NUMBER   | Backup piece key          |
| RECID         | NUMBER   | Backup piece record ID    |
| STAMP         | NUMBER   | Backup piece record stamp |
| SET_STAMP     | NUMBER   | Backup set stamp          |

| Column                | Datatype       | Description                                                                                                                                                                                                    |
|-----------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SET_COUNT             | NUMBER         | Backup set count                                                                                                                                                                                               |
| PIECE#                | NUMBER         | Backup piece number (1-N)                                                                                                                                                                                      |
| COPY#                 | NUMBER         | Indicates the copy number for backup pieces created with duplex enabled. The value is 1 if the backup piece is not duplexed.                                                                                   |
| DEVICE_TYPE           | VARCHAR2 (17)  | Type of device on which the backup piece resides. Set to DISK for backup sets on disk.                                                                                                                         |
| HANDLE                | VARCHAR2 (513) | Backup piece handle identifies the backup piece on restore                                                                                                                                                     |
| COMMENTS              | VARCHAR2 (64)  | Comments returned by the operating system or storage subsystem. Set to NULL for backup pieces on disk. This value is informational only. It is not needed for restore.                                         |
| MEDIA                 | VARCHAR2 (65)  | Name of the media on which the backup piece resides. This value is informational only. It is not needed for restore.                                                                                           |
| MEDIA_POOL            | NUMBER         | The media pool in which the copy resides. This is the same value that was entered in the <code>POOL</code> operand of the Recovery Manager <code>BACKUP</code> command.                                        |
| CONCUR                | VARCHAR2 (3)   | (YES NO) indicates whether or not the piece is on a media that can be accessed concurrently                                                                                                                    |
| TAG                   | VARCHAR2 (32)  | Backup piece tag. The tag is specified at backup set level, but stored at piece level.                                                                                                                         |
| STATUS                | VARCHAR2 (1)   | Indicates the status of the piece: A (available), D (deleted), or X (expired)                                                                                                                                  |
| START_TIME            | DATE           | Starting time                                                                                                                                                                                                  |
| COMPLETION_TIME       | DATE           | Completion time                                                                                                                                                                                                |
| ELAPSED_SECONDS       | NUMBER         | Number of elapsed seconds                                                                                                                                                                                      |
| DELETED               | VARCHAR2 (3)   | NO indicates that the file still exists. YES indicates that the file no longer exists because it has been deleted.                                                                                             |
| BYTES                 | NUMBER         | Size of the backup piece, in bytes                                                                                                                                                                             |
| IS_RECOVERY_DEST_FILE | VARCHAR2 (3)   | Indicates whether or not the file was created in the fast recovery area (YES) or not (NO)                                                                                                                      |
| RMAN_STATUS_RECID     | NUMBER         | Owning V\$RMAN_STATUS record ID                                                                                                                                                                                |
| RMAN_STATUS_STAMP     | NUMBER         | Owning V\$RMAN_STATUS record stamp                                                                                                                                                                             |
| COMPRESSED            | VARCHAR2 (3)   | Indicates whether the backup piece is compressed (YES) or not (NO)                                                                                                                                             |
| BACKED_BY_VSS         | VARCHAR2 (3)   | Whether or not the file has been backed up by Volume Shadow Copy Service (VSS). This column is reserved for internal use.                                                                                      |
| ENCRYPTED             | VARCHAR2 (3)   | A value of YES means an encrypted backup, otherwise not an encrypted backup.                                                                                                                                   |
| BACKED_BY_OSB         | VARCHAR2 (3)   | A value of YES means the backup was done to Oracle Secure Backup. Otherwise, backed up by other third party tape library.                                                                                      |
| FOR_XTTS              | VARCHAR2 (3)   | Indicates whether this is a cross platform backup piece: <ul style="list-style-type: none"> <li>YES: This is a cross platform backup piece.</li> <li>NO: This is not a cross platform backup piece.</li> </ul> |
| SAME_ENDIAN           | VARCHAR2 (3)   | If the value of FOR_XTTS is YES, then this column indicates whether the backup piece has the same endianness as the current database (YES) or not (NO); otherwise NULL.                                        |

| Column             | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID             | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| PIECES_PER_SET     | NUMBER          | Number of backup pieces per set                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SIZE_BYTES_DISPLAY | VARCHAR2 (4000) | Size (in bytes) of the backup piece to display                                                                                                                                                                                                                                                                                                                                                                                                  |

## 8.101 V\$BACKUP\_REDOLOG

V\$BACKUP\_REDOLOG displays information about archived logs in backup sets from the control file.

Note that online redo logs cannot be backed up directly; they must be archived first to disk and then backed up. An archive log backup set can contain one or more archived logs.

| Column            | Datatype     | Description                                                                                                                |
|-------------------|--------------|----------------------------------------------------------------------------------------------------------------------------|
| RECID             | NUMBER       | Record ID for this row; it is an integer that identifies this row                                                          |
| STAMP             | NUMBER       | Timestamp used with RECID to uniquely identify this row                                                                    |
| SET_STAMP         | NUMBER       | One of the foreign keys for the row of the V\$BACKUP_SET table that identifies this backup set                             |
| SET_COUNT         | NUMBER       | One of the foreign keys for the row of the V\$BACKUP_SET table that identifies this backup set                             |
| THREAD#           | NUMBER       | Thread number for the log                                                                                                  |
| SEQUENCE#         | NUMBER       | Log sequence number                                                                                                        |
| RESETLOGS_CHANGE# | NUMBER       | Change number of the last resetlogs before the log was written                                                             |
| RESETLOGS_TIME    | DATE         | Change time of the last resetlogs before the log was written. These will be the same for all logs in a backup set.         |
| FIRST_CHANGE#     | NUMBER       | SCN when the log was switched into. The redo in the log is at this SCN and greater.                                        |
| FIRST_TIME        | DATE         | Time allocated when the log was switched into                                                                              |
| NEXT_CHANGE#      | NUMBER       | SCN when the next log in this thread was switched into. The redo in the log is below this SCN.                             |
| NEXT_TIME         | DATE         | Time when the next log in this thread was switched into                                                                    |
| BLOCKS            | NUMBER       | Size of the log in logical blocks including the header block                                                               |
| BLOCK_SIZE        | NUMBER       | Size of the log blocks in bytes                                                                                            |
| TERMINAL          | VARCHAR2 (3) | Indicates whether this record corresponds to a terminal archived redo log, as defined in V\$ARCHIVED_LOG (YES) or not (NO) |
| SECTION_SIZE      | NUMBER       | Number of blocks in each section of a multisection log. The value is 0 for whole file logs.                                |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.102 V\$BACKUP\_SET

V\$BACKUP\_SET displays information about backup sets from the control file.

A backup set record is inserted after the backup set is successfully completed.

| Column               | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RECID                | NUMBER       | Backup set record ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| STAMP                | NUMBER       | Backup set record stamp                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SET_STAMP            | NUMBER       | <p>Backup set stamp. The backup set stamp and count uniquely identify the backup set.</p> <p>Primary key for the V\$BACKUP_SET table, and the foreign key for the following tables: V\$BACKUP_PIECE, V\$BACKUP_DATAFILE, V\$BACKUP_REDOLOG, V\$BACKUP_CORRUPTION.</p>                                                                                                                                                                                                                                 |
| SET_COUNT            | NUMBER       | <p>Backup set count. The backup set count is incremented by one every time a new backup set is started (if the backup set is never completed the number is "lost"). If the control file is re-created then the count is reset to 1. Therefore the count must be used with the stamp to uniquely identify a backup set.</p> <p>Primary key for the V\$BACKUP_SET table, and the foreign key for the following tables: V\$BACKUP_PIECE, V\$BACKUP_DATAFILE, V\$BACKUP_REDOLOG, V\$BACKUP_CORRUPTION</p> |
| BACKUP_TYPE          | VARCHAR2 (1) | Type of files that are in this backup. If the backup contains archived redo logs, the value is L. If this is a data file full backup, the value is D. If this is an incremental backup, the value is I.                                                                                                                                                                                                                                                                                               |
| CONTROLFILE_INCLUDED | VARCHAR2 (3) | <p>Provides information about the control file in the backup set:</p> <ul style="list-style-type: none"> <li>YES: The control file included is a primary control file.</li> <li>SBY: The control file included is a standby control file.</li> <li>NO: A control file is not included.</li> </ul>                                                                                                                                                                                                     |
| INCREMENTAL_LEVEL    | NUMBER       | Location where this backup set fits into the database's backup strategy. Set to NULL for full datafile, archivelog, controlfile, and spfile backups, set to 0 for incremental level 0 datafile backups, and set to 1 for incremental level 1 datafile backups.                                                                                                                                                                                                                                        |
| PIECES               | NUMBER       | Number of distinct backup pieces in the backup set                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| START_TIME           | DATE         | Starting time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| COMPLETION_TIME      | DATE         | Time that this backup set completed                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ELAPSED_SECONDS      | NUMBER       | The number of elapsed seconds                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| BLOCK_SIZE           | NUMBER       | Block size of the backup set                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Column               | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INPUT_FILE_SCAN_ONLY | VARCHAR2 (3)  | YES indicates no actual backup is performed, but the data files are read.<br>NO indicates a normal backup is performed.                                                                                                                                                                                                                                                                                                              |
| KEEP                 | VARCHAR2 (3)  | (YES/NO) Indicates whether or not this backup set has a retention policy that is different than the value for the configure retention policy                                                                                                                                                                                                                                                                                         |
| KEEP_UNTIL           | DATE          | If KEEP_UNTIL_TIME is specified, this is the date after which the backup becomes obsolete. If this column is null, then the backup never expires.                                                                                                                                                                                                                                                                                    |
| KEEP_OPTIONS         | VARCHAR2 (11) | Lists additional retention options for this backup set. Possible values are:<br>LOGS - The logs need to recover this backup are kept<br>NOLOGS - The logs needed to recover this backup will not be kept<br>BACKUP_LOGS - An archive log backup exists to support this backup set                                                                                                                                                    |
| MULTI_SECTION        | VARCHAR2 (3)  | Indicates whether or not this backup set is a multi-section backup. Valid values are YES and NO. A multi-section backup is a backup in which multiple backup pieces are produced independently in parallel by multiple channels.                                                                                                                                                                                                     |
| FOR_XTTS             | VARCHAR2 (3)  | Indicates whether this is a cross platform backup set:<br><ul style="list-style-type: none"> <li>YES: This is a cross platform backup set.</li> <li>NO: This is not a cross platform backup set.</li> </ul>                                                                                                                                                                                                                          |
| SAME_ENDIAN          | VARCHAR2 (3)  | If the value of FOR_XTTS is YES, then this column indicates whether the backup set has the same endianness as the current database (YES) or not (NO); otherwise NULL.                                                                                                                                                                                                                                                                |
| INC_DMPFILE          | VARCHAR2 (3)  | If the value of FOR_XTTS is YES, then this column indicates whether the backup set includes a Data Pump export file of the backed up data files (YES) or not (NO), otherwise NULL.                                                                                                                                                                                                                                                   |
| CON_ID               | NUMBER        | The ID of the container to which the data pertains. Possible values include:<br><ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul> |
| GUID                 | RAW (16)      | The GUID of the PDB to which the backup belongs. This is useful after the PDB is dropped to identify which PDB the backup belongs to.                                                                                                                                                                                                                                                                                                |

## 8.103 V\$BACKUP\_SET\_DETAILS

V\$BACKUP\_SET\_DETAILS provides detailed information about the backup set.

This view will contain an extra row for each backup session that invokes BACKUP BACKUPSET (that is, creates new copies for the same backup set or copies backup set information from disk to tape). However, the remaining values of other columns belong to the complete backup set.

| Column        | Datatype | Description                                      |
|---------------|----------|--------------------------------------------------|
| SESSION_KEY   | NUMBER   | Session identifier                               |
| SESSION_RECID | NUMBER   | Identifies the job, together with SESSION_STAMP. |
| SESSION_STAMP | NUMBER   | Identifies the job, together with SESSION_RECID  |



| Column                         | Datatype        | Description                                                                                                                                                                            |
|--------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BS_KEY                         | NUMBER          | Backup set identifier                                                                                                                                                                  |
| RECID                          | NUMBER          | RECID from V\$BACKUP_SET record                                                                                                                                                        |
| STAMP                          | NUMBER          | Stamp from V\$BACKUP_SET record                                                                                                                                                        |
| SET_STAMP                      | NUMBER          | Backup set stamp                                                                                                                                                                       |
| SET_COUNT                      | NUMBER          | Backup count number                                                                                                                                                                    |
| BACKUP_TYPE                    | VARCHAR2 (1)    | Type of backup (same as in V\$BACKUP_SET)                                                                                                                                              |
| CONTROLFILE_INCLUDED           | VARCHAR2 (3)    | Control file included in backup set (same as in V\$BACKUP_SET)                                                                                                                         |
| INCREMENTAL_LEVEL              | NUMBER          | Incremental level (same as in V\$BACKUP_SET)                                                                                                                                           |
| PIECES                         | NUMBER          | Number of pieces (same as in V\$BACKUP_SET)                                                                                                                                            |
| START_TIME                     | DATE            | Start time of the backup set (same as in V\$BACKUP_SET)                                                                                                                                |
| COMPLETION_TIME                | DATE            | Completion time of the backup set (same as in V\$BACKUP_SET)                                                                                                                           |
| ELAPSED_SECONDS                | NUMBER          | Time taken for backup set creation (same as in V\$BACKUP_SET)                                                                                                                          |
| BLOCK_SIZE                     | NUMBER          | Block size (same as in V\$BACKUP_SET)                                                                                                                                                  |
| KEEP                           | VARCHAR2 (3)    | Keep value (same as in V\$BACKUP_SET)                                                                                                                                                  |
| KEEP_UNTIL                     | DATE            | Keep Until time (same as in V\$BACKUP_SET)                                                                                                                                             |
| KEEP_OPTIONS                   | VARCHAR2 (11)   | Keep options (same as in V\$BACKUP_SET)                                                                                                                                                |
| DEVICE_TYPE                    | VARCHAR2 (17)   | Type of device. If the backup set exists on more than one device type, an * is indicated here.                                                                                         |
| COMPRESSED                     | VARCHAR2 (3)    | YES, if backup is compressed                                                                                                                                                           |
| NUM_COPIES                     | NUMBER          | Number of identical copies                                                                                                                                                             |
| OUTPUT_BYTES                   | NUMBER          | Size of the backup set                                                                                                                                                                 |
| ORIGINAL_INPUT_BYTES           | NUMBER          | Amount of data backed up when the backup set was created                                                                                                                               |
| COMPRESSION_RATIO              | NUMBER          | The ratio between the total blocks in the datafile and the blocks that RMAN backed up. This is <i>not</i> the the ratio from the AS COMPRESSED BACKUPSET clause of the BACKUP command. |
| STATUS                         | CHAR (1)        | The status of the backup set. It is always A (all backup pieces available), because this view only reflects available backup sets.                                                     |
| ORIGINAL_INPRATE_BYTES         | NUMBER          | Number of bytes read per second when backup set was initially created                                                                                                                  |
| OUTPUT_RATE_BYTES              | NUMBER          | Number of bytes written per second when the backup set was initially created                                                                                                           |
| ORIGINAL_INPUT_BYTES_DISPLAY   | VARCHAR2 (4000) | Input rate to display                                                                                                                                                                  |
| OUTPUT_BYTES_DISPLAY           | VARCHAR2 (4000) | Size of backup set to display                                                                                                                                                          |
| ORIGINAL_INPRATE_BYTES_DISPLAY | VARCHAR2 (4000) | Input rate per second for display                                                                                                                                                      |
| OUTPUT_RATE_BYTES_DISPLAY      | VARCHAR2 (4000) | Output rate per second for display                                                                                                                                                     |
| TIME_TAKEN_DISPLAY             | VARCHAR2 (4000) | Elapsed time in hh:mm:ss format                                                                                                                                                        |
| ENCRYPTED                      | VARCHAR2 (3)    | A value of YES means an encrypted backup, otherwise not an encrypted backup.                                                                                                           |
| BACKED_BY_OSB                  | VARCHAR2 (3)    | A value of YES means the backup was done to Oracle Secure Backup. Otherwise, backed up by other third party tape library.                                                              |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$BACKUP\_SET"

## 8.104 V\$BACKUP\_SET\_SUMMARY

V\$BACKUP\_SET\_SUMMARY provides summary information for a backup set.

| Column                         | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM_BACKUPSETS                 | NUMBER         | Total number of backup sets created                                                                                                                                                                                                                                                                                                                                                                                                                    |
| OLDEST_BACKUP_TIME             | DATE           | Oldest backup start time                                                                                                                                                                                                                                                                                                                                                                                                                               |
| NEWEST_BACKUP_TIME             | DATE           | Newest backup start time                                                                                                                                                                                                                                                                                                                                                                                                                               |
| OUTPUT_BYTES                   | NUMBER         | Number of output bytes (not including multiple copies)                                                                                                                                                                                                                                                                                                                                                                                                 |
| ORIGINAL_INPUT_BYTES           | NUMBER         | Number of input bytes when backup sets were created                                                                                                                                                                                                                                                                                                                                                                                                    |
| ORIGINAL_INPRATE_BYTES         | NUMBER         | Average input rate                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| OUTPUT_RATE_BYTES              | NUMBER         | Average output rate                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| COMPRESSION_RATIO              | NUMBER         | The ratio between the total blocks in the datafile and the blocks that RMAN backed up. This is <i>not</i> the ratio from the AS COMPRESSED BACKUPSET clause of the BACKUP command.                                                                                                                                                                                                                                                                     |
| ORIGINAL_INPUT_BYTES_DISPLAY   | VARCHAR2(4000) | Displayable format for input bytes                                                                                                                                                                                                                                                                                                                                                                                                                     |
| OUTPUT_BYTES_DISPLAY           | VARCHAR2(4000) | Displayable format for output bytes                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ORIGINAL_INPRATE_BYTES_DISPLAY | VARCHAR2(4000) | Displayable format for input rate                                                                                                                                                                                                                                                                                                                                                                                                                      |
| OUTPUT_RATE_BYTES_DISPLAY      | VARCHAR2(4000) | Displayable format for output rate                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID                         | NUMBER         | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.105 V\$BACKUP\_SPFILE

V\$BACKUP\_SPFILE displays information about server parameter files in backup sets from the control file.

| Column            | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RECID             | NUMBER        | Backup SPFILE record ID                                                                                                                                                                                                                                                                                                                                                                                                                         |
| STAMP             | NUMBER        | Backup SPFILE record stamp                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SET_STAMP         | NUMBER        | Backup set stamp (of the set which contains this SPFILE backup)                                                                                                                                                                                                                                                                                                                                                                                 |
| SET_COUNT         | NUMBER        | Backup set count (of the set which contains this SPFILE backup)                                                                                                                                                                                                                                                                                                                                                                                 |
| MODIFICATION_TIME | DATE          | Time when the SPFILE was last modified (this also includes creation time)                                                                                                                                                                                                                                                                                                                                                                       |
| BYTES             | NUMBER        | Size of the SPFILE (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                   |
| COMPLETION_TIME   | DATE          | Time when the backup of the SPFILE completed                                                                                                                                                                                                                                                                                                                                                                                                    |
| DB_UNIQUE_NAME    | VARCHAR2 (30) | Unique database name                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID            | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| GUID              | RAW (16)      | The GUID of the PDB to which the backup belongs. This is useful after the PDB is dropped to identify which PDB the backup belongs to.                                                                                                                                                                                                                                                                                                           |

## 8.106 V\$BACKUP\_SPFILE\_DETAILS

V\$BACKUP\_SPFILE\_DETAILS displays information about all restorable SP files backed up in the backup set.

| Column            | Datatype        | Description                                                                                                                                          |
|-------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| SESSION_KEY       | NUMBER          | Session identifier                                                                                                                                   |
| SESSION_RECID     | NUMBER          | Session recid                                                                                                                                        |
| SESSION_STAMP     | NUMBER          | Session stamp                                                                                                                                        |
| BS_KEY            | NUMBER          | Unique backup set identifier                                                                                                                         |
| SET_STAMP         | NUMBER          | Backup set stamp                                                                                                                                     |
| SET_COUNT         | NUMBER          | Backup set count                                                                                                                                     |
| MODIFICATION_TIME | DATE            | Time the backup set was modified                                                                                                                     |
| FILESIZE          | NUMBER          | Size, in bytes, of the SPFILE that was backed up                                                                                                     |
| FILESIZE_DISPLAY  | VARCHAR2 (4000) | Same value as the FILESIZE column, but converted to a user-displayable format, for example <i>nM</i> , <i>nG</i> , <i>nT</i> , <i>nP</i> , and so on |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.107 V\$BACKUP\_SPFILE\_SUMMARY

V\$BACKUP\_SPFILE\_SUMMARY provides summary information for input SP file, based on either a backup job or time range applicable to jobs.

| Column                    | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM_FILES_BACKED          | NUMBER          | Number of files backed up                                                                                                                                                                                                                                                                                                                                                                                                                       |
| NUM_DISTINCT_FILES_BACKED | NUMBER          | Number of distinct SP files backed up (with modification timestamp)                                                                                                                                                                                                                                                                                                                                                                             |
| MIN_MODIFICATION_TIME     | DATE            | Minimum modification time                                                                                                                                                                                                                                                                                                                                                                                                                       |
| MAX_MODIFICATION_TIME     | DATE            | Maximum modification time                                                                                                                                                                                                                                                                                                                                                                                                                       |
| INPUT_BYTES               | NUMBER          | Total input bytes for all SP files backed up                                                                                                                                                                                                                                                                                                                                                                                                    |
| INPUT_BYTES_DISPLAY       | VARCHAR2 (4000) | Displayable format for all input bytes                                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID                    | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.108 V\$BACKUP\_SYNC\_IO

V\$BACKUP\_SYNC\_IO displays performance information about ongoing and recently completed RMAN backups and restores.

For each backup, it contains one row for each input data file, one row for the aggregate total performance of all data files, and one row for the output backup piece. This data is not stored persistently, and is not preserved when the instance is re-started.

| Column            | Datatype | Description                                                            |
|-------------------|----------|------------------------------------------------------------------------|
| SID               | NUMBER   | The Oracle SID of the session doing the backup or restore              |
| SERIAL            | NUMBER   | The use count for the SID doing the backup or restore                  |
| USE_COUNT         | NUMBER   | A counter that can be used to identify rows from different backup sets |
| RMAN_STATUS_RECID | NUMBER   | Owning V\$RMAN_STATUS record ID                                        |
| RMAN_STATUS_STAMP | NUMBER   | Owning V\$RMAN_STATUS record stamp                                     |

| Column                     | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DEVICE_TYPE                | VARCHAR2 (17)  | The device type where the file is located                                                                                                                                                                                                                                                                                                                                                                                                       |
| TYPE                       | VARCHAR2 (9)   | INPUT, OUTPUT, or AGGREGATE                                                                                                                                                                                                                                                                                                                                                                                                                     |
| STATUS                     | VARCHAR2 (11)  | NOT STARTED, IN PROGRESS, or FINISHED                                                                                                                                                                                                                                                                                                                                                                                                           |
| FILENAME                   | VARCHAR2 (513) | The name of the backup file being read or written                                                                                                                                                                                                                                                                                                                                                                                               |
| SET_COUNT                  | NUMBER         | The set count of the backup set being read or written                                                                                                                                                                                                                                                                                                                                                                                           |
| SET_STAMP                  | NUMBER         | The set stamp of the backup set being read or written                                                                                                                                                                                                                                                                                                                                                                                           |
| BUFFER_SIZE                | NUMBER         | The size of the buffers being used to read/write this file, in bytes                                                                                                                                                                                                                                                                                                                                                                            |
| BUFFER_COUNT               | NUMBER         | The number of buffers being used to read/write this file                                                                                                                                                                                                                                                                                                                                                                                        |
| TOTAL_BYTES                | NUMBER         | The total number of bytes that will be read or written for this file, if known. If not known, this column will be null.                                                                                                                                                                                                                                                                                                                         |
| OPEN_TIME                  | DATE           | The time this file was opened. If TYPE='AGGREGATE', then this is the time that the first file in the aggregate was opened.                                                                                                                                                                                                                                                                                                                      |
| CLOSE_TIME                 | DATE           | The time this file was closed. If TYPE='AGGREGATE', then this is the time that the last file in the aggregate was closed.                                                                                                                                                                                                                                                                                                                       |
| ELAPSED_TIME               | NUMBER         | The time, in hundredths of a second, that the file was open                                                                                                                                                                                                                                                                                                                                                                                     |
| MAXOPENFILES               | NUMBER         | The number of concurrently open DISK files. This value is only present in rows where TYPE='AGGREGATE'.                                                                                                                                                                                                                                                                                                                                          |
| BYTES                      | NUMBER         | The number of bytes read or written so far                                                                                                                                                                                                                                                                                                                                                                                                      |
| EFFECTIVE_BYTES_PER_SECOND | NUMBER         | The I/O rate that was achieved with this device during this backup                                                                                                                                                                                                                                                                                                                                                                              |
| IO_COUNT                   | NUMBER         | The number of I/Os that were performed to this file                                                                                                                                                                                                                                                                                                                                                                                             |
| IO_TIME_TOTAL              | NUMBER         | The total time, in hundredths of a second, taken to do I/O for this file                                                                                                                                                                                                                                                                                                                                                                        |
| IO_TIME_MAX                | NUMBER         | The maximum time taken for a single I/O request                                                                                                                                                                                                                                                                                                                                                                                                 |
| DISCRETE_BYTES_PER_SECOND  | NUMBER         | The average transfer rate for this file                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID                     | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.109 V\$BGPROCESS

V\$BGPROCESS displays information about the background processes.

| Column      | Datatype      | Description                           |
|-------------|---------------|---------------------------------------|
| PADDR       | RAW (4   8)   | Address of the process state object   |
| PSERIAL#    | NUMBER        | Process state object serial number    |
| NAME        | VARCHAR2 (5)  | Name of this background process       |
| DESCRIPTION | VARCHAR2 (64) | Description of the background process |
| ERROR       | NUMBER        | Error encountered                     |

| Column     | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ATTRIBUTES | VARCHAR2 (512) | Attributes of the background process, in JSON format                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TYPE       | VARCHAR2 (5)   | This column has a value of <code>SLAVE</code> for all background worker processes, otherwise it is null.                                                                                                                                                                                                                                                                                                                                                                              |
| PRIORITY   | VARCHAR2 (8)   | Lists the current priority with which the process is running. This column has string values based on the operating system. On Linux, the values that can appear in this column are: <ul style="list-style-type: none"> <li>• <code>TS</code>: Time sharing</li> <li>• <code>RT</code>: Real time priority</li> </ul>                                                                                                                                                                  |
| CON_ID     | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• <code>0</code>: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• <code>1</code>: This value is used for rows containing data that pertain to only the root</li> <li>• <code>n</code>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.110 V\$BH

V\$BH displays the status and number of pings for every buffer in the SGA. This is an Oracle Real Application Clusters view.

| Column        | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE#         | NUMBER        | Data file identifier number (to find the file name, query <code>DBA_DATA_FILES</code> or <code>V\$DBFILE</code> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| BLOCK#        | NUMBER        | Block number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CLASS#        | NUMBER        | Class number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| STATUS        | VARCHAR2 (10) | Status of the buffer: <ul style="list-style-type: none"> <li>• <code>cr</code> - Consistent read</li> <li>• <code>flashcur</code> - A current flash cache buffer</li> <li>• <code>flashfree</code> - A free flash cache buffer</li> <li>• <code>free</code> - Not currently in use</li> <li>• <code>irec</code> - In instance recovery mode</li> <li>• <code>mrec</code> - In media recovery mode</li> <li>• <code>pi</code> - A past image in RAC mode</li> <li>• <code>pmemfree</code> - A free PMEM buffer</li> <li>• <code>pmemcr</code> - <code>pmemcr</code> - A consistent-read/previous version of a PMEM buffer</li> <li>• <code>pmemcur</code> - A current PMEM buffer</li> <li>• <code>read</code> - Being read from disk</li> <li>• <code>scur</code> - Shared current</li> <li>• <code>securefile</code> - A secured file buffer</li> <li>• <code>xcur</code> - Exclusive</li> </ul> |
| XNC           | NUMBER        | This column is obsolete. Its value is hard-coded to 0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| FORCED_READS  | NUMBER        | This column is obsolete. Its value is hard-coded to 0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| FORCED_WRITES | NUMBER        | This column is obsolete. Its value is hard-coded to 0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Column             | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LOCK_ELEMENT_ADDR  | RAW (4   8)  | Address of the lock element that contains the PCM lock that is covering the buffer. If more than one buffer has the same address, then these buffers are covered by the same PCM lock.                                                                                                                                                                                                                                                  |
| LOCK_ELEMENT_NAME  | NUMBER       | The address of the lock element that contains the PCM lock that is covering the buffer. If more than one buffer has the same address, then these buffers are covered by the same PCM lock.                                                                                                                                                                                                                                              |
| LOCK_ELEMENT_CLASS | NUMBER       | The address of the lock element that contains the PCM lock that is covering the buffer. If more than one buffer has the same address, then these buffers are covered by the same PCM lock.                                                                                                                                                                                                                                              |
| DIRTY              | VARCHAR2 (1) | Y - block modified                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TEMP               | VARCHAR2 (1) | Y - temporary block                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PING               | VARCHAR2 (1) | Y - block pinged                                                                                                                                                                                                                                                                                                                                                                                                                        |
| STALE              | VARCHAR2 (1) | Y - block is stale                                                                                                                                                                                                                                                                                                                                                                                                                      |
| DIRECT             | VARCHAR2 (1) | Y - direct block                                                                                                                                                                                                                                                                                                                                                                                                                        |
| NEW                | CHAR (1)     | Always set to N. This column is obsolete and maintained for backward compatibility.                                                                                                                                                                                                                                                                                                                                                     |
| OBJD               | NUMBER       | Database object number of the block that the buffer represents                                                                                                                                                                                                                                                                                                                                                                          |
| TS#                | NUMBER       | Tablespace number of block                                                                                                                                                                                                                                                                                                                                                                                                              |
| LOBID              | NUMBER       | If the buffer belongs to a SecureFiles object, the value in this column is the unique identifier for the SecureFiles object. For other buffer types, the value in this column is meaningless.                                                                                                                                                                                                                                           |
| CACHEHINT          | NUMBER       | Numeric representation of the values in the FLASH_CACHE and CELL_FLASH_CACHE columns. See the descriptions and possible values for the FLASH_CACHE and CELL_FLASH_CACHE columns in this view.                                                                                                                                                                                                                                           |
| FLASH_CACHE        | VARCHAR2 (7) | Database Smart Flash Cache hint to be used for segment blocks: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> Solaris and Oracle Linux functionality only.                                                                                                                                                                                                                                 |
| CELL_FLASH_CACHE   | VARCHAR2 (7) | Cell flash cache hint to be used for segment blocks: <ul style="list-style-type: none"> <li>• DEFAULT</li> <li>• KEEP</li> <li>• NONE</li> </ul> <b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                                                                                                                                             |
| XCUR_PIN HOLDER    | NUMBER       | ID of the Oracle process that holds the exclusive pin<br>You can join this column with the PID column of the V\$PROCESS and V\$WAIT_CHAINS views to obtain details about the process.                                                                                                                                                                                                                                                   |
| CON_ID             | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• n: Where n is the applicable container ID for the rows containing data</li> </ul> |

## 8.111 V\$BLOCK\_CHANGE\_TRACKING

V\$BLOCK\_CHANGE\_TRACKING displays the status of block change tracking for the database.

| Column   | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS   | VARCHAR2 (10)  | Status of block change tracking in the database: <ul style="list-style-type: none"><li>DISABLED - Block change tracking is disabled</li><li>TRANSITION - Block change tracking is in the process of transitioning between the enabled and disabled states. The TRANSITION state should usually never be observed, because it only exists while enabling or disabling block change tracking. This state might be observed if the instance crashed while enabling or disabling block change tracking, in which case it will be cleaned up automatically the next time that the database is opened.</li><li>ENABLED - Block change tracking is enabled</li></ul> |
| FILENAME | VARCHAR2 (513) | Name of the block change tracking file for the database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| BYTES    | NUMBER         | Size of the block change tracking file (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID   | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul>                                                                                                                                                                                                                   |



### See Also:

*Oracle Database Backup and Recovery User's Guide* for information on setting up block change tracking

## 8.112 V\$BLOCKING\_QUIESCE

V\$BLOCKING\_QUIESCE indicates if a session is blocking, or would block, a quiesce operation.

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID    | NUMBER   | Session identifier                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



## 8.113 V\$BT\_SCAN\_CACHE

V\$BT\_SCAN\_CACHE shows the parameters and status of the big table cache section.

| Column           | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BT_CACHE_ALLOC   | NUMBER   | Current ratio of the big table cache section to the buffer cache                                                                                                                                                                                                                                                                                                                                                                                |
| BT_CACHE_TARGET  | NUMBER   | Target ratio of the big table cache section to the buffer cache                                                                                                                                                                                                                                                                                                                                                                                 |
| OBJECT_COUNT     | NUMBER   | Number of objects tracked by the big table cache section                                                                                                                                                                                                                                                                                                                                                                                        |
| MEMORY_BUF_ALLOC | NUMBER   | Number of memory buffers allocated by the big table cache section to objects                                                                                                                                                                                                                                                                                                                                                                    |
| MIN_CACHED_TEMP  | NUMBER   | Minimum temperature of any object that is allowed to be cached by the big table cache section                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID           | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



### See Also:

"DB\_BIG\_TABLE\_CACHE\_PERCENT\_TARGET" for more information about enabling the big table cache

## 8.114 V\$BT\_SCAN\_OBJ\_TEMPS

V\$BT\_SCAN\_OBJ\_TEMPS shows the active objects currently tracked by the big table cache.

| Column        | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TS#           | NUMBER       | Tablespace number                                                                                                                                                                                                                                                                                                                                                                                                               |
| DATAOBJ#      | NUMBER       | Data object number (objd)                                                                                                                                                                                                                                                                                                                                                                                                       |
| SIZE_IN_BLKs  | NUMBER       | Size of the object being scanned on this instance, in blocks                                                                                                                                                                                                                                                                                                                                                                    |
| TEMPERATURE   | NUMBER       | Temperature of this object                                                                                                                                                                                                                                                                                                                                                                                                      |
| POLICY        | VARCHAR2(10) | Caching policy of this object. Possible values: <ul style="list-style-type: none"> <li>MEM_ONLY: This object will be fully cached in memory.</li> <li>MEM_PART: This object will be partially cached in memory and some portion will remain on disk and will not be cached.</li> <li>DISK: this object will not be cached in memory or flash for the scan at all.</li> <li>INVALID: The caching policy is not valid.</li> </ul> |
| CACHED_IN_MEM | NUMBER       | The number of blocks that are cached/allocated in memory for this object                                                                                                                                                                                                                                                                                                                                                        |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

"[DB\\_BIG\\_TABLE\\_CACHE\\_PERCENT\\_TARGET](#)" for more information about enabling the big table cache

## 8.115 V\$BUFFER\_POOL

V\$BUFFER\_POOL displays information about all buffer pools available for the instance.

| Column         | Datatype      | Description                                                                                                                                                                                                                                                                                            |
|----------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ID             | NUMBER        | Buffer pool identifier number                                                                                                                                                                                                                                                                          |
| NAME           | VARCHAR2 (20) | Name of the buffer pool: <ul style="list-style-type: none"> <li>DEFAULT</li> <li>KEEP</li> <li>RECYCLE</li> </ul> <p><b>Note:</b> Currently, <b>KEEP</b> and <b>RECYCLE</b> pools only exist for the standard block size. All nonstandard block size pools are <b>DEFAULT</b>.</p>                     |
| BLOCK_SIZE     | NUMBER        | Block size (in bytes) for buffers in this pool. Possible values: the standard block size, the power of 2 nonstandard block sizes, 2048, 4096, 8192, 16384, 32768.                                                                                                                                      |
| RESIZE_STATE   | VARCHAR2 (10) | Current state of the resize operation: <p>STATIC - Not being resized</p> <p>ALLOCATING - Memory is being allocated (can be canceled by the user)</p> <p>ACTIVATING - New buffers are being created (user cannot cancel)</p> <p>SHRINKING - Buffers are being deleted (can be canceled by the user)</p> |
| CURRENT_SIZE   | NUMBER        | Present size of the sub-cache (in megabytes)                                                                                                                                                                                                                                                           |
| BUFFERS        | NUMBER        | Current instantaneous number of buffers                                                                                                                                                                                                                                                                |
| TARGET_SIZE    | NUMBER        | If a resize is in progress (state is not <b>STATIC</b> ), records new target size (in megabytes). If the pool is <b>STATIC</b> , the value in this column is the same as the current size of the pool.                                                                                                 |
| TARGET_BUFFERS | NUMBER        | If a resize is in progress, records new target size in terms of buffers. Otherwise, the value in this column is the same as the current number of buffers.                                                                                                                                             |
| PREV_SIZE      | NUMBER        | Previous buffer pool size. If the buffer pool has never been resized, the previous size is zero.                                                                                                                                                                                                       |

| Column       | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PREV_BUFFERS | NUMBER   | Previous number of buffers in the buffer pool. Value is zero if the buffer pool has never been resized.                                                                                                                                                                                                                                                                                                                                         |
| LO_BNUM      | NUMBER   | Obsolete column                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| HI_BNUM      | NUMBER   | Obsolete column                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| LO_SETID     | NUMBER   | Obsolete column                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| HI_SETID     | NUMBER   | Obsolete column                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SET_COUNT    | NUMBER   | Obsolete column                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID       | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"DB\_BLOCK\_SIZE"

## 8.116 V\$BUFFER\_POOL\_STATISTICS

V\$BUFFER\_POOL\_STATISTICS displays statistics about all buffer pools available for the instance.

| Column                  | Datatype      | Description                                                                                                                                                       |
|-------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ID                      | NUMBER        | Buffer pool identifier number                                                                                                                                     |
| NAME                    | VARCHAR2 (20) | Name of the buffer pool                                                                                                                                           |
| BLOCK_SIZE              | NUMBER        | Block size (in bytes) for buffers in this pool. Possible values: the standard block size, the power of 2 nonstandard block sizes, 2048, 4096, 8192, 16384, 32768. |
| SET_MSIZE               | NUMBER        | Buffer pool maximum set size                                                                                                                                      |
| CNUM_REPL               | NUMBER        | Number of buffers on replacement list                                                                                                                             |
| CNUM_WRITE              | NUMBER        | Number of buffers on write list                                                                                                                                   |
| CNUM_SET                | NUMBER        | Number of buffers in set                                                                                                                                          |
| BUF_GOT                 | NUMBER        | Number of buffers gotten by the set                                                                                                                               |
| SUM_WRITE               | NUMBER        | Number of buffers written by the set                                                                                                                              |
| SUM_SCAN                | NUMBER        | Number of buffers scanned in the set                                                                                                                              |
| FREE_BUFFER_WAIT        | NUMBER        | Free buffer wait statistic                                                                                                                                        |
| WRITE_COMPLETE_WAIT     | NUMBER        | Write complete wait statistic                                                                                                                                     |
| BUFFER_BUSY_WAIT        | NUMBER        | Buffer busy wait statistic                                                                                                                                        |
| FREE_BUFFER_INSPECTED   | NUMBER        | Free buffer inspected statistic                                                                                                                                   |
| DIRTY_BUFFERS_INSPECTED | NUMBER        | Dirty buffers inspected statistic                                                                                                                                 |

| Column          | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DB_BLOCK_CHANGE | NUMBER   | Database blocks changed statistic                                                                                                                                                                                                                                                                                                                                                                                                               |
| DB_BLOCK_GETS   | NUMBER   | Database blocks gotten statistic                                                                                                                                                                                                                                                                                                                                                                                                                |
| CONSISTENT_GETS | NUMBER   | Consistent gets statistic                                                                                                                                                                                                                                                                                                                                                                                                                       |
| PHYSICAL_READS  | NUMBER   | Physical reads statistic                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PHYSICAL_WRITES | NUMBER   | Physical writes statistic                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID          | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"DB\_CACHE\_SIZE"

## 8.117 V\$BUFFERED\_PUBLISHERS

V\$BUFFERED\_PUBLISHERS displays information about all buffered publishers in the instance.

There is one row per queue per sender. The values are reset to zero when the database (or instance in an Oracle RAC environment) restarts.

| Column            | Datatype        | Description                                                                                                                                      |
|-------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUE_ID          | NUMBER          | Identifier for the queue                                                                                                                         |
| QUEUE_SCHEMA      | VARCHAR2 (128)  | Owner of the queue                                                                                                                               |
| QUEUE_NAME        | VARCHAR2 (128)  | Name of the queue                                                                                                                                |
| SENDER_NAME       | VARCHAR2 (128)  | Name of the agent enqueueing the message (the Streams name assigned for a capture process)                                                       |
| SENDER_ADDRESS    | VARCHAR2 (1024) | Queue name and database name of the source (last propagating) queue; database name is not specified if the source queue is in the local database |
| SENDER_PROTOCOL   | NUMBER          | Protocol used by the sender's address                                                                                                            |
| NUM_MSGS          | NUMBER          | Current number of messages that have yet to be dequeued from the buffer queue                                                                    |
| CNUM_MSGS         | NUMBER          | Cumulative total number of messages enqueued into the buffered queue since the database last started                                             |
| LAST_ENQUEUED_MSG | NUMBER          | Most recently enqueued message identifier                                                                                                        |
| UNBROWSED_MSGS    | NUMBER          | Number of messages that have been enqueued but not browsed                                                                                       |
| OVERSPILLED_MSGS  | NUMBER          | Number of messages that have been spilled but not browsed                                                                                        |
| MEMORY_USAGE      | NUMBER          | Percentage of the Streams pool that is being used (or 0 if there is no Streams pool)                                                             |

| Column               | Datatype                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ELAPSED_ENQUEUE_TIME | NUMBER                      | Total time spent in enqueue (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                         |
| ENQUEUE_CPU_TIME     | NUMBER                      | Total CPU time for enqueue (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                          |
| LAST_ENQUEUE_TIME    | TIMESTAMP(3) WITH TIME ZONE | Last message enqueue time                                                                                                                                                                                                                                                                                                                                                                                                                       |
| PUBLISHER_STATE      | VARCHAR2(59)                | State of the publisher: <ul style="list-style-type: none"> <li>IN FLOW CONTROL: TOO MANY UNBROWSED MESSAGES</li> <li>IN FLOW CONTROL: OVERSPILLED MESSAGES</li> <li>IN FLOW CONTROL: INSUFFICIENT MEMORY AND UNBROWSED MESSAGES</li> <li>PUBLISHING MESSAGES - Normal</li> </ul>                                                                                                                                                                |
| CON_ID               | NUMBER                      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.118 V\$BUFFERED\_QUEUES

V\$BUFFERED\_QUEUES displays information about all buffered queues in the instance. There is one row per queue.

| Column                      | Datatype      | Description                                                                                                          |
|-----------------------------|---------------|----------------------------------------------------------------------------------------------------------------------|
| QUEUE_ID                    | NUMBER        | Identifier for the queue                                                                                             |
| QUEUE_SCHEMA                | VARCHAR2(128) | Owner of the queue                                                                                                   |
| QUEUE_NAME                  | VARCHAR2(128) | Name of the queue                                                                                                    |
| STARTUP_TIME                | DATE          | Startup time                                                                                                         |
| NUM_MSGS                    | NUMBER        | Total number of messages currently in the buffered queue                                                             |
| SPILL_MSGS                  | NUMBER        | Current number of overflow messages spilled to disk from the buffered queue                                          |
| CNUM_MSGS                   | NUMBER        | Cumulative total number of messages enqueued into the buffered queue since the database last started                 |
| CSPILL_MSGS                 | NUMBER        | Cumulative total number of overflow messages spilled to disk from the buffered queue since the database last started |
| EXPIRED_MSGS                | NUMBER        | Number of expired messages                                                                                           |
| OLDEST_MSGID                | RAW(16)       | Message ID of the oldest message                                                                                     |
| OLDEST_MSG_ENQTM            | TIMESTAMP(3)  | Enqueue time of the oldest message                                                                                   |
| QUEUE_STATE                 | VARCHAR2(25)  | Indicates whether the queue is in recovery mode (QUEUE IS IN RECOVERY MODE) or not (NORMAL)                          |
| ELAPSED_ENQUEUE_TIME        | NUMBER        | Total time spent in enqueue (in hundredths of a second)                                                              |
| ELAPSED_DEQUEUE_TIME        | NUMBER        | Total time spent in dequeue (in hundredths of a second)                                                              |
| ELAPSED_TRANSFORMATION_TIME | NUMBER        | Total time for evaluating transformations (in hundredths of a second)                                                |

| Column                       | Datatype                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ELAPSED_RULE_EVALUATION_TIME | NUMBER                      | Total time for rule evaluations (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                     |
| ENQUEUE_CPU_TIME             | NUMBER                      | Total CPU time for enqueue (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                          |
| DEQUEUE_CPU_TIME             | NUMBER                      | Total CPU time for dequeue (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                          |
| AVG_MSG_AGE                  | NUMBER                      | Average age of messages in the queue                                                                                                                                                                                                                                                                                                                                                                                                            |
| LAST_ENQUEUE_TIME            | TIMESTAMP(3) WITH TIME ZONE | Last message enqueue time                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LAST_DEQUEUE_TIME            | TIMESTAMP(3) WITH TIME ZONE | Last message dequeue time                                                                                                                                                                                                                                                                                                                                                                                                                       |
| QUEUE_SIZE                   | NUMBER                      | Size of queue, which is the total number of bytes allocated for all messages and metadata                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID                       | NUMBER                      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.119 V\$BUFFERED\_SUBSCRIBERS

V\$BUFFERED\_SUBSCRIBERS displays information about the subscribers for all buffered queues in the instance. There is one row per subscriber per queue.

| Column             | Datatype       | Description                                                                                                                                              |
|--------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUE_ID           | NUMBER         | Identifier for the queue                                                                                                                                 |
| QUEUE_SCHEMA       | VARCHAR2(128)  | Owner of the queue                                                                                                                                       |
| QUEUE_NAME         | VARCHAR2(128)  | Name of the queue                                                                                                                                        |
| SUBSCRIBER_ID      | NUMBER         | Internal subscriber number (for identification)                                                                                                          |
| SUBSCRIBER_NAME    | VARCHAR2(512)  | Name of the subscriber                                                                                                                                   |
| SUBSCRIBER_ADDRESS | VARCHAR2(1024) | Address of the subscribing agent                                                                                                                         |
| PROTOCOL           | NUMBER         | Protocol of the subscribing agent                                                                                                                        |
| SUBSCRIBER_TYPE    | VARCHAR2(128)  | Type of the subscriber: <ul style="list-style-type: none"> <li>PROXY - Proxy subscriber</li> <li>SUBSCRIBER</li> </ul>                                   |
| STARTUP_TIME       | DATE           | Startup time                                                                                                                                             |
| LAST_BROWSED_SEQ   | NUMBER         | Sequence number of the most recently browsed message for the subscriber (comparable to the number of messages in the V\$STREAMS_APPLY_READER view)       |
| LAST_BROWSED_NUM   | NUMBER         | Internal Message number for the most recently browsed message for the subscriber                                                                         |
| LAST_DEQUEUED_SEQ  | NUMBER         | Sequence number of the most recently dequeued message for the subscriber (comparable to the number of messages in the V\$STREAMS_APPLY_COORDINATOR view) |

| Column               | Datatype                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LAST_DEQUEUED_NUM    | NUMBER                       | Internal Message number for the most recently dequeued message for the subscriber                                                                                                                                                                                                                                                                                                                                                               |
| CURRENT_ENQ_SEQ      | NUMBER                       | Current sequence number of the most recently enqueued message for the subscriber                                                                                                                                                                                                                                                                                                                                                                |
| NUM_MSGS             | NUMBER                       | Total number of outstanding messages currently enqueued in the buffered queue for the subscriber (includes the count of the messages overflowed to disk)                                                                                                                                                                                                                                                                                        |
| CNUM_MSGS            | NUMBER                       | Cumulative total number of messages enqueued for the subscriber since the database last started                                                                                                                                                                                                                                                                                                                                                 |
| TOTAL_DEQUEUED_MSG   | NUMBER                       | Total number of messages dequeued by the subscriber                                                                                                                                                                                                                                                                                                                                                                                             |
| TOTAL_SPILLED_MSG    | NUMBER                       | Total number of spilled messages for the subscriber                                                                                                                                                                                                                                                                                                                                                                                             |
| EXPIRED_MSGS         | NUMBER                       | Number of expired messages                                                                                                                                                                                                                                                                                                                                                                                                                      |
| MESSAGE_LAG          | NUMBER                       | Message lag of the subscriber                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ELAPSED_DEQUEUE_TIME | NUMBER                       | Total time spent in dequeue (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                         |
| DEQUEUE_CPU_TIME     | NUMBER                       | Total CPU time for dequeue (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                          |
| AVG_MSG_AGE          | NUMBER                       | Average age of messages currently enqueued in the buffered queue for the subscriber                                                                                                                                                                                                                                                                                                                                                             |
| LAST_DEQUEUE_TIME    | TIMESTAMP (3) WITH TIME ZONE | Last message dequeue time                                                                                                                                                                                                                                                                                                                                                                                                                       |
| OLDEST_MSGID         | RAW (16)                     | Message ID of the oldest message                                                                                                                                                                                                                                                                                                                                                                                                                |
| OLDEST_MSG_ENQTM     | TIMESTAMP (3)                | Enqueue time of the oldest message                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID               | NUMBER                       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.120 V\$CACHE

V\$CACHE displays information from the block header of each block in the SGA of the current instance as related to particular database objects. This is an Oracle Real Application Clusters view.

| Column | Datatype | Description                                                                            |
|--------|----------|----------------------------------------------------------------------------------------|
| FILE#  | NUMBER   | Data file identifier number (to find the file name, query DBA_DATA_FILES or V\$DBFILE) |
| BLOCK# | NUMBER   | Block number                                                                           |
| CLASS# | NUMBER   | Class number                                                                           |

| Column            | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS            | VARCHAR2 (10)  | Status of the block: <ul style="list-style-type: none"> <li>• free - Not currently in use</li> <li>• xcur - Exclusive</li> <li>• scur - Shared current</li> <li>• cr - Consistent read</li> <li>• read - Being read from disk</li> <li>• mrec - In media recovery mode</li> <li>• irec - In instance recovery mode</li> </ul>                                                                                                                                                                                                                            |
| XNC               | NUMBER         | Number of PCM x to null lock conversions due to contention with another instance. This column is obsolete and maintained for backward compatibility.                                                                                                                                                                                                                                                                                                                                                                                                     |
| FORCED_READS      | NUMBER         | Number of times the block had to be reread from the cache because another instance has forced it out of this instance's cache by requesting the lock on the block in exclusive mode                                                                                                                                                                                                                                                                                                                                                                      |
| FORCED_WRITES     | NUMBER         | Number of times GCS had to write this block to cache because this instance had used the block and another instance had requested the lock on the block in a conflicting mode                                                                                                                                                                                                                                                                                                                                                                             |
| NAME              | VARCHAR2 (128) | Name of the database object containing the block                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PARTITION_NAME    | VARCHAR2 (128) | Name of the partition (null for nonpartitioned objects)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| KIND              | VARCHAR2 (15)  | Type of the database object: <ul style="list-style-type: none"> <li>• INDEX</li> <li>• TABLE</li> <li>• CLUSTER</li> <li>• VIEW</li> <li>• SYNONYM</li> <li>• SEQUENCE</li> <li>• PROCEDURE</li> <li>• FUNCTION</li> <li>• PACKAGE</li> <li>• NON-EXISTENT</li> <li>• PACKAGE BODY</li> <li>• TRIGGER</li> <li>• TYPE</li> <li>• TYPE BODY</li> <li>• TABLE PARTITION</li> <li>• INDEX PARTITION</li> <li>• LOB</li> <li>• LIBRARY</li> <li>• JAVA SOURCE</li> <li>• JAVA CLASS</li> <li>• JAVA RESOURCE</li> <li>• JAVA DATA</li> <li>• UNDO</li> </ul> |
| OWNER#            | NUMBER         | Owner number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| LOCK_ELEMENT_ADDR | RAW (4   8)    | Address of the lock element that contains the PCM lock that is covering the buffer. If more than one buffer has the same address, then these buffers are covered by the same PCM lock.                                                                                                                                                                                                                                                                                                                                                                   |
| LOCK_ELEMENT_NAME | NUMBER         | Name of the lock element that contains the PCM lock that is covering the buffer. If more than one buffer has the same address, then these buffers are covered by the same PCM lock.                                                                                                                                                                                                                                                                                                                                                                      |



| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.121 V\$CACHE\_LOCK

V\$CACHE\_LOCK is deprecated. The information that was provided in this view is now provided in the V\$INSTANCE\_CACHE\_TRANSFER and V\$SEGMENT\_STATISTICS views.

| Column        | Datatype       | Description                                                                                                                                                                                                                                                                                                           |
|---------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE#         | NUMBER         | Data file identifier number (to find file name, query DBA_DATA_FILES or V\$DBFILE)                                                                                                                                                                                                                                    |
| BLOCK#        | NUMBER         | Block number                                                                                                                                                                                                                                                                                                          |
| STATUS        | VARCHAR2 (10)  | Status of the block: <ul style="list-style-type: none"><li>• free - Not currently in use</li><li>• xcur - Exclusive</li><li>• scur - Shared current</li><li>• cr - Consistent read</li><li>• read - Being read from disk</li><li>• mrec - In media recovery mode</li><li>• irec - In instance recovery mode</li></ul> |
| XNC           | NUMBER         | Number of parallel cache management (PCM) lock conversions due to contention with another instance                                                                                                                                                                                                                    |
| FORCED_READS  | NUMBER         | Number of times the block had to be reread from the cache because another instance has forced it out of this instance's cache by requesting the lock on the block in exclusive mode                                                                                                                                   |
| FORCED_WRITES | NUMBER         | Number of times GCS had to write this block to cache because this instance had used the block and another instance had requested the lock on the block in a conflicting mode                                                                                                                                          |
| NAME          | VARCHAR2 (128) | Name of the database object containing the block                                                                                                                                                                                                                                                                      |

| Column            | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KIND              | VARCHAR2 (15) | Type of database object: <ul style="list-style-type: none"> <li>1 - Index</li> <li>2 - Table</li> <li>3 - Cluster</li> <li>4 - View</li> <li>5 - Synonym</li> <li>6 - Sequence</li> <li>7 - Procedure</li> <li>8 - Function</li> <li>9 - Package</li> <li>10 - Nonexistent</li> <li>11 - Package body</li> <li>12 - Trigger</li> <li>13 - Type</li> <li>14 - Type body</li> <li>19 - Table partition</li> <li>20 - Index partition</li> <li>21 - LOB</li> <li>22 - Library</li> <li>Null - Unknown</li> </ul> |
| OWNER#            | NUMBER        | Owner number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| LOCK_ELEMENT_ADDR | RAW (4   8)   | Address of the lock element that contains the PCM lock that is covering the buffer. If more than one buffer has the same address, then these buffers are covered by the same PCM lock.                                                                                                                                                                                                                                                                                                                        |
| LOCK_ELEMENT_NAME | NUMBER        | Address of the lock element that contains the PCM lock that is covering the buffer. If more than one buffer has the same address, then these buffers are covered by the same PCM lock.                                                                                                                                                                                                                                                                                                                        |
| INDX              | NUMBER        | Platform-specific lock manager identifier                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CLASS             | NUMBER        | Platform-specific lock manager identifier                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID            | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                               |

## 8.122 V\$CACHE\_TRANSFER

V\$CACHE\_TRANSFER is identical to the V\$CACHE view but only displays blocks that have been pinged at least once.

This view contains information from the block header of each block in the SGA of the current instance as related to particular database objects. This is an Oracle Real Application Clusters view.

| Column            | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE#             | NUMBER         | Data file identifier number (to find the file name, query DBA_DATA_FILES or V\$DBFILE)                                                                                                                                                                                                                                                                                                                                                                |
| BLOCK#            | NUMBER         | Block number                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CLASS#            | NUMBER         | Class number                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| STATUS            | VARCHAR2 (10)  | Status of the block: <ul style="list-style-type: none"> <li>• free - Not currently in use</li> <li>• xcur - Exclusive</li> <li>• scur - Shared current</li> <li>• cr - Consistent read</li> <li>• read - Being read from disk</li> <li>• mrec - In media recovery mode</li> <li>• irec - In instance recovery mode</li> </ul>                                                                                                                         |
| XNC               | NUMBER         | Number of PCM lock conversions due to contention with another instance. This column is obsolete and maintained for backward compatibility.                                                                                                                                                                                                                                                                                                            |
| FORCED_READS      | NUMBER         | Number of times the block had to be reread from the cache because another instance has forced it out of this instance's cache by requesting the lock on the block in exclusive mode                                                                                                                                                                                                                                                                   |
| FORCED_WRITES     | NUMBER         | Number of times GCS had to write this block to cache because this instance had used the block and another instance had requested the lock on the block in a conflicting mode                                                                                                                                                                                                                                                                          |
| NAME              | VARCHAR2 (128) | Name of the database object containing the block                                                                                                                                                                                                                                                                                                                                                                                                      |
| PARTITION_NAME    | VARCHAR2 (128) | NULL for nonpartitioned objects                                                                                                                                                                                                                                                                                                                                                                                                                       |
| KIND              | VARCHAR2 (15)  | Type of database object<br><b>See Also:</b> <a href="#">Table 9-1</a>                                                                                                                                                                                                                                                                                                                                                                                 |
| OWNER#            | NUMBER         | Owner number                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| LOCK_ELEMENT_ADDR | RAW (4   8)    | Address of the lock element that contains the PCM lock that is covering the buffer. If more than one buffer has the same address, then these buffers are covered by the same PCM lock.                                                                                                                                                                                                                                                                |
| LOCK_ELEMENT_NAME | NUMBER         | The name of the lock that contains the PCM lock that is covering the buffer                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID            | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

**"V\$CACHE"**

## 8.123 V\$CHUNK\_METRIC

V\$CHUNK\_METRIC displays the metric values captured for the most recent 30-second intervals for the workload against each chunk available on the database.

| Column       | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BEGIN_TIME   | DATE     | Begin time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                      |
| END_TIME     | DATE     | End time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                        |
| INTSIZE_CSEC | NUMBER   | Interval size (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                       |
| CHUNK_ID     | NUMBER   | Chunk number (internal)                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CALLSPERSEC  | NUMBER   | Number of user calls per second to the chunks                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID       | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$SERVICE\_REGION\_METRIC"

## 8.124 V\$CIRCUIT

V\$CIRCUIT contains information about virtual circuits, which are user connections to the database through dispatchers and servers.

| Column     | Datatype      | Description                                                                                                                                                                                                                                                 |
|------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CIRCUIT    | RAW (4   8)   | Circuit address                                                                                                                                                                                                                                             |
| DISPATCHER | RAW (4   8)   | Current dispatcher process address                                                                                                                                                                                                                          |
| SERVER     | RAW (4   8)   | Current server process address                                                                                                                                                                                                                              |
| WAITER     | RAW (4   8)   | Address of the server process that is waiting for the (currently busy) circuit to become available                                                                                                                                                          |
| SADDR      | RAW (4   8)   | Address of the session bound to the circuit                                                                                                                                                                                                                 |
| STATUS     | VARCHAR2 (16) | Status of the circuit: <ul style="list-style-type: none"> <li>BREAK - currently interrupted</li> <li>EOF - about to be removed</li> <li>OUTBOUND - an outward link to a remote database</li> <li>NORMAL - normal circuit into the local database</li> </ul> |

| Column       | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUE        | VARCHAR2 (16)  | Queue the circuit is currently on: <ul style="list-style-type: none"> <li>COMMON - on the common queue, waiting to be picked up by a server process</li> <li>DISPATCHER - waiting for the dispatcher</li> <li>SERVER - currently being serviced</li> <li>NONE - idle circuit</li> </ul>                                                                                                                                                                                                                                                                                              |
| MESSAGE0     | NUMBER         | Size in bytes of the messages in the first message buffer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| MESSAGE1     | NUMBER         | Size in bytes of the messages in the second message buffer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| MESSAGE2     | NUMBER         | Size in bytes of the messages in the third message buffer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| MESSAGE3     | NUMBER         | Size in bytes of the messages in the fourth message buffer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| MESSAGES     | NUMBER         | Total number of messages that have gone through this circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| BYTES        | NUMBER         | Total number of bytes that have gone through this circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| BREAKS       | NUMBER         | Total number of breaks (interruptions) for this circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| PRESENTATION | VARCHAR2 (257) | Presentation protocol used by the client and server                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PCIRCUIT     | RAW (4   8)    | Address of the parent circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| BOUND_TIME   | NUMBER         | Time that a circuit and shared server have been bound (in centiseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| BOUND_REASON | VARCHAR2 (32)  | Provides a reason (a short explanation) for why a shared server and circuit could not be unbound.<br><br>This column is empty when a circuit is not bound to a server.<br><br>When the server starts serving a circuit, BOUND_REASON is empty and remains empty unless the server tries unsuccessfully to unbind the circuit (after it finishes serving the current request).<br><br>When this column is not empty, it will be cleared once the server and circuit are unbound (that is, once the resources preventing the session migration to another shared server are released). |
| CON_ID       | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                    |

## 8.125 V\$CLASS\_CACHE\_TRANSFER

V\$CLASS\_CACHE\_TRANSFER is deprecated. The information that was provided in this view is now provided in the V\$INSTANCE\_CACHE\_TRANSFER and V\$SEGMENT\_STATISTICS views.

| Column                | Datatype  | Description                                                     |
|-----------------------|-----------|-----------------------------------------------------------------|
| CLASS                 | CHAR (10) | Block class; always data block                                  |
| X_2_NULL              | NUMBER    | Number of blocks with Exclusive-to-NULL conversions; always 0   |
| X_2_NULL_FORCED_WRITE | NUMBER    | Number of Exclusive-to-NULL forced writes; always 0             |
| X_2_NULL_FORCED_STALE | NUMBER    | Number of Exclusive-to-NULL blocks converted to CR; always 0    |
| X_2_S                 | NUMBER    | Number of blocks with Exclusive-to-Shared conversions; always 0 |

| Column                | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X_2_S_FORCED_WRITE    | NUMBER   | Number of Exclusive-to-Shared forced writes; always 0                                                                                                                                                                                                                                                                                                                                                                                                  |
| S_2_NULL              | NUMBER   | Number of blocks with Shared-to-NULL conversions; always 0                                                                                                                                                                                                                                                                                                                                                                                             |
| S_2_NULL_FORCED_STALE | NUMBER   | Number of Shared-to-NULL blocks converted to CR; always 0                                                                                                                                                                                                                                                                                                                                                                                              |
| NULL_2_X              | NUMBER   | Number of blocks with NULL-to-Exclusive conversions; always 0                                                                                                                                                                                                                                                                                                                                                                                          |
| S_2_X                 | NUMBER   | Number of blocks with Shared-to-Exclusive conversions; always 0                                                                                                                                                                                                                                                                                                                                                                                        |
| NULL_2_S              | NUMBER   | Number of blocks with NULL-to-Shared conversions; always 0                                                                                                                                                                                                                                                                                                                                                                                             |
| CR_TRANSFER           | NUMBER   | Number of CR blocks transferred; always 0                                                                                                                                                                                                                                                                                                                                                                                                              |
| CURRENT_TRANSFER      | NUMBER   | Number of current blocks transferred; always 0                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID                | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

- "V\$INSTANCE\_CACHE\_TRANSFER"
- "V\$SEGMENT\_STATISTICS"

## 8.126 V\$CLEANUP\_PROCESS

V\$CLEANUP\_PROCESS provides information on the PMON processes.

| Column                  | Datatype     | Description                                                                                                                                                        |
|-------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME                    | VARCHAR2 (5) | Name of the cleanup process (PMON, CLMN, CL**)                                                                                                                     |
| PADDR                   | RAW (8)      | Process pointer for the cleanup process (can join with V\$PROCESS)                                                                                                 |
| SADDR                   | RAW (8)      | Session pointer for the cleanup process (can join with V\$SESSION)                                                                                                 |
| STATE                   | VARCHAR2 (4) | <p>Cleanup process state:</p> <ul style="list-style-type: none"> <li>IDLE: Not currently performing cleanup</li> <li>BUSY: Currently performing cleanup</li> </ul> |
| DEAD_IN_CLEANUP         | RAW (8)      | Pointer to the root of the tree in cleanup (can join with ROOT_ADDR in V\$DEAD_CLEANUP)                                                                            |
| CLEANUP_TIME            | NUMBER       | If STATE = BUSY, the time spent in the current cleanup attempt (in seconds). Otherwise, 0.                                                                         |
| TIME_SINCE_LAST_CLEANUP | NUMBER       | If STATE = IDLE, time since last needed to perform cleanup (in seconds). Otherwise, 0.                                                                             |
| NUM_CLEANED             | NUMBER       | Number of trees cleaned up by the cleanup process. Increased by one every time a root tree is attempted.                                                           |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire multitenant container database (CDB). This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$DEAD\_CLEANUP"

## 8.127 V\$CLIENT\_SECRETS

V\$CLIENT\_SECRETS lists the secrets that are present in the keystore.

Only SYS, SYSKM, and users with the ADMINISTER KEY MANAGEMENT privilege can access this view.

| Column                | Datatype                     | Description                                                                                                                                                                                                                                                                                    |
|-----------------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CLIENT                | VARCHAR2 (2000)              | Name provided by the client                                                                                                                                                                                                                                                                    |
| SECRET_TAG            | VARCHAR2 (4000)              | Associated information with the client                                                                                                                                                                                                                                                         |
| CREATION_TIME         | TIMESTAMP (6) WITH TIME ZONE | Time when the secret was created                                                                                                                                                                                                                                                               |
| ACTIVATION_TIME       | TIMESTAMP (6) WITH TIME ZONE | Time when the secret was actually put to use                                                                                                                                                                                                                                                   |
| OWNER                 | VARCHAR2 (128)               | User who created the secret                                                                                                                                                                                                                                                                    |
| OWNER_ID              | NUMBER                       | User ID of the user who created the secret                                                                                                                                                                                                                                                     |
| KESTORE_TYPE          | VARCHAR2 (17)                | <p>Type of keystore in which the secret is stored:</p> <ul style="list-style-type: none"> <li>OKV - Oracle Key Vault</li> <li>SOFTWARE KEYSTORE</li> <li>UNDEFINED - This value is shown if the database has no information about the type of keystore where the master key resides</li> </ul> |
| BACKED_UP             | VARCHAR2 (9)                 | Indicates whether the secret has been backed up or not                                                                                                                                                                                                                                         |
| OWNER_DBNAME          | VARCHAR2 (128)               | Database that created the secret                                                                                                                                                                                                                                                               |
| OWNER_DBID            | NUMBER                       | Database ID where the secret was created                                                                                                                                                                                                                                                       |
| OWNER_INSTANCE_NAME   | VARCHAR2 (30)                | Instance name of the instance where the secret was created                                                                                                                                                                                                                                     |
| OWNER_INSTANCE_NUMBER | NUMBER                       | Instance number of the instance where the secret was created                                                                                                                                                                                                                                   |
| OWNER_INSTANCE_SERIAL | NUMBER                       | Serial number of the instance where the secret was created                                                                                                                                                                                                                                     |
| OWNER_PDBNAME         | VARCHAR2 (128)               | Pluggable database (PDB) where the secret was created                                                                                                                                                                                                                                          |
| OWNER_PDBID           | NUMBER                       | PDB ID where the secret was created                                                                                                                                                                                                                                                            |

| Column        | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER_PDBUID  | NUMBER   | PDB UID where the secret was created                                                                                                                                                                                                                                                                                                                                                                                                        |
| OWNER_PDBGUID | RAW (16) | PDB GUID where the secret was created                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID        | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

*Oracle Database Transparent Data Encryption Guide* for information about keystore management

## 8.128 V\$CLIENT\_STATS

V\$CLIENT\_STATS displays measures for all sessions that are active for the client identifier per instance.

The statistics available in this view are a subset of those available in V\$SESSTAT and V\$SESS\_TIME\_MODEL.

| Column            | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CLIENT_IDENTIFIER | VARCHAR2 (64) | Client identifier                                                                                                                                                                                                                                                                                                                                                                                                                           |
| STAT_ID           | NUMBER        | Statistic identifier                                                                                                                                                                                                                                                                                                                                                                                                                        |
| STAT_NAME         | VARCHAR2 (64) | Derived statistic name from V\$STATNAME and V\$SESS_TIME_MODEL                                                                                                                                                                                                                                                                                                                                                                              |
| VALUE             | NUMBER        | Cumulative value (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID            | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

- "V\$SESSTAT"
- "V\$SESS\_TIME\_MODEL"



## 8.129 V\$CLONEDFILE

V\$CLONEDFILE provides CloneDB file information.

| Column           | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNAPSHOTFILENAME | VARCHAR2 (513) | Snapshot file name. This file is the snapshot file from the snapshot database. The snapshot file is also sometimes referred to as the srcfile.                                                                                                                                                                                                                                                                                              |
| CLONEFILENAME    | VARCHAR2 (513) | CloneDB file name. This file is the cloned file (of the snapshot file) which resides in the current (cloned database). The cloned file is sometimes referred to as the destfile.                                                                                                                                                                                                                                                            |
| SNAPSHOTBLKREAD  | NUMBER         | Number of blocks reads to the snapshot file                                                                                                                                                                                                                                                                                                                                                                                                 |
| SNAPSHOTREQUEST  | NUMBER         | Number of read requests to the snapshot file                                                                                                                                                                                                                                                                                                                                                                                                |
| FILENUMBER       | NUMBER         | File number of the cloned file                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID           | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |
| BLOCKS_ALLOCATED | NUMBER         | Amount of space allocated in blocks in the file system. This is less than or equal to the actual file size.                                                                                                                                                                                                                                                                                                                                 |



### Note:

When this view is queried in an Oracle Database environment, rows are returned for every opened file, even those without a parent file backing them (in those cases the column is empty/NULL).

In an Oracle ASM environment, rows are returned for files that an Oracle ASM instance has mounted in disk groups only if those files are children (a clonefile) of a parent snapshot file.

## 8.130 V\$CLUSTER\_INTERCONNECTS

V\$CLUSTER\_INTERCONNECTS displays one or more interconnects that are being used for cluster communication.

| Column     | Datatype      | Description                             |
|------------|---------------|-----------------------------------------|
| NAME       | VARCHAR2 (15) | Name of the interconnect (such as eth0) |
| IP_ADDRESS | VARCHAR2 (46) | IP address of the interconnect          |

| Column    | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IS_PUBLIC | VARCHAR2 (3)  | <p>If the value is YES, the interface is known to the public.</p> <p>If the value is NO, the interface is known to be private. Note that if the CLUSTER_INTERCONNECTS initialization parameter is also specified, then it is expected that the interconnect is private. Oracle expects cluster traffic to be run on private interconnects only.</p> <p>If the value is empty, it is unknown whether the interface is public or private.</p> <p>Oracle recommends that you set the interface for Oracle Real Application Clusters (Oracle RAC) communication in the Oracle Cluster Registry (OCR).</p> |
| SOURCE    | VARCHAR2 (31) | <p>Indicates where this interface was picked up from:</p> <ul style="list-style-type: none"> <li>• Oracle Cluster Registry - Interface was configured in the OCR and Oracle Database found the interface in the OCR</li> <li>• Operating-system dependent software - Oracle Database automatically detects this</li> <li>• CLUSTER_INTERCONNECTS parameter - This initialization parameter was set</li> </ul>                                                                                                                                                                                         |
| PNAME     | VARCHAR2 (15) | <p>Name of the physical interface of the interconnect</p> <p>This value may differ from the NAME value if the IP address is bound to a device alias. For example, if NAME is eth0:1, then PNAME is eth0.</p>                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID    | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• n: Where n is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                        |

## 8.131 V\$CODE Clause

V\$CODE Clause contains the supported clause names and parameter names for the Oracle Data Vault ALTER SYSTEM and ALTER SESSION commands.

| Column         | Datatype       | Description                                                                                                                                    |
|----------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| CODE_ID#       | NUMBER         | <p>The OCT code ID:</p> <ul style="list-style-type: none"> <li>• 42: For ALTER SESSION</li> <li>• 49: For ALTER SYSTEM</li> </ul>              |
| CLAUSE_ID#     | NUMBER         | Clause ID                                                                                                                                      |
| CLAUSE_NAME    | VARCHAR2 (100) | The clause name that is supported by the Oracle Data Vault command rule (for example, SET or ADVICE)                                           |
| PARAMETER_NAME | VARCHAR2 (100) | The parameter name that is supported by the Oracle Data Vault command rule. For example, for ALTER SYSTEM SET EVENTS, EVENTS is the parameter. |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><math>n</math>: Where <math>n</math> is the applicable container ID for the rows containing data</li> </ul> |

## 8.132 V\$CON\_EVENT\_HISTOGRAM\_MICRO

V\$CON\_EVENT\_HISTOGRAM\_MICRO displays a histogram of the number of waits, the maximum wait, and total wait time on an event basis for a container, in microseconds. The histogram has buckets of time intervals from < 1 us, < 2 us, < 4 us, < 8 us, ... <  $2^{31}$  us, <  $2^{32}$  us, and  $\geq 2^{32}$  us.

The histogram will not be filled unless the TIMED\_STATISTICS initialization parameter is set to true.

| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EVENT#           | NUMBER        | Event number                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EVENT            | VARCHAR2 (64) | Name of the event                                                                                                                                                                                                                                                                                                                                                                                                                    |
| WAIT_TIME_FORMAT | VARCHAR2 (30) | A human readable time string which is converted from WAIT_TIME_MICRO. When WAIT_TIME_MICRO < 1 millisecond, WAIT_TIME_FORMAT is shown in microseconds. When WAIT_TIME_MICRO < 1 second, WAIT_TIME_FORMAT is shown in milliseconds. When WAIT_TIME_MICRO < 1 minute, WAIT_TIME_FORMAT is shown in seconds. When WAIT_TIME_MICRO > 1 minute, WAIT_TIME_FORMAT is shown in minutes and seconds.                                         |
| WAIT_TIME_MICRO  | NUMBER        | Amount of time the bucket represents (in microseconds). If the duration = num, then this column represents waits of duration < num that are not included in any smaller bucket.                                                                                                                                                                                                                                                      |
| WAIT_COUNT       | NUMBER        | Number of waits of the duration belonging to the bucket of the histogram                                                                                                                                                                                                                                                                                                                                                             |
| LAST_UPDATE_TIME | VARCHAR2 (73) | Indicates the last time the bucket was updated (the ending timestamp of the last wait falling into the bucket's duration)                                                                                                                                                                                                                                                                                                            |
| CON_ID           | NUMBER        | <p>When queried from a non-CDB, the wait event data in that instance are returned, and the CON_ID value is 0.</p> <p>When queried from the root of a CDB, the wait event data in every container is returned, and the CON_ID value indicates the container to which the wait event data belong.</p> <p>When queried from a PDB, wait event data in that PDB are returned, and the CON_ID value is the container ID for that PDB.</p> |

## 8.133 V\$CON\_SYS\_TIME\_MODEL

V\$CON\_SYS\_TIME\_MODEL displays the systemwide accumulated times for various operations for the container from which it is queried.

The time reported is the total elapsed or CPU time (in microseconds). Any timed operation will buffer at most 5 seconds of time data. Specifically, this means that if a timed operation (such as SQL execution) takes a long period of time to perform, the data published to this view is at most missing 5 seconds of the time accumulated for the operation.

The time values are 8-byte integers and can therefore hold approximately 580,000 years worth of time before wrapping. Background process time is not included in a statistic value unless the statistic is specifically for background processes.

| Column    | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STAT_ID   | NUMBER        | Statistic identifier for the time statistic                                                                                                                                                                                                                                                                                                                                                                                                                                |
| STAT_NAME | VARCHAR2 (64) | Name of the statistic (see <a href="#">Table 10-1</a> )                                                                                                                                                                                                                                                                                                                                                                                                                    |
| VALUE     | NUMBER        | Amount of time (in microseconds) that the system has spent in this operation                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID    | NUMBER        | <p>When queried from a non-CDB, the accumulated times for operations in that instance are returned, and the CON_ID value is 0.</p> <p>When queried from the root of a CDB, accumulated times for operations in every container are returned, and the CON_ID value indicates the container to which the times belong.</p> <p>When queried from a PDB, accumulated times for operations in that PDB are returned, and the CON_ID value is the container ID for that PDB.</p> |

## 8.134 V\$CON\_SYSMETRIC

V\$CON\_SYSMETRIC displays the system metric values captured for the most current time interval for the PDB long duration (60-second) system metrics.

| Column       | Datatype      | Description                               |
|--------------|---------------|-------------------------------------------|
| BEGIN_TIME   | DATE          | Begin time of the interval                |
| END_TIME     | DATE          | End time of the interval                  |
| INTSIZE_CSEC | NUMBER        | Interval size (in hundredths of a second) |
| GROUP_ID     | NUMBER        | Metric group ID                           |
| METRIC_ID    | NUMBER        | Metric ID                                 |
| METRIC_NAME  | VARCHAR2 (64) | Metric name                               |
| VALUE        | NUMBER        | Metric value                              |
| METRIC_UNIT  | VARCHAR2 (64) | Metric unit description                   |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>• When queried from a non-CDB, the statistics for that instance are returned, and the CON_ID value is 0.</li> <li>• When queried from the root of a CDB, the statistics for every container are returned, and the CON_ID value indicates the container to which the statistics belong.</li> <li>• When queried from a PDB, statistics from that PDB are returned, and the CON_ID value is the container ID for that PDB.</li> </ul> |



#### See Also:

- "DBA\_HIST\_CON\_SYS\_TIME\_MODEL"
- "DBA\_HIST\_SYS\_TIME\_MODEL"
- "V\$SYSMETRIC"

## 8.135 V\$CON\_SYSMETRIC\_HISTORY

V\$CON\_SYSMETRIC\_HISTORY displays all PDB long duration (60-second with 1 hour history) system metric values available in the database.

| Column       | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BEGIN_TIME   | DATE          | Begin time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| END_TIME     | DATE          | End time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| INTSIZE_CSEC | NUMBER        | Interval size (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| GROUP_ID     | NUMBER        | Metric group ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| METRIC_ID    | NUMBER        | Metric ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| METRIC_NAME  | VARCHAR2 (64) | Metric name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| VALUE        | NUMBER        | Metric value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| METRIC_UNIT  | VARCHAR2 (64) | Metric unit description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID       | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>• When queried from a non-CDB, the statistics for that instance are returned, and the CON_ID value is 0.</li> <li>• When queried from the root of a CDB, the statistics for every container are returned, and the CON_ID value indicates the container to which the statistics belong.</li> <li>• When queried from a PDB, statistics from that PDB are returned, and the CON_ID value is the container ID for that PDB.</li> </ul> |

 **See Also:**

- "DBA\_HIST\_CON\_SYSMETRIC\_HIST"
- "DBA\_HIST\_SYSMETRIC\_HISTORY"
- "V\$SYSMETRIC\_HISTORY"

## 8.136 V\$CON\_SYSMETRIC\_SUMMARY

V\$CON\_SYSMETRIC\_SUMMARY displays a summary of all system metric values for the PDB long-duration system metrics. The average, maximum value, minimum value, and the value of one standard deviation for the last hour are displayed for each metric item.

| Column             | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BEGIN_TIME         | DATE          | Begin time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| END_TIME           | DATE          | End time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| INTSIZE_CSEC       | NUMBER        | Interval size (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| GROUP_ID           | NUMBER        | Metric group ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| METRIC_ID          | NUMBER        | Metric ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| METRIC_NAME        | VARCHAR2 (64) | Metric name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| NUM_INTERVAL       | NUMBER        | Number of intervals observed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| MAXVAL             | NUMBER        | Maximum value observed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| MINVAL             | NUMBER        | Minimum value observed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| AVERAGE            | NUMBER        | Average value over the period                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| STANDARD_DEVIATION | NUMBER        | One standard deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| METRIC_UNIT        | VARCHAR2 (64) | Metric unit description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID             | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• When queried from a non-CDB, the statistics for that instance are returned, and the CON_ID value is 0.</li><li>• When queried from the root of a CDB, the statistics for every container are returned, and the CON_ID value indicates the container to which the statistics belong.</li><li>• When queried from a PDB, statistics from that PDB are returned, and the CON_ID value is the container ID for that PDB.</li></ul> |

 **See Also:**

- "V\$SYSMETRIC\_HISTORY"
- "DBA\_HIST\_SYSMETRIC\_SUMMARY"
- "V\$SYSMETRIC\_SUMMARY"

## 8.137 V\$CON\_SYSSTAT

V\$CON\_SYSSTAT displays system statistics, including OLAP kernel statistics for the container from which it is queried. To find the name of the statistic associated with each statistic number (STATISTIC#), query the V\$STATNAME view.

| Column     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                |
|------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATISTIC# | NUMBER        | Statistic number<br><br><b>Note:</b> Statistics numbers are not guaranteed to remain constant from one release to another. Therefore, you should rely on the statistics name rather than its number in your applications.                                                                                                                                                                                  |
| NAME       | VARCHAR2 (64) | Statistic name. You can get a complete listing of statistic names by querying the V\$STATNAME view.                                                                                                                                                                                                                                                                                                        |
| CLASS      | NUMBER        | A number representing one or more statistics class. The following class numbers are additive: <ul style="list-style-type: none"><li>• 1 - User</li><li>• 2 - Redo</li><li>• 4 - Enqueue</li><li>• 8 - Cache</li><li>• 16 - OS</li><li>• 32 - Real Application Clusters</li><li>• 64 - SQL</li><li>• 128 - Debug</li><li>• 256 - Instance level</li></ul>                                                   |
| VALUE      | NUMBER        | Statistic value                                                                                                                                                                                                                                                                                                                                                                                            |
| STAT_ID    | NUMBER        | Identifier of the statistic                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID     | NUMBER        | When queried from a non-CDB, the statistics in that instance are returned, and the CON_ID value is 0.<br><br>When queried from the root of a CDB, the statistics in every container are returned, and the CON_ID value indicates the container to which the statistics belong.<br><br>When queried from a PDB, statistics in that PDB are returned, and the CON_ID value is the container ID for that PDB. |



### See Also:

"V\$STATNAME" and " [Statistics Descriptions](#)"

## 8.138 V\$CON\_SYSTEM\_EVENT

V\$CON\_SYSTEM\_EVENT displays information on total waits for an event in a container.

Note that the TIME\_WAITED and AVERAGE\_WAIT columns will contain a value of zero on those platforms that do not support a fast timing mechanism. If you are running on one of these platforms and you want this column to reflect true wait times, then you must set TIMED\_STATISTICS to TRUE in the parameter file; doing this will have a small negative effect on system performance.

**See Also:****"TIMED\_STATISTICS"**

| Column               | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EVENT                | VARCHAR2 (64) | Name of the wait event; derived statistic name from V\$EVENT_NAME<br><b>See Also:</b> " <a href="#">Oracle Wait Events</a> "                                                                                                                                                                                                                                                                                                  |
| TOTAL_WAITS          | NUMBER        | Total number of waits for the event                                                                                                                                                                                                                                                                                                                                                                                           |
| TOTAL_TIMEOUTS       | NUMBER        | Total number of timeouts for the event                                                                                                                                                                                                                                                                                                                                                                                        |
| TIME_WAITED          | NUMBER        | Total amount of time waited for the event (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                         |
| AVERAGE_WAIT         | NUMBER        | Average amount of time waited for the event (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                       |
| TIME_WAITED_MICRO    | NUMBER        | Total amount of time waited for the event (in microseconds)                                                                                                                                                                                                                                                                                                                                                                   |
| CPU                  | NUMBER        | Total amount of CPU time consumed while implementing the wait event itself (in microseconds)                                                                                                                                                                                                                                                                                                                                  |
| TOTAL_WAITS_FG       | NUMBER        | Total number of waits for the event, from foreground sessions                                                                                                                                                                                                                                                                                                                                                                 |
| TOTAL_TIMEOUTS_FG    | NUMBER        | Total number of timeouts for the event, from foreground sessions                                                                                                                                                                                                                                                                                                                                                              |
| TIME_WAITED_FG       | NUMBER        | Total amount of time waited for the event, from foreground sessions (in hundredths of a second)                                                                                                                                                                                                                                                                                                                               |
| AVERAGE_WAIT_FG      | NUMBER        | Average amount of time waited for the event, from foreground sessions (in hundredths of a second)                                                                                                                                                                                                                                                                                                                             |
| TIME_WAITED_MICRO_FG | NUMBER        | Total amount of time waited for the event, from foreground sessions (in microseconds)                                                                                                                                                                                                                                                                                                                                         |
| CPU_FG               | NUMBER        | Total amount of CPU time consumed while implementing the wait event itself, from foreground sessions (in microseconds)                                                                                                                                                                                                                                                                                                        |
| EVENT_ID             | NUMBER        | Identifier of the wait event                                                                                                                                                                                                                                                                                                                                                                                                  |
| WAIT_CLASS_ID        | NUMBER        | Identifier of the wait class of the wait event                                                                                                                                                                                                                                                                                                                                                                                |
| WAIT_CLASS#          | NUMBER        | Number of the wait class of the wait event                                                                                                                                                                                                                                                                                                                                                                                    |
| WAIT_CLASS           | VARCHAR2 (64) | Name of the wait class of the wait event                                                                                                                                                                                                                                                                                                                                                                                      |
| CON_ID               | NUMBER        | When queried from a non-CDB, the wait event data in that instance are returned, and the CON_ID value is 0.<br><br>When queried from the root of a CDB, the wait event data in every container is returned, and the CON_ID value indicates the container to which the wait event data belong.<br><br>When queried from a PDB, wait event data in that PDB are returned, and the CON_ID value is the container ID for that PDB. |

## 8.139 V\$CON\_SYSTEM\_WAIT\_CLASS

V\$CON\_SYSTEM\_WAIT\_CLASS displays the time totals for each registered wait class in a container.

| Column        | Datatype      | Description                  |
|---------------|---------------|------------------------------|
| WAIT_CLASS_ID | NUMBER        | Identifier of the wait class |
| WAIT_CLASS#   | NUMBER        | Number of the wait class     |
| WAIT_CLASS    | VARCHAR2 (64) | Name of the wait class       |



| Column               | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TOTAL_WAITS          | NUMBER   | Total number of waits from this wait class                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TIME_WAITED          | NUMBER   | Total amount of time spent in waits from this wait class (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TIME_WAITED_MICRO    | NUMBER   | Total amount of time spent in waits from this wait class (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CPU                  | NUMBER   | Total amount of CPU time consumed while implementing waits from this wait class (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TOTAL_WAITS_FG       | NUMBER   | Total number of waits from this wait class, from foreground sessions                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TIME_WAITED_FG       | NUMBER   | Total amount of time spent in waits from this wait class, from foreground sessions (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TIME_WAITED_MICRO_FG | NUMBER   | Total amount of time spent in waits from this wait class, from foreground sessions (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CPU_FG               | NUMBER   | Total amount of CPU time consumed while implementing waits from this wait class, from foreground sessions (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID               | NUMBER   | <p>When queried from a non-CDB, time totals for each registered wait class in that instance are returned, and the <code>CON_ID</code> value is 0.</p> <p>When queried from the root of a CDB, time totals for each registered wait class in every container is returned, and the <code>CON_ID</code> value indicates the container to which the time total belong.</p> <p>When queried from a PDB, time totals for each registered wait class in that PDB are returned, and the <code>CON_ID</code> value is the container ID for that PDB.</p> |

## 8.140 V\$CONFIGURED\_INTERCONNECTS

`V$CONFIGURED_INTERCONNECTS` displays all the interconnects that Oracle is aware of. This view attempts to answer the question of where Oracle found the information about a specific interconnect.

| Column     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME       | VARCHAR2 (15) | Name of the interconnect (such as eth0)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| IP_ADDRESS | VARCHAR2 (64) | IP address of the interconnect                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| IS_PUBLIC  | VARCHAR2 (3)  | <p>If the value is <code>YES</code>, the interface is known to the public.</p> <p>If the value is <code>NO</code>, the interface is known to be private. Note that if the <code>CLUSTER_INTERCONNECTS</code> initialization parameter is also specified, then it is expected that the interconnect is private. Oracle expects cluster traffic to be run on private interconnects only.</p> <p>If the value is empty, it is unknown whether the interface is public or private.</p> <p>Oracle recommends that you set the interface for Oracle Real Application Clusters (Oracle RAC) communication in the Oracle Cluster Registry (OCR).</p> |

| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SOURCE | VARCHAR2 (31) | Indicates where this interface was picked up from: <ul style="list-style-type: none"> <li>• Oracle Cluster Registry - Interface was configured in the OCR and Oracle Database found the interface in the OCR</li> <li>• Operating-system dependent software - Oracle Database automatically detects this</li> <li>• CLUSTER_INTERCONNECTS parameter - This initialization parameter was set</li> </ul>                                                |
| CON_ID | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.141 V\$CONTAINER\_TOPOLOGY

V\$CONTAINER\_TOPOLOGY displays information about the containers associated with the current instance.

| Column              | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INSTANCE_NUMBER     | NUMBER         | Instance number, as specified by the INSTANCE_NUMBER initialization parameter for the database in which the container resides                                                                                                                                                                                                                                                                                                                         |
| CON_NAME            | VARCHAR2 (128) | Container name                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| OPEN_MODE           | VARCHAR2 (10)  | Open mode for the container: <ul style="list-style-type: none"> <li>• MIGRATE</li> <li>• MOUNTED</li> <li>• READ ONLY</li> <li>• READ WRITE</li> </ul>                                                                                                                                                                                                                                                                                                |
| CPU_COUNT           | NUMBER         | CPU count, as specified by the CPU_COUNT initialization parameter for the container                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID              | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| RESTRICTED          | VARCHAR2 (3)   | Indicates whether a user connecting to the container is required to have the RESTRICTED SESSION privilege (YES) or not (NO)                                                                                                                                                                                                                                                                                                                           |
| IS_HYBRID_READ_ONLY | VARCHAR2 (3)   | Indicates whether the container is in hybrid read-only mode (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                         |

## 8.142 V\$CONTAINERS

V\$CONTAINERS displays information about PDBs and the root associated with the current instance.

| Column                 | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID                 | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                |
| DBID                   | NUMBER         | PDB identifier calculated when the PDB is created and stored in all file headers associated with the PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_UID                | NUMBER         | Unique identifier associated with the PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| GUID                   | RAW (16)       | Globally unique identifier (GUID) of this PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| NAME                   | VARCHAR2 (128) | Name of the PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| OPEN_MODE              | VARCHAR2 (10)  | Open mode information. Possible values: <ul style="list-style-type: none"> <li>MOUNTED</li> <li>READ WRITE</li> <li>READ ONLY</li> <li>MIGRATE</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| RESTRICTED             | VARCHAR2 (3)   | Indicates whether only users possessing RESTRICTED SESSION privilege can connect to the PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| OPEN_TIME              | TIMESTAMP (3)  | Date and time when the database was last opened                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CREATE_SCN             | NUMBER         | System change number (SCN) for the creation of this PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TOTAL_SIZE             | NUMBER         | If a PDB is opened, disk space (in bytes) used by the container, including both data and temp files. If a PDB is closed, will be set to 0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| BLOCK_SIZE             | NUMBER         | The current block size for the PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| RECOVERY_STATUS        | VARCHAR2 (26)  | Shows the recovery status for the PDB. Possible values: <ul style="list-style-type: none"> <li>DISABLED: The PDB is offline. This is similar to all files belonging to this PDB being offline, except that all files to be added to this PDB in the future will also be offline to begin with.</li> <li>DISABLED AUTOMATIC RECOVER: Same as DISABLED, except that standby Active Data Guard recovery will automatically attempt to spawn PDB recovery isolation for the PDB and transition the PDB into ENABLED.</li> <li>ENABLED: The PDB is not offline at the PDB level. Individual files in the PDB may be online or offline at the file level.</li> </ul> |
| SNAPSHOT_PARENT_CON_ID | NUMBER         | This column shows the container ID of the PDB that this PDB is a snapshot clone of. This column shows a nonzero value only if the PDB is a snapshot clone. For all other cases, it shows a value of 0.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| APPLICATION_ROOT       | VARCHAR2 (3)   | Indicates whether the PDB is an application root                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| APPLICATION_PDB        | VARCHAR2 (3)   | Indicates whether the PDB is an application PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| APPLICATION_SEED       | VARCHAR2 (3)   | Indicates whether the PDB is an application seed (an application seed is also an application PDB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Column                  | Datatype        | Description                                                                                                                                                                                                                                                                      |
|-------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| APPLICATION_ROOT_CON_ID | NUMBER          | If this PDB is an application PDB, the container ID of an application root to which this application PDB belongs.<br><br>If this PDB is an application root clone, the container ID of an application root to which this application root clone belongs.<br><br>Otherwise, NULL. |
| APPLICATION_ROOT_CLONE  | VARCHAR2 (3)    | Indicates whether this PDB is an application root clone (YES) or not (NO)                                                                                                                                                                                                        |
| PROXY_PDB               | VARCHAR2 (3)    | Indicates whether this PDB is a proxy PDB (YES) or not (NO)                                                                                                                                                                                                                      |
| LOCAL_UNDO              | NUMBER          | Shows whether the PDB is in local undo. Possible values: <ul style="list-style-type: none"> <li>1 – PDB is in local undo mode</li> <li>0 – PDB is in shared undo mode</li> </ul> This column is not relevant for CDB\$ROOT.                                                      |
| UNDO_SCN                | NUMBER          | System change number (SCN) at which the PDB was last converted from shared to local undo, or from local to shared undo.<br><br>This column is not relevant for CDB\$ROOT.                                                                                                        |
| UNDO_TIMESTAMP          | DATE            | Date and time at which the PDB was last converted from shared to local undo, or from local to shared undo.<br><br>This column is not relevant for CDB\$ROOT.                                                                                                                     |
| CREATION_TIME           | DATE            | Date and time at which the PDB was created.                                                                                                                                                                                                                                      |
| PDB_COUNT               | NUMBER          | The number of user-created PDBs belonging to a given application root or CDB\$ROOT. For all other containers, its value is 0.                                                                                                                                                    |
| AUDIT_FILES_SIZE        | NUMBER          | Shows the current disk space usage (in bytes) by Unified Audit files (.bin format) in the container                                                                                                                                                                              |
| MAX_SIZE                | NUMBER          | Shows the maximum amount of disk space (in bytes) that can be used by data and temp files in the container                                                                                                                                                                       |
| MAX_DIAGNOSTICS_SIZE    | NUMBER          | Shows the maximum amount of disk space (in bytes) that can be used by diagnostic traces generated in the container                                                                                                                                                               |
| MAX_AUDIT_SIZE          | NUMBER          | Shows the maximum amount of disk space (in bytes) that can be used by Unified Audit files (.bin format) in the container                                                                                                                                                         |
| LAST_CHANGED_BY         | VARCHAR2 (11)   | Indicates what type of user last changed the PDB. Possible values: <ul style="list-style-type: none"> <li>COMMON USER</li> <li>LOCAL USER</li> </ul>                                                                                                                             |
| MEMBER_CDB              | VARCHAR2 (3)    | Indicates whether the row corresponds to a Member CDB part of the CDB Fleet (YES) or not (NO). This column is only meaningful in the Lead CDB of a CDB Fleet, which keeps track of other CDBs as containers in the CDB Fleet.                                                    |
| TENANT_ID               | VARCHAR2 (256)  | Pluggable database tenant key                                                                                                                                                                                                                                                    |
| UPGRADE_LEVEL           | NUMBER          | For internal use only                                                                                                                                                                                                                                                            |
| GUID_BASE64             | VARCHAR2 (30)   | The GUID of the PDB, encoded in base64                                                                                                                                                                                                                                           |
| CLOUD_IDENTITY          | VARCHAR2 (4000) | Cloud identifier for the PDB                                                                                                                                                                                                                                                     |
| CLOSE_TIME              | TIMESTAMP (3)   | Date and time when the database was last closed                                                                                                                                                                                                                                  |
| BACKUP_STATUS           | VARCHAR2 (8)    | Reserved for future use                                                                                                                                                                                                                                                          |

## 8.143 V\$CONTEXT

V\$CONTEXT displays set attributes in the current session.

| Column    | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAMESPACE | VARCHAR2 (31)   | Namespace that the attribute is in                                                                                                                                                                                                                                                                                                                                                                                                          |
| ATTRIBUTE | VARCHAR2 (31)   | Name of the attribute                                                                                                                                                                                                                                                                                                                                                                                                                       |
| VALUE     | VARCHAR2 (4000) | Value of the attribute                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CON_ID    | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.144 V\$CONTROLFILE

V\$CONTROLFILE displays the names of the control files.

| Column                | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS                | VARCHAR2 (7)   | INVALID if the name cannot be determined (which should not occur); NULL if the name can be determined                                                                                                                                                                                                                                                                                                                                       |
| NAME                  | VARCHAR2 (513) | Name of the control file                                                                                                                                                                                                                                                                                                                                                                                                                    |
| IS_RECOVERY_DEST_FILE | VARCHAR2 (3)   | Indicates whether the file was created in the fast recovery area (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                          |
| BLOCK_SIZE            | NUMBER         | Control file block size                                                                                                                                                                                                                                                                                                                                                                                                                     |
| FILE_SIZE_BKLS        | NUMBER         | Control file size (in blocks)                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID                | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.145 V\$CONTROLFILE\_RECORD\_SECTION

V\$CONTROLFILE\_RECORD\_SECTION displays information about the control file record sections.

| Column        | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE          | VARCHAR2 (28) | <p>Identifies the type of record section:</p> <ul style="list-style-type: none"> <li>• DATABASE</li> <li>• CKPT PROGRESS</li> <li>• REDO THREAD</li> <li>• REDO LOG</li> <li>• DATAFILE</li> <li>• FILENAME</li> <li>• TABLESPACE</li> <li>• TEMPORARY FILENAME</li> <li>• RMAN CONFIGURATION</li> <li>• LOG HISTORY</li> <li>• OFFLINE RANGE</li> <li>• ARCHIVED LOG</li> <li>• BACKUP SET</li> <li>• BACKUP PIECE</li> <li>• BACKUP DATAFILE</li> <li>• BACKUP REDOLOG</li> <li>• DATAFILE COPY</li> <li>• BACKUP CORRUPTION</li> <li>• COPY CORRUPTION</li> <li>• DELETED OBJECT</li> <li>• PROXY COPY</li> <li>• BACKUP SPFILE</li> <li>• DATABASE INCARNATION</li> <li>• FLASHBACK LOG</li> <li>• RECOVERY DESTINATION</li> <li>• INSTANCE SPACE RESERVATION</li> <li>• REMOVABLE RECOVERY FILES</li> <li>• RMAN STATUS</li> <li>• THREAD INSTANCE NAME MAPPING</li> <li>• MTTR</li> <li>• DATAFILE HISTORY</li> <li>• PLUGGED IN DATAFILE</li> </ul> |
| RECORD_SIZE   | NUMBER        | Record size in bytes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| RECORDS_TOTAL | NUMBER        | Number of records allocated for the section                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| RECORDS_USED  | NUMBER        | Number of records used in the section                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| FIRST_INDEX   | NUMBER        | Index (position) of the first record                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LAST_INDEX    | NUMBER        | Index of the last record                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LAST_RECID    | NUMBER        | Record ID of the last record                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID        | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

## 8.146 V\$COPY\_CORRUPTION

V\$COPY\_CORRUPTION displays information about data file copy corruptions from the control file.

| Column             | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RECID              | NUMBER       | Copy corruption record ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| STAMP              | NUMBER       | Copy corruption record stamp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| COPY_RECID         | NUMBER       | Data file copy record ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| COPY_STAMP         | NUMBER       | Data file copy record stamp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| FILE#              | NUMBER       | Data file number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| BLOCK#             | NUMBER       | First block of the corrupted range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| BLOCKS             | NUMBER       | Number of contiguous blocks in the corrupted range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CORRUPTION_CHANGE# | NUMBER       | Change number at which the logical corruption was detected. Set to 0 to indicate media corruption.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| MARKED_CORRUPT     | VARCHAR2 (3) | (YES   NO) If set to YES the blocks were not marked corrupted in the data file, but were detected and marked as corrupted while making the data file copy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CORRUPTION_TYPE    | VARCHAR2 (9) | Type of block corruption in the data file: <ul style="list-style-type: none"> <li>• ALL_ZERO - Block header on disk contained only zeros. The block may be valid if it was never filled and if it is in an Oracle7 file. The buffer will be reformatted to the Oracle8 standard for an empty block.</li> <li>• FRACTURED - Block header looks reasonable, but the front and back of the block are different versions.</li> <li>• CHECKSUM - optional check value shows that the block is not self-consistent. It is impossible to determine exactly why the check value fails, but it probably fails because sectors in the middle of the block are from different versions.</li> <li>• CORRUPT - Block is wrongly identified or is not a data block (for example, the data block address is missing)</li> <li>• LOGICAL - Block is logically corrupt</li> <li>• NOLOGGING - Block does not have redo log entries (for example, NOLOGGING operations on primary database can introduce this type of corruption on a physical standby)</li> </ul> |
| CON_ID             | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• n: Where n is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## 8.147 V\$COPY\_NONLOGGED

V\$COPY\_NONLOGGED displays information about nonlogged block ranges in data file copy blocks, recorded in the control file.

| Column            | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INST_ID           | NUMBER   | Instance ID                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| RECID             | NUMBER   | Nonlogged copy record ID                                                                                                                                                                                                                                                                                                                                                                                                                        |
| STAMP             | NUMBER   | Nonlogged copy record stamp                                                                                                                                                                                                                                                                                                                                                                                                                     |
| COPY_RECID        | NUMBER   | Data file copy record ID                                                                                                                                                                                                                                                                                                                                                                                                                        |
| COPY_STAMP        | NUMBER   | Data file copy record stamp                                                                                                                                                                                                                                                                                                                                                                                                                     |
| FILE#             | NUMBER   | Absolute file number of the data file that contains this range of nonlogged blocks                                                                                                                                                                                                                                                                                                                                                              |
| BLOCK#            | NUMBER   | Block number of the first nonlogged block in the range of nologged blocks                                                                                                                                                                                                                                                                                                                                                                       |
| BLOCKS            | NUMBER   | Number of nonlogged blocks found starting with BLOCK#                                                                                                                                                                                                                                                                                                                                                                                           |
| NONLOGGED_CHANGE# | NUMBER   | The smallest SCN on which any block in this block range became nonlogged. NULL if unknown.                                                                                                                                                                                                                                                                                                                                                      |
| NONLOGGED_TIME    | VARCHAR2 | The time that corresponds to NONLOGGED_CHANGE#. NULL if unknown.                                                                                                                                                                                                                                                                                                                                                                                |
| RESETLOGS_CHANGE# | VARCHAR2 | The resetlogs SCN of the incarnation on which this block range was first marked as nonlogged. NULL if unknown.                                                                                                                                                                                                                                                                                                                                  |
| RESETLOGS_TIME    | VARCHAR2 | The resetlogs time of the incarnation on which this block range was first marked as nologged. NULL if unknown.                                                                                                                                                                                                                                                                                                                                  |
| OBJECT#           | VARCHAR2 | The object ID this range belongs to. If this field is NULL, the object number is unknown.                                                                                                                                                                                                                                                                                                                                                       |
| REASON            | CHAR(7)  | The reason why this block range appears in this list, for example, primary file offline, could not talk to primary, non-standby recovery, and so on. For Oracle Database 12c and later releases, it is always UNKNOWN.                                                                                                                                                                                                                          |
| CON_ID            | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.148 V\$CORRUPT\_XID\_LIST

V\$CORRUPT\_XID\_LIST displays all corrupted XIDs.

| Column      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CORRUPT_XID | VARCHAR2(256) | Name of corrupt XID                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



## 8.149 V\$CPool\_CC\_Info

V\$CPool\_CC\_Info displays information about the pool-to-connection class mapping for the Database Resident Connection Pool per instance.

| Column      | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POOL_NAME   | VARCHAR2 (1024) | Name of the Database Resident Connection Pool                                                                                                                                                                                                                                                                                                                                                                                               |
| CCLASS_NAME | VARCHAR2 (1024) | Name of the connection class                                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID      | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.150 V\$CPool\_CC\_Stats

V\$CPool\_CC\_Stats displays information about the connection class level statistics for the Database Resident Connection Pool per instance.

| Column              | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POOL_NAME           | VARCHAR2 (1024) | Name of the Database Resident Connection Pool                                                                                                                                                                                                                                                                                                                                                                                               |
| CCLASS_NAME         | VARCHAR2 (1024) | Name of the connection class                                                                                                                                                                                                                                                                                                                                                                                                                |
| NUM_REQUESTS        | NUMBER          | Number of session requests                                                                                                                                                                                                                                                                                                                                                                                                                  |
| NUM_HITS            | NUMBER          | Total number of times a session that matches with the request was found in the pool                                                                                                                                                                                                                                                                                                                                                         |
| NUM_MISSES          | NUMBER          | Total number of times an exact match to the request was not found in the pool and a new session had to be created                                                                                                                                                                                                                                                                                                                           |
| NUM_WAITS           | NUMBER          | Total number of times session requests had to wait before getting served                                                                                                                                                                                                                                                                                                                                                                    |
| WAIT_TIME           | NUMBER          | Reserved for future use                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CLIENT_REQ_TIMEOUTS | NUMBER          | Reserved for future use                                                                                                                                                                                                                                                                                                                                                                                                                     |
| NUM_AUTHENTICATIONS | NUMBER          | Total number of authentications of clients done by the pool                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID              | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**Note:**

This view returns data only when queried from a CDB root. When queried from a PDB, this view returns 0 rows.

## 8.151 V\$CPool\_CONN\_INFO

V\$CPool\_CONN\_INFO displays connection information about each connection to the connection broker.

| Column            | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CMON_ADDR         | RAW (4   8)     | Address of the connection broker                                                                                                                                                                                                                                                                                                                                                               |
| SESSION_ADDR      | RAW (4   8)     | Address of the session associated with the connection; NULL if the connection does not have an associated session                                                                                                                                                                                                                                                                              |
| CONNECTION_ADDR   | RAW (4   8)     | Address of the connection                                                                                                                                                                                                                                                                                                                                                                      |
| POOL_NAME         | VARCHAR2 (1024) | Name of the Database Resident Connection Pool                                                                                                                                                                                                                                                                                                                                                  |
| USERNAME          | VARCHAR2 (1024) | Name of the user associated with the connection                                                                                                                                                                                                                                                                                                                                                |
| PROXY_USER        | VARCHAR2 (1024) | Name of the proxy user                                                                                                                                                                                                                                                                                                                                                                         |
| CCLASS_NAME       | VARCHAR2 (1024) | Connection class associated with the connection                                                                                                                                                                                                                                                                                                                                                |
| PURITY            | VARCHAR2 (1024) | Purity used to create the connection (can be SELF or NEW)                                                                                                                                                                                                                                                                                                                                      |
| TAG               | VARCHAR2 (1024) | Tag, if specified, at connection creation time                                                                                                                                                                                                                                                                                                                                                 |
| SERVICE           | VARCHAR2 (64)   | TNS service name for the connection                                                                                                                                                                                                                                                                                                                                                            |
| PROCESS_ID        | VARCHAR2 (24)   | Client process ID of the process which created the connection                                                                                                                                                                                                                                                                                                                                  |
| PROGRAM           | VARCHAR2 (84)   | Program name of the client process which created the connection                                                                                                                                                                                                                                                                                                                                |
| MACHINE           | VARCHAR2 (64)   | Machine name of the client process which created the connection                                                                                                                                                                                                                                                                                                                                |
| TERMINAL          | VARCHAR2 (30)   | Terminal identifier of the client process which created the connection                                                                                                                                                                                                                                                                                                                         |
| CONNECTION_MODE   | VARCHAR2 (1024) | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                      |
| CONNECTION_STATUS | VARCHAR2 (10)   | Status of the connection: <ul style="list-style-type: none"> <li>NONE</li> <li>CONNECTING</li> <li>ACTIVE: A pooled server has been mapped to this connection.</li> <li>WAITING: The connection is waiting for a pooled server based on the client request.</li> <li>IDLE: No pooled server has been mapped to this connection and there is no request to map one.</li> <li>CLOSING</li> </ul> |
| CLIENT_REGID      | NUMBER          | Query cache registration ID sent by the client                                                                                                                                                                                                                                                                                                                                                 |
| CURSTATUS_TIME    | NUMBER          | Time in microseconds spent in the current state. See CONNECTION_STATUS above.                                                                                                                                                                                                                                                                                                                  |
| IDLE_TIME         | NUMBER          | Total time in IDLE state for the connection (in microseconds)                                                                                                                                                                                                                                                                                                                                  |
| ACTIVE_TIME       | NUMBER          | Total time in ACTIVE state for the connection (in microseconds)                                                                                                                                                                                                                                                                                                                                |
| WAIT_TIME         | NUMBER          | Total time in WAITING state for the connection (in microseconds)                                                                                                                                                                                                                                                                                                                               |
| THINK_TIME        | NUMBER          | Total think time for the connection assigned to the pooled server, but not doing any database activity (in microseconds)                                                                                                                                                                                                                                                                       |
| LAST_IDLE_TIME    | NUMBER          | Time in last IDLE state for this connection (in microseconds)                                                                                                                                                                                                                                                                                                                                  |

| Column           | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LAST_ACTIVE_TIME | NUMBER   | Time in last <b>ACTIVE</b> state for this connection (in microseconds)                                                                                                                                                                                                                                                                                                                                                                      |
| LAST_WAIT_TIME   | NUMBER   | Time in last <b>WAITING</b> state for this connection (in microseconds)                                                                                                                                                                                                                                                                                                                                                                     |
| LAST_THINK_TIME  | NUMBER   | Time for the connection assigned to the pooled server, but not doing any database activity during the last <b>ACTIVE</b> state (in microseconds)                                                                                                                                                                                                                                                                                            |
| NUMGETS          | NUMBER   | Total number of requests at the connection level                                                                                                                                                                                                                                                                                                                                                                                            |
| NUMHITS          | NUMBER   | Total number of hits at the connection level                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID           | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.152 V\$CPPOOL\_STATS

V\$CPPOOL\_STATS displays information about the Database Resident Connection Pool statistics for an instance.

| Column              | Datatype        | Description                                                                                     |
|---------------------|-----------------|-------------------------------------------------------------------------------------------------|
| POOL_NAME           | VARCHAR2 (1024) | Name of the Database Resident Connection Pool                                                   |
| NUM_OPEN_SERVERS    | NUMBER          | Total number of busy and free servers in the pool (including the authentication servers)        |
| NUM_BUSY_SERVERS    | NUMBER          | Total number of busy servers in the pool (not including the authentication servers)             |
| NUM_AUTH_SERVERS    | NUMBER          | Number of authentication servers in the pool                                                    |
| NUM_REQUESTS        | NUMBER          | Number of client requests                                                                       |
| NUM_HITS            | NUMBER          | Total number of times client requests found matching pooled servers in the pool                 |
| NUM_MISSES          | NUMBER          | Total number of times client requests could not find a matching pooled server in the pool       |
| NUM_WAITS           | NUMBER          | Total number of client requests that had to wait due to non-availability of free pooled servers |
| WAIT_TIME           | NUMBER          | Reserved for future use                                                                         |
| CLIENT_REQ_TIMEOUTS | NUMBER          | Reserved for future use                                                                         |
| NUM_AUTHENTICATIONS | NUMBER          | Total number of authentications of clients done by the pool                                     |
| NUM_PURGED          | NUMBER          | Total number of sessions purged by the pool                                                     |
| HISTORIC_MAX        | NUMBER          | Maximum size that the pool has ever reached                                                     |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

This view returns data only when queried from a CDB root. When queried from a PDB, this view returns 0 rows.

## 8.153 V\$CR\_BLOCK\_SERVER

V\$CR\_BLOCK\_SERVER displays statistics on the Global Cache Service processes (LMS) used in cache fusion.

| Column            | Datatype | Description                                                                                                                                                                                         |
|-------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CR_REQUESTS       | NUMBER   | Number of CR blocks served due to remote CR block requests                                                                                                                                          |
| CURRENT_REQUESTS  | NUMBER   | <p>Number of current blocks served due to remote CR block requests</p> <p><math>CR\_REQUESTS + CURRENT\_REQUESTS =</math> global cache CR clocks served (from V\$SYSSTAT).</p>                      |
| DATA_REQUESTS     | NUMBER   | Number of current or CR requests for data blocks                                                                                                                                                    |
| UNDO_REQUESTS     | NUMBER   | Number of CR requests for undo blocks                                                                                                                                                               |
| TX_REQUESTS       | NUMBER   | Number of CR requests for undo segment header blocks                                                                                                                                                |
| OTHER_REQUESTS    | NUMBER   | <p>Number of CR requests for other types of blocks</p> <p><math>DATA\_REQUESTS + UNDO\_REQUESTS + TX\_REQUESTS + OTHER\_REQUESTS =</math> total number of requests handled by the LMS processes</p> |
| CURRENT_RESULTS   | NUMBER   | Number of requests for which no changes were rolled out of the block returned to the requesting instance                                                                                            |
| PRIVATE_RESULTS   | NUMBER   | Number of requests for which changes were rolled out of the block returned to the requesting instance, and only the requesting transaction can use the resulting CR block                           |
| ZERO_RESULTS      | NUMBER   | Number of requests for which changes were rolled out of the block returned to the requesting instance. Only zero-XID transactions can use the block.                                                |
| DISK_READ_RESULTS | NUMBER   | Number of requests for which the requesting instance had to read the requested block from disk                                                                                                      |
| FAIL_RESULTS      | NUMBER   | Number of requests that failed; the requesting transaction must reissue the request                                                                                                                 |
| STALE             | NUMBER   | Number of requests for which the disk read of the requested block was stale                                                                                                                         |

| Column                 | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FAIRNESS_DOWN_CONVERTS | NUMBER   | Number of times an instance receiving a request has down-converted an X lock on a block because it was not modifying the block                                                                                                                                                                                                                                                                                                                  |
| FAIRNESS_CLEARS        | NUMBER   | Number of times the "fairness counter" was cleared. This counter tracks the number of times a block was modified after it was served.                                                                                                                                                                                                                                                                                                           |
| FREE_GC_ELEMENTS       | NUMBER   | Number of times a request was received from another instance and the X lock had no buffers                                                                                                                                                                                                                                                                                                                                                      |
| FLUSHES                | NUMBER   | Number of times the log has been flushed by an LMS process                                                                                                                                                                                                                                                                                                                                                                                      |
| FLUSHES_QUEUED         | NUMBER   | Number of flushes queued by an LMS process                                                                                                                                                                                                                                                                                                                                                                                                      |
| FLUSH_QUEUE_FULL       | NUMBER   | Number of times the flush queue was full                                                                                                                                                                                                                                                                                                                                                                                                        |
| FLUSH_MAX_TIME         | NUMBER   | Maximum time for flush                                                                                                                                                                                                                                                                                                                                                                                                                          |
| LIGHT_WORKS            | NUMBER   | Number of times the light-work rule was evoked. This rule prevents the LMS processes from going to disk while responding to CR requests for data, undo, or undo segment header blocks. This rule can prevent the LMS process from completing its response to the CR request.                                                                                                                                                                    |
| ERRORS                 | NUMBER   | Number of times an error was signalled by an LMS process                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID                 | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

This view contains internal diagnostic information for use by Oracle Support Services. It is subject to change without notice.

## 8.154 V\$CURRENT\_BLOCK\_SERVER

V\$CURRENT\_BLOCK\_SERVER displays statistics on the Global Cache Service processes (LMS) used in cache fusion.

| Column   | Datatype | Description                                      |
|----------|----------|--------------------------------------------------|
| PIN0     | NUMBER   | Pins taking less than 100 microseconds           |
| PIN1     | NUMBER   | Pins taking 100 microseconds to 1 millisecond    |
| PIN10    | NUMBER   | Pins taking 1 to 10 milliseconds                 |
| PIN100   | NUMBER   | Pins taking 10 to 100 milliseconds               |
| PIN1000  | NUMBER   | Pins taking 100 to 1000 milliseconds             |
| PIN10000 | NUMBER   | Pins taking 1000 to 10000 milliseconds           |
| PINOVER  | NUMBER   | Pins taking more than 10000 milliseconds         |
| FLUSH0   | NUMBER   | Flushes taking less than 100 microseconds        |
| FLUSH1   | NUMBER   | Flushes taking 100 microseconds to 1 millisecond |

| Column     | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FLUSH10    | NUMBER   | Flushes taking 1 to 10 milliseconds                                                                                                                                                                                                                                                                                                                                                                                                                    |
| FLUSH100   | NUMBER   | Flushes taking 10 to 100 milliseconds                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FLUSH1000  | NUMBER   | Flushes taking 100 to 1000 milliseconds                                                                                                                                                                                                                                                                                                                                                                                                                |
| FLUSH10000 | NUMBER   | Flushes taking 1000 to 10000 milliseconds                                                                                                                                                                                                                                                                                                                                                                                                              |
| FLUSHOVER  | NUMBER   | Flushes taking more than 10000 milliseconds                                                                                                                                                                                                                                                                                                                                                                                                            |
| CLEANDC    | NUMBER   | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                              |
| RCVDC      | NUMBER   | Number of lock down-converts to S (shared) caused by instance recovery                                                                                                                                                                                                                                                                                                                                                                                 |
| QUEUEDC    | NUMBER   | Number of queued lock down-converts to NULL                                                                                                                                                                                                                                                                                                                                                                                                            |
| EVICTDC    | NUMBER   | Number of lock down-converts to NULL caused by an SGA shrink                                                                                                                                                                                                                                                                                                                                                                                           |
| WRITEDC    | NUMBER   | Number of dirty blocks in read-mostly objects which were written and the X (exclusive) lock down-converted to S (shared) locks                                                                                                                                                                                                                                                                                                                         |
| CON_ID     | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.155 V\$DATABASE

V\$DATABASE displays information about the database from the control file.

| Column                  | Datatype      | Description                                                                                                                                                                        |
|-------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBID                    | NUMBER        | Database identifier calculated when the database is created and stored in all file headers                                                                                         |
| NAME                    | VARCHAR2 (9)  | Name of the database                                                                                                                                                               |
| CREATED                 | DATE          | Creation date of the database. If the control file was re-created using the CREATE CONTROLFILE statement, then this column displays the date that the control file was re-created. |
| RESETLOGS_CHANGE#       | NUMBER        | System change number (SCN) at open resetlogs                                                                                                                                       |
| RESETLOGS_TIME          | DATE          | Timestamp of open resetlogs                                                                                                                                                        |
| PRIOR_RESETLOGS_CHANGE# | NUMBER        | SCN at prior resetlogs                                                                                                                                                             |
| PRIOR_RESETLOGS_TIME    | DATE          | Timestamp of prior resetlogs                                                                                                                                                       |
| LOG_MODE                | VARCHAR2 (12) | <p>Archive log mode:</p> <ul style="list-style-type: none"> <li>NOARCHIVELOG</li> <li>ARCHIVELOG</li> <li>MANUAL</li> </ul>                                                        |
| CHECKPOINT_CHANGE#      | NUMBER        | Last SCN checkpointed                                                                                                                                                              |
| ARCHIVE_CHANGE#         | NUMBER        | Database force archiving SCN. Any redo log with a start SCN below this will be forced to archive out.                                                                              |

| Column                | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CONTROLFILE_TYPE      | VARCHAR2 (7)  | Type of control file: <ul style="list-style-type: none"> <li>STANDBY - Indicates that the database is in standby mode</li> <li>CLONE - Indicates a clone database</li> <li>BACKUP   CREATED - Indicates the database is being recovered using a backup or created control file</li> <li>CURRENT - database is available for general use</li> </ul>                                                                                                                                                                                                                                                                                                                                             |
| CONTROLFILE_CREATED   | DATE          | Creation date of the control file                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CONTROLFILE_SEQUENCE# | NUMBER        | Control file sequence number incremented by control file transactions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CONTROLFILE_CHANGE#   | NUMBER        | Last SCN in backup control file; null if the control file is not a backup                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CONTROLFILE_TIME      | DATE          | Last timestamp in backup control file; null if the control file is not a backup                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| OPEN_RESETLOGS        | VARCHAR2 (11) | (NOT ALLOWED   ALLOWED   REQUIRED) Indicates whether the next database open allows or requires the resetlogs option                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| VERSION_TIME          | DATE          | Version time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| OPEN_MODE             | VARCHAR2 (20) | Open mode information: <ul style="list-style-type: none"> <li>MOUNTED</li> <li>READ WRITE</li> <li>READ ONLY</li> <li>READ ONLY WITH APPLY - A physical standby database is open in real-time query mode</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PROTECTION_MODE       | VARCHAR2 (20) | Protection mode currently in effect for the database: <ul style="list-style-type: none"> <li>MAXIMUM PROTECTION - Database is running in maximized protection mode</li> <li>MAXIMUM AVAILABILITY - Database is running in maximized availability mode</li> <li>RESYNCHRONIZATION - Database is running in resynchronization mode</li> <li>MAXIMUM PERFORMANCE - Database is running in maximized performance mode</li> <li>UNPROTECTED - Database is unprotected (this normally occurs when the primary database is mounted and not open)</li> </ul>                                                                                                                                           |
| PROTECTION_LEVEL      | VARCHAR2 (20) | Aggregated protection mode currently in effect for the database: <ul style="list-style-type: none"> <li>MAXIMUM PROTECTION - Database is running in maximized protection mode</li> <li>MAXIMUM AVAILABILITY - Database is running in maximized availability mode</li> <li>RESYNCHRONIZATION - Database is running in resynchronization mode</li> <li>MAXIMUM PERFORMANCE - Database is running in maximized performance mode</li> <li>UNPROTECTED - Database is unprotected (this normally occurs when the primary database is mounted and not open)</li> </ul> <p><b>Note:</b> This column is an aggregation of the <code>PROTECTION_MODE</code> of all standby archive log destinations.</p> |
| REMOTE_ARCHIVE        | VARCHAR2 (8)  | Value of the <code>REMOTE_ARCHIVE_ENABLE</code> initialization parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ACTIVATION#           | NUMBER        | Number assigned to the database instantiation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SWITCHOVER#           | NUMBER        | Number assigned to the database switchover                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Column                 | Datatype      | Description                                                                                                                                                                                |
|------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DATABASE_ROLE          | VARCHAR2 (16) | Current role of the database: <ul style="list-style-type: none"><li>• SNAPSHOT STANDBY</li><li>• LOGICAL STANDBY</li><li>• PHYSICAL STANDBY</li><li>• PRIMARY</li><li>• FAR SYNC</li></ul> |
| ARCHIVELOG_CHANGE#     | NUMBER        | Highest NEXT_CHANGE# (from the V\$ARCHIVED_LOG view) for an archive log                                                                                                                    |
| ARCHIVELOG_COMPRESSION | VARCHAR2 (8)  | Status of the archive log compression (ENABLED) or (DISABLED)                                                                                                                              |



| Column            | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SWITCHOVER_STATUS | VARCHAR2 (20) | <p>Indicates whether switchover is allowed:</p> <ul style="list-style-type: none"> <li>• NOT ALLOWED - On a primary database, this status indicates that there are no valid and enabled standby databases. On a standby database, this status indicates that a switchover request has not been received from the primary database.</li> <li>• SESSIONS ACTIVE - The database has active sessions. On a physical standby database, the <code>WITH SESSION SHUTDOWN SQL</code> clause must be specified to perform a role transition while in this state. On a logical standby database, a role transition can be performed while in this state, but the role transition will not complete until all current transactions have committed.</li> <li>• SWITCHOVER PENDING - On a physical standby database, this status indicates that a switchover request has been received from the primary database and is being processed. A physical standby database cannot switch to the primary role while in this transient state.</li> <li>• SWITCHOVER LATENT - On a physical standby database, this status indicates that a switchover request was pending, but the original primary database has been switched back to the primary role.</li> <li>• TO PRIMARY - The database is ready to switch to the primary role.</li> <li>• TO STANDBY - The database is ready to switch to either the physical or logical standby role.</li> <li>• TO LOGICAL STANDBY - The database has received a data dictionary from a logical standby database and is ready to switch to the logical standby role.</li> <li>• RECOVERY NEEDED - On a physical standby database, this status indicates that additional redo must be applied before the database can switch to the primary role.</li> <li>• PREPARING SWITCHOVER - On a primary database, this status indicates that a data dictionary is being received from a logical standby database in preparation for switching to the logical standby role. On a logical standby database, this status indicates that the data dictionary has been sent to the primary database and other standby databases.</li> <li>• PREPARING DICTIONARY - On a logical standby database, this status indicates that the data dictionary is being sent to the primary database and other standby databases in preparation for switching to the primary role.</li> <li>• FAILED DESTINATION - On a primary database, this status indicates that one or more standby destinations are in an error state.</li> <li>• RESOLVABLE GAP - On a primary database, this status indicates that one or more standby databases have a redo gap that can be automatically resolved by fetching the missing redo from the primary database or from another standby database.</li> <li>• UNRESOLVABLE GAP - On a primary database, this status indicates that one or more standby databases have a redo gap that cannot be automatically resolved by fetching the missing redo from the primary database or from another standby database.</li> <li>• LOG SWITCH GAP - On a primary database, this status indicates that one or more standby databases are missing redo due to a recent log switch.</li> </ul> |

| Column                    | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DATAGUARD_BROKER          | VARCHAR2 (8) | <p>Data Guard broker information:</p> <ul style="list-style-type: none"> <li>ENABLED - Database is part of a broker configuration and broker management of the database is enabled</li> <li>DISABLED - Database is part of a broker configuration and broker management of the database is disabled. This value is displayed if the user disabled broker management of the database or configuration, or if broker management was disabled due to a role change (for example, the old primary was disabled after a failover operation).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| GUARD_STATUS              | VARCHAR2 (7) | <p>Protects data from being changed:</p> <ul style="list-style-type: none"> <li>ALL - Indicates all users other than SYS are prevented from making changes to any data in the database.</li> <li>STANDBY - Indicates all users other than SYS are prevented from making changes to any database object being maintained by logical standby.</li> <li>NONE - Indicates normal security for all data in the database.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| SUPPLEMENTAL_LOG_DATA_MIN | VARCHAR2 (8) | <p>Ensures that LogMiner (and any products building on LogMiner technology) will have sufficient information to support chained rows and various storage arrangements such as cluster tables:</p> <ul style="list-style-type: none"> <li>NO - None of the database-wide supplemental logging directives are enabled.<br/>In a CDB, a value of NO means that minimal supplemental logging is not enabled in all of the PDBs in the CDB.</li> <li>IMPLICIT - Minimal supplemental logging is enabled because all or a combination of primary key, unique key, and foreign key supplemental logging is enabled</li> <li>YES - Minimal supplemental logging is enabled through an ALTER DATABASE ADD SUPPLEMENTAL LOG DATA statement.<br/>In a CDB, a value of YES means that minimal supplemental logging is enabled in all of the PDBs in the CDB.</li> </ul> <p><b>See Also:</b> <i>Oracle Database SQL Language Reference</i> for additional information about the ALTER DATABASE ADD SUPPLEMENTAL LOG DATA statement</p> |
| SUPPLEMENTAL_LOG_DATA_PK  | VARCHAR2 (3) | <p>For all tables with a primary key, indicates whether all columns of the primary key are placed into the redo log whenever an update is performed (YES) or not (NO).</p> <p>When a value of YES appears in a CDB, it means that primary key supplemental logging is enabled in all of the PDBs in the CDB.</p> <p>When a value of NO appears in a CDB, query the PRIMARY_KEY column in the DBA_SUPPLEMENTAL_LOGGING view for each PDB in the CDB to see whether primary key supplemental logging is enabled in the PDB.</p> <p><b>See Also:</b> <i>Oracle Database SQL Language Reference</i> for more information about the ALTER DATABASE ADD SUPPLEMENTAL LOG supplemental_id_key_clause statement</p>                                                                                                                                                                                                                                                                                                               |

| Column                       | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SUPPLEMENTAL_LOG_DATA_UI     | VARCHAR2 (3)   | <p>For all tables with a unique key, indicates whether all other columns belonging to the unique key are placed into the redo log if any of the unique key columns are modified (YES) or not (NO).</p> <p>When a value of YES appears in a CDB, it means that this value is enabled in all of the PDBs in the CDB.</p> <p>When a value of NO appears in a CDB, query the UNIQUE_INDEX column in the DBA_SUPPLEMENTAL_LOGGING view for each PDB in the CDB to see whether unique column supplemental logging is enabled in the PDB.</p> <p><b>See Also:</b> <i>Oracle Database SQL Language Reference</i> for more information about the ALTER DATABASE ADD SUPPLEMENTAL LOG supplemental_id_key_clause statement</p>                |
| FORCE_LOGGING                | VARCHAR2 (39)  | <p>Indicates the type of logging mode that is currently in force. The valid values and their meanings are:</p> <ul style="list-style-type: none"> <li>• NO - This value means that no logging mode has been enabled for the database</li> <li>• YES - This value means that FORCE LOGGING mode has been enabled for the database</li> <li>• STANDBY NOLOGGING FOR LOAD PERFORMANCE - This value is used when this is the current mode for the database</li> <li>• STANDBY NOLOGGING FOR DATA AVAILABILITY - This value is used when this is the current mode for the database</li> </ul>                                                                                                                                            |
| PLATFORM_ID                  | NUMBER         | Platform identification number of the database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PLATFORM_NAME                | VARCHAR2 (101) | Platform name of the database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| RECOVERY_TARGET_INCARNATION# | NUMBER         | The incarnation number to which all datafiles would be recovered by the RECOVER DATABASE command                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| LAST_OPEN_INCARNATION#       | NUMBER         | Record number of the incarnation in V\$DATABASE_INCARNATION that was last opened successfully                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CURRENT_SCN                  | NUMBER         | Current SCN; null if the database is not currently open. For a standby database, it is the checkpoint SCN of the mounted physical standby database during media recovery and is always less than the last applied SCN tracked in V\$RECOVERY_PROGRESS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| FLASHBACK_ON                 | VARCHAR2 (18)  | <p>Possible values are as follows:</p> <ul style="list-style-type: none"> <li>• YES - Flashback is on</li> <li>• NO - Flashback is off</li> <li>• RESTORE POINT ONLY - Flashback is on but one can only flashback to guaranteed restore points</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SUPPLEMENTAL_LOG_DATA_FK     | VARCHAR2 (3)   | <p>For all tables with a foreign key, indicates whether all other columns belonging to the foreign key are placed into the redo log if any foreign key columns are modified (YES) or not (NO).</p> <p>When a value of YES appears in a CDB, it means that foreign key supplemental logging is enabled in all of the PDBs in the CDB.</p> <p>When a value of NO appears in a CDB, query the FOREIGN_KEY column in the DBA_SUPPLEMENTAL_LOGGING view for each PDB in the CDB to see whether foreign key supplemental logging is enabled in the PDB.</p> <p><b>See Also:</b> <i>Oracle Database SQL Language Reference</i> for more information about the ALTER DATABASE ADD SUPPLEMENTAL LOG supplemental_id_key_clause statement</p> |

| Column                                      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SUPPLEMENTAL_LOG_DATA_AL<br>L               | VARCHAR2 (3)  | <p>For all columns, indicates whether all the fixed-length maximum size columns of that row are placed into the redo log (YES) or not (NO).</p> <p>When a value of YES appears in a CDB, it means that all column supplemental logging is enabled in all of the PDBs in the CDB.</p> <p>When a value of NO appears in a CDB, query the ALL_COLUMN column in the DBA_SUPPLEMENTAL_LOGGING view for each PDB in the CDB to see whether all column supplemental logging is enabled in the PDB.</p> <p><b>See Also:</b> <i>Oracle Database SQL Language Reference</i> for more information about the ALTER DATABASE ADD SUPPLEMENTAL LOG supplemental_id_key_clause statement</p>                                                   |
| DB_UNIQUE_NAME                              | VARCHAR2 (30) | Unique database name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| STANDBY_BECAME_PRIMARY_S<br>CN              | NUMBER        | <p>SCN at which a physical standby database became a primary database. This SCN is useful for converting a failed primary database into a physical standby database after a forced failover.</p> <p><b>See Also:</b> <i>Oracle Data Guard Concepts and Administration</i> for more information about Oracle Data Guard.</p>                                                                                                                                                                                                                                                                                                                                                                                                     |
| FS_FAILOVER_MODE <sup>1</sup>               | VARCHAR2 (19) | <p>Displays the current fast-start failover mode. Possible values are:</p> <ul style="list-style-type: none"> <li>DISABLED - Fast-start failover is disabled.</li> <li>OBSERVE-ONLY - Fast-start failover is enabled in test drive mode.</li> <li>ZERO DATA LOSS - Fast-start failover is enabled and a fast-start failover cannot incur any data loss.</li> <li>POTENTIAL DATA LOSS - Fast-start failover is enabled and a fast-start failover can incur data loss within FastStartFailoverLagLimit seconds.</li> </ul> <p><b>See Also:</b> <i>Oracle Data Guard Broker</i> for more information about the FastStartFailoverLagLimit configuration property</p>                                                                |
| FS_FAILOVER_STATUS <sup>1</sup>             | VARCHAR2 (22) | <p>Fast-start failover status:</p> <ul style="list-style-type: none"> <li>DISABLED</li> <li>BYSTANDER</li> <li>SYNCHRONIZED</li> <li>UNSYNCHRONIZED</li> <li>SUSPENDED</li> <li>STALLED</li> <li>LOADING DICTIONARY</li> <li>PRIMARY UNOBSERVED</li> <li>REINSTATE REQUIRED</li> <li>REINSTATE FAILED</li> <li>TARGET OVER LAG LIMIT</li> <li>TARGET UNDER LAG LIMIT</li> </ul> <p><b>See Also:</b> <i>Oracle Data Guard Broker</i> for detailed descriptions of these values</p> <p><b>Note:</b> If the value of this column is DISABLED, then the values for the FS_FAILOVER_CURRENT_TARGET, FS_FAILOVER_THRESHOLD, FS_FAILOVER_OBSERVER_PRESENT, and FS_FAILOVER_OBSERVER_HOST columns in this table are not meaningful.</p> |
| FS_FAILOVER_CURRENT_TARG<br>ET <sup>1</sup> | VARCHAR2 (30) | DB_UNIQUE_NAME of the standby that is the current fail-safe failover observer target standby for the Data Guard configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| FS_FAILOVER_THRESHOLD <sup>1</sup>          | NUMBER        | Time (in seconds) that the observer will attempt to reconnect with a disconnected primary before attempting fail-safe failover observer with the target standby                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Column                                        | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FS_FAILOVER_OBSERVER_PRE<br>SENT <sup>1</sup> | VARCHAR2 (7)   | Indicates whether the master observer is currently connected to the local database (YES) or not (NO)<br><br><b>Note:</b> This column is consistent throughout an Oracle RAC environment; that is, if the observer is connected to any instance, then all instances will show a value of YES.                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| FS_FAILOVER_OBSERVER_HOS<br>T <sup>1</sup>    | VARCHAR2 (512) | Machine name that is currently hosting the master observer process, if fast-start failover is enabled. If fast-start failover is not enabled, this column returns a NULL string.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CONTROLFILE_CONVERTED                         | VARCHAR2 (3)   | Indicates whether the control file was implicitly converted from its original type during restore (YES) or not (NO)<br><br>This column will be set to YES when RMAN restores a standby control file from a backup of the control file taken at the primary database or restores a backup control file from a backup taken at the physical standby database.<br><br>This column will change to NO when the file names are fixed using information in the recovery catalog schema.                                                                                                                                                                                                                                                                                     |
| PRIMARY_DB_UNIQUE_NAME                        | VARCHAR2 (30)  | For any Standby database (Physical, Logical, or Snapshot), this column will contain the DB_UNIQUE_NAME of the Primary database that this Standby last received current redo from.<br><br>If this standby has not received any current redo since last being started, then this column will be null.<br><br>For a Primary database that had previously been a Standby, this column will contain the DB_UNIQUE_NAME of the last Primary that this database received current redo from while acting as a Standby.<br><br>For a Primary database that has never been a Standby, this column will be null.                                                                                                                                                                |
| SUPPLEMENTAL_LOG_DATA_PL                      | VARCHAR2 (3)   | Indicates whether additional information is logged in the redo log (YES) or not (NO) during invocation of procedures in Oracle-supplied packages for which procedural replication is supported.<br><br>When a value of YES appears in a CDB, it means that supplemental logging for procedural replication is enabled in all of the PDBs in the CDB.<br><br>When a value of NO appears in a CDB, query the PROCEDURAL column in the DBA_SUPPLEMENTAL_LOGGING view for each PDB in the CDB to see whether supplemental logging for procedural replication is supported in the PDB.<br><br><b>See Also:</b> <i>Oracle Data Guard Concepts and Administration</i> for a list of Oracle-supplied packages that are procedurally replicated to a logical standby database |
| MIN_REQUIRED_CAPTURE_CHA<br>NGE#              | NUMBER         | Minimum REQUIRED_CHECKPOINT_SCN for all local capture processes on the database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CDB                                           | VARCHAR2 (3)   | Possible values are: <ul style="list-style-type: none"> <li>YES if the database is a CDB</li> <li>NO if the database is not a CDB</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Column                    | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID                    | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                   |
| PENDING_ROLE_CHANGE_TASKS | VARCHAR2(512) | Tasks remaining after an Oracle Data Guard role change. Possible values: <ul style="list-style-type: none"> <li>NONE: No pending tasks remain</li> <li>NOT APPLICABLE: The database is either standby or is not a DG_CONFIG member</li> <li>BUILD_PENDING: The database was formerly a logical standby and has not yet taken a snapshot of its data dictionary into the redo stream</li> <li>SRL_ARCHIVE_PENDING: The database was formerly a logical standby and the standby redo logs associated with the earlier failover operation have not yet been archived</li> <li>ERROR: The database was formerly a logical standby and the snapshot of the dictionary failed</li> <li>UNKNOWN: The database is not open or the query failed</li> </ul> |
| CON_DBID                  | NUMBER        | The database ID of the PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| FORCE_FULL_DB_CACHING     | VARCHAR2(3)   | Indicates the status of the force full database caching feature in the database. Possible values: <ul style="list-style-type: none"> <li>YES - The database is in force full database caching mode.</li> <li>NO - The database is not in force full database caching mode.</li> </ul> <b>See Also:</b> <i>Oracle Database SQL Language Reference</i> for information about the FORCE_FULL_DATABASE_CACHING clause for the ALTER DATABASE statement                                                                                                                                                                                                                                                                                                |
| SUPPLEMENTAL_LOG_DATA_SR  | VARCHAR2(3)   | Indicates whether the database is enabled for subset database replication (YES) or not (NO). If the database is enabled for subset database replication, then redo overhead and feature restriction for tables without column data supplemental logging will be reduced.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| GOLDENGATE_BLOCKING_MODE  | VARCHAR2(8)   | Reserved for future use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

<sup>1</sup> Oracle Database 23ai introduces the V\$FAST\_START\_FAILOVER\_CONFIG view, which contains configuration details about Oracle Data Guard fast-start failover. As a result, the FS\_FAILOVER\_\* columns in the V\$DATABASE view are deprecated. Instead, use the corresponding columns in the V\$FAST\_START\_FAILOVER\_CONFIG view. See "[V\\$FAST\\_START\\_FAILOVER\\_CONFIG](#)" for more information.



#### See Also:

"[DBA\\_SUPPLEMENTAL\\_LOGGING](#)" for more information about supplemental logging in a PDB

## 8.156 V\$DATABASE\_BLOCK\_CORRUPTION

V\$DATABASE\_BLOCK\_CORRUPTION displays information about database blocks that were corrupted after the last backup.

| Column             | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE#              | NUMBER       | Absolute file number of the data file that contains the corrupt blocks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| BLOCK#             | NUMBER       | Block number of the first corrupt block in the range of corrupted blocks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| BLOCKS             | NUMBER       | Number of corrupted blocks found starting with BLOCK#                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CORRUPTION_CHANGE# | NUMBER       | Change number at which the logical corruption was detected. Set to 0 to indicate media corruption.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CORRUPTION_TYPE    | VARCHAR2 (9) | Type of block corruption in the data file: <ul style="list-style-type: none"> <li>• ALL ZERO - Block header on disk contained only zeros. The block may be valid if it was never filled and if it is in an Oracle7 file. The buffer will be reformatted to the Oracle8 standard for an empty block.</li> <li>• FRACTURED - Block header looks reasonable, but the front and back of the block are different versions.</li> <li>• CHECKSUM - optional check value shows that the block is not self-consistent. It is impossible to determine exactly why the check value fails, but it probably fails because sectors in the middle of the block are from different versions.</li> <li>• CORRUPT - Block is wrongly identified or is not a data block (for example, the data block address is missing)</li> <li>• LOGICAL - Block is logically corrupt</li> </ul> |
| CON_ID             | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• n: Where n is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                          |



### See Also:

"V\$NONLOGGED\_BLOCK" for information about nonlogged blocks

## 8.157 V\$DATABASE\_INCARNATION

V\$DATABASE\_INCARNATION displays information about all database incarnations.

Oracle creates a new incarnation whenever a database is opened with the RESETLOGS option. Records about the current and immediately previous incarnation are also contained in the V\$DATABASE view.

| Column       | Datatype | Description                                         |
|--------------|----------|-----------------------------------------------------|
| INCARNATION# | NUMBER   | Record ID for the branch record in the control file |

| Column                     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RESETLOGS_CHANGE#          | NUMBER        | Resetlogs system change number (SCN) for the incarnation of the current row                                                                                                                                                                                                                                                                                                                                                                           |
| RESETLOGS_TIME             | DATE          | Resetlogs timestamp for the incarnation of the current row                                                                                                                                                                                                                                                                                                                                                                                            |
| PRIOR_RESETLOGS_CHANGE#    | NUMBER        | Resetlogs SCN for the previous incarnation                                                                                                                                                                                                                                                                                                                                                                                                            |
| PRIOR_RESETLOGS_TIME       | DATE          | Resetlogs timestamp for the previous incarnation                                                                                                                                                                                                                                                                                                                                                                                                      |
| STATUS                     | VARCHAR2 (7)  | Incarnation status: <ul style="list-style-type: none"> <li>• ORPHAN - Orphan incarnation</li> <li>• CURRENT - Current incarnation of the database</li> <li>• PARENT - Parent of the current incarnation</li> </ul>                                                                                                                                                                                                                                    |
| RESETLOGS_ID               | NUMBER        | Branch ID for the incarnation of the current row (used by user-managed recovery/RMAN restore to get unique names for archived logs across incarnations)                                                                                                                                                                                                                                                                                               |
| PRIOR_INCARNATION#         | NUMBER        | Parent incarnation record ID if nonzero                                                                                                                                                                                                                                                                                                                                                                                                               |
| FLASHBACK_DATABASE_ALLOWED | VARCHAR2 (26) | Indicate whether or not Flashback Database can be performed into SCNs or timestamps in the incarnation. A value of YES means that you can flashback to some point in that incarnation. A value of NO indicates that you cannot flashback into the incarnation.                                                                                                                                                                                        |
| CON_ID                     | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$DATABASE"

## 8.158 V\$DATABASE\_KEY\_INFO

V\$DATABASE\_KEY\_INFO provides the information of the default database key used to encrypt data blocks. Oracle uses the database key to encrypt sensitive information in SYSTEM, UNDO, and TEMP tablespaces when such data has dependency from encrypted tablespaces or encrypted columns

V\$DATABASE\_KEY\_INFO reflects the database key information stored in the control file. Generally it is the same as the system tablespace key recorded in the system tablespace. If the system tablespace is encrypted, it will also appear in V\$ENCRYPTED\_TABLESPACES. If the system tablespace is not encrypted, this is the only view providing this information.



| Column           | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ENCRYPTIONALG    | VARCHAR2 (7) | Encryption algorithm: <ul style="list-style-type: none"> <li>NONE</li> <li>3DES168</li> <li>AES128</li> <li>AES192</li> <li>AES256</li> </ul> AES256 is the default encryption algorithm.                                                                                                                                                                                                                                                       |
| ENCRYPTEDKEY     | RAW (48)     | Encrypted version of the database key                                                                                                                                                                                                                                                                                                                                                                                                           |
| MASTERKEYID      | RAW (16)     | ID of the master key that was used to encrypt the database key                                                                                                                                                                                                                                                                                                                                                                                  |
| MASTER_ACTIVATED | VARCHAR2 (3) | Indicates whether the master key has been set (YES) or not (NO) for this database or container in the Oracle Key Store. In other words, indicates whether Transparent Data Encryption (TDE) has been activated for this database or container                                                                                                                                                                                                   |
| CON_ID           | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**["V\\$ENCRYPTED\\_TABLESPACES"](#)

## 8.159 V\$DATAFILE

V\$DATAFILE displays datafile information from the control file.

**See Also:**["V\\$DATAFILE\\_HEADER"](#), which displays information from data file headers

| Column           | Datatype     | Description                                                                                                                                 |
|------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| FILE#            | NUMBER       | Absolute file number                                                                                                                        |
| CREATION_CHANGE# | NUMBER       | Change number at which the data file was created                                                                                            |
| CREATION_TIME    | DATE         | Timestamp of the data file creation                                                                                                         |
| TS#              | NUMBER       | Tablespace number                                                                                                                           |
| RFILE#           | NUMBER       | Tablespace relative data file number                                                                                                        |
| STATUS           | VARCHAR2 (7) | Type of file (system or user) and its status. Values: OFFLINE, ONLINE, SYSTEM, RECOVER, SYSOFF (an offline file from the SYSTEM tablespace) |

| Column                   | Datatype       | Description                                                                                                                                                                                                                                                                                    |
|--------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ENABLED                  | VARCHAR2 (10)  | Describes how accessible the file is from SQL: <ul style="list-style-type: none"> <li>DISABLED - No SQL access allowed</li> <li>READ ONLY - No SQL updates allowed</li> <li>READ WRITE - Full access allowed</li> <li>UNKNOWN - Unknown whether SQL updates would be allowed or not</li> </ul> |
| CHECKPOINT_CHANGE#       | NUMBER         | SCN at last checkpoint                                                                                                                                                                                                                                                                         |
| CHECKPOINT_TIME          | DATE           | Timestamp of the checkpoint#                                                                                                                                                                                                                                                                   |
| UNRECOVERABLE_CHANGE#    | NUMBER         | Last unrecoverable change number made to this data file. If the database is in ARCHIVELOG mode, then this column is updated when an unrecoverable operation completes. If the database is not in ARCHIVELOG mode, this column does not get updated.                                            |
| UNRECOVERABLE_TIME       | DATE           | Timestamp of the last unrecoverable change. This column is updated only if the database is in ARCHIVELOG mode.                                                                                                                                                                                 |
| LAST_CHANGE#             | NUMBER         | Last change number made to this data file (null if the data file is being changed)                                                                                                                                                                                                             |
| LAST_TIME                | DATE           | Timestamp of the last change                                                                                                                                                                                                                                                                   |
| OFFLINE_CHANGE#          | NUMBER         | Offline change number of the last offline range. This column is updated only when the data file is brought online.                                                                                                                                                                             |
| ONLINE_CHANGE#           | NUMBER         | Online change number of the last offline range                                                                                                                                                                                                                                                 |
| ONLINE_TIME              | DATE           | Online timestamp of the last offline range                                                                                                                                                                                                                                                     |
| BYTES                    | NUMBER         | Current data file size (in bytes); 0 if inaccessible                                                                                                                                                                                                                                           |
| BLOCKS                   | NUMBER         | Current data file size (in blocks); 0 if inaccessible                                                                                                                                                                                                                                          |
| CREATE_BYTES             | NUMBER         | Size when created (in bytes)                                                                                                                                                                                                                                                                   |
| BLOCK_SIZE               | NUMBER         | Block size of the data file                                                                                                                                                                                                                                                                    |
| NAME                     | VARCHAR2 (513) | Name of the data file                                                                                                                                                                                                                                                                          |
| PLUGGED_IN               | NUMBER         | Describes whether the tablespace is plugged in. The value is 1 if the tablespace is plugged in and has not been made read/write, 0 if not.                                                                                                                                                     |
| BLOCK1_OFFSET            | NUMBER         | Offset from the beginning of the file to where the Oracle generic information begins. The exact length of the file can be computed as follows: BYTES + BLOCK1_OFFSET.                                                                                                                          |
| AUX_NAME                 | VARCHAR2 (513) | Auxiliary name that has been set for this file via CONFIGURE AUXNAME                                                                                                                                                                                                                           |
| FIRST_NONLOGGED_SCN      | NUMBER         | First nonlogged SCN (check in standby database)                                                                                                                                                                                                                                                |
| FIRST_NONLOGGED_TIME     | DATE           | First nonlogged time (check in standby database)                                                                                                                                                                                                                                               |
| FOREIGN_DBID             | NUMBER         | Foreign DBID from which this data file came from. The value is 0 if this file is not a foreign database file.                                                                                                                                                                                  |
| FOREIGN_CREATION_CHANGE# | NUMBER         | Creation SCN of a foreign data file. The value is 0 if this file is not a foreign database file.                                                                                                                                                                                               |
| FOREIGN_CREATION_TIME    | DATE           | Creation time of a foreign data file. The value is 0 if this file is not a foreign database file.                                                                                                                                                                                              |
| PLUGGED_READONLY         | VARCHAR2 (3)   | YES if this is a transported read-only foreign file; otherwise NO.                                                                                                                                                                                                                             |
| PLUGIN_CHANGE#           | NUMBER         | SCN at which the foreign data file was transported into the database. The value is 0 if this file is not a foreign database file.                                                                                                                                                              |
| PLUGIN_RESETLOGS_CHANGE# | NUMBER         | The SCN of the RESETLOGS operation for the incarnation into which this foreign file was transported. The value is 0 if this file is not a foreign database file.                                                                                                                               |

| Column                | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PLUGIN_RESETLOGS_TIME | DATE     | The time of the RESETLOGS operation for the incarnation into which this foreign file was transported. The value is 0 if this file is not a foreign database file.                                                                                                                                                                                                                                                                                      |
| CON_ID                | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.160 V\$DATAFILE\_COPY

V\$DATAFILE\_COPY displays data file copy information from the control file.

| Column                 | Datatype       | Description                                                                                                                                                                                                                                                                                           |
|------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RECID                  | NUMBER         | Data file copy record ID                                                                                                                                                                                                                                                                              |
| STAMP                  | NUMBER         | Data file copy record stamp                                                                                                                                                                                                                                                                           |
| NAME                   | VARCHAR2 (513) | File name of the data file copy. The maximum length of the name is operating system dependent.                                                                                                                                                                                                        |
| TAG                    | VARCHAR2 (32)  | Data file copy tag                                                                                                                                                                                                                                                                                    |
| FILE#                  | NUMBER         | Absolute data file number                                                                                                                                                                                                                                                                             |
| RFILE#                 | NUMBER         | Tablespace relative data file number                                                                                                                                                                                                                                                                  |
| CREATION_CHANGE#       | NUMBER         | Data file creation change#                                                                                                                                                                                                                                                                            |
| CREATION_TIME          | DATE           | Data file creation timestamp                                                                                                                                                                                                                                                                          |
| RESETLOGS_CHANGE#      | NUMBER         | Resetlogs change number of the data file when the copy was made                                                                                                                                                                                                                                       |
| RESETLOGS_TIME         | DATE           | Resetlogs timestamp of the data file when the copy was made                                                                                                                                                                                                                                           |
| INCREMENTAL_LEVEL      | NUMBER         | Normal full backups have a NULL value, level 0 incremental backups have a value of 0, and level 1 incremental backups have a value of 1                                                                                                                                                               |
| CHECKPOINT_CHANGE#     | NUMBER         | Checkpoint change number of the data file when the copy was made                                                                                                                                                                                                                                      |
| CHECKPOINT_TIME        | DATE           | Checkpoint timestamp of the data file when the copy was made                                                                                                                                                                                                                                          |
| ABSOLUTE_FUZZY_CHANGE# | NUMBER         | Highest change seen when the data file was copied                                                                                                                                                                                                                                                     |
| RECOVERY_FUZZY_CHANGE# | NUMBER         | Highest change written to the file by media recovery                                                                                                                                                                                                                                                  |
| RECOVERY_FUZZY_TIME    | DATE           | Timestamp of the highest change written to the file by media recovery                                                                                                                                                                                                                                 |
| ONLINE_FUZZY           | VARCHAR2 (3)   | (YES NO) If set to YES, this is a copy taken using an operating system utility after a crash or offline immediate (or an invalid copy taken while data file was online and the database open). Recovery will need to apply all redo up to the next crash recovery marker to make the file consistent. |
| BACKUP_FUZZY           | VARCHAR2 (3)   | (YES NO) If set to YES, this is a copy taken using the BEGIN BACKUP/END BACKUP technique. Recovery will need to apply all redo up to the end backup marker to make this copy consistent.                                                                                                              |

| Column                | Datatype      | Description                                                                                                                                                                                              |
|-----------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MARKED_CORRUPT        | NUMBER        | Number of blocks marked corrupt by this copy operation. That is, blocks that were not marked corrupted in the source data file, but were detected and marked as corrupted during the copy operation.     |
| MEDIA_CORRUPT         | NUMBER        | Total number of media corrupt blocks. For example, blocks with checksum errors are marked media corrupt.                                                                                                 |
| LOGICALLY_CORRUPT     | NUMBER        | Total number of logically corrupt blocks. For example, applying redo for unrecoverable operations will mark affected blocks logically corrupt.                                                           |
| BLOCKS                | NUMBER        | Size of the data file copy in blocks (also the size of the data file when the copy was made)                                                                                                             |
| BLOCK_SIZE            | NUMBER        | Block size of the data file                                                                                                                                                                              |
| OLDEST_OFFLINE_RANGE  | NUMBER        | RECID of the oldest offline range record in this control file copy; 0 for data file copies                                                                                                               |
| DELETED               | VARCHAR2 (3)  | (YES NO) If set to YES the data file copy has been deleted or overwritten                                                                                                                                |
| STATUS                | VARCHAR2 (1)  | Identifies the status of this data file copy. Possible values are:<br>A - Available<br>D - Deleted<br>U - Unavailable<br>X - Expired                                                                     |
| COMPLETION_TIME       | DATE          | Time when the copy was completed                                                                                                                                                                         |
| CONTROLFILE_TYPE      | VARCHAR2 (1)  | B indicates normal copies<br>S indicates standby copies                                                                                                                                                  |
| KEEP                  | VARCHAR2 (3)  | (YES/NO) Indicates whether or not this backup set has a retention policy that is different than the value for the configure retention policy                                                             |
| KEEP_UNTIL            | DATE          | If KEEP_UNTIL is specified, this is the date after which the backup becomes obsolete. If this column is null, then the backup never expires.                                                             |
| KEEP_OPTIONS          | VARCHAR2 (11) | Lists additional retention options for this backup set. Possible values are:<br>LOGS - The logs need to recover this backup are kept<br>NOLOGS - The logs needed to recover this backup will not be kept |
| SCANNED               | VARCHAR2 (3)  | Indicates whether RMAN scanned the file (YES) or not (NO)                                                                                                                                                |
| IS_RECOVERY_DEST_FILE | VARCHAR2 (3)  | Indicates whether the file was created in the fast recovery area (YES) or not (NO)                                                                                                                       |
| RMAN_STATUS_RECID     | NUMBER        | Owning V\$RMAN_STATUS record ID                                                                                                                                                                          |
| RMAN_STATUS_STAMP     | NUMBER        | Owning V\$RMAN_STATUS record stamp                                                                                                                                                                       |
| CONVERTED_FILE        | VARCHAR2 (3)  | (YES/NO) Indicates whether or not the data file copy was created using the RMAN CONVERT command                                                                                                          |
| SAME_ENDIAN           | VARCHAR2 (3)  | If the value of the CONVERTED_FILE column is YES, then this column indicates whether the data file copy has the same endianness as the source data file (YES) or not (NO); otherwise NULL                |
| FOREIGN_DBID          | NUMBER        | Foreign DBID from which this data file came from. The value is 0 if this file is not a foreign database file.                                                                                            |
| PLUGGED_READONLY      | VARCHAR2 (3)  | YES if this is a transported read-only foreign file; otherwise NO.                                                                                                                                       |
| PLUGIN_CHANGE#        | NUMBER        | SCN at which the foreign data file was transported into the database. The value is 0 if this file is not a foreign database file.                                                                        |

| Column                   | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PLUGIN_RESETLOGS_CHANGE# | NUMBER       | The SCN of the RESETLOGS operation for the incarnation into which this foreign file was transported. The value is 0 if this file is not a foreign database file.                                                                                                                                                                                                                                                                                |
| PLUGIN_RESETLOGS_TIME    | DATE         | The time of the RESETLOGS operation for the incarnation into which this foreign file was transported. The value is 0 if this file is not a foreign database file.                                                                                                                                                                                                                                                                               |
| BACKED_BY_VSS            | VARCHAR2 (3) | Whether or not the file has been backed up by Volume Shadow Copy Service (VSS). This column is reserved for internal use.                                                                                                                                                                                                                                                                                                                       |
| CON_ID                   | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| BACKED_BY_PDB            | VARCHAR2 (3) | Recovery Manager (RMAN) allows a PDB to be backed up in two ways. The value in this column indicates how the PDB backup was taken: <ul style="list-style-type: none"> <li>YES: The backup was taken when connected to the PDB</li> <li>NO: The backup was taken when connected to the root container</li> </ul>                                                                                                                                 |
| SPARSE_BACKUP            | VARCHAR2 (3) | Indicates whether the file is sparse (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                          |
| GUID                     | RAW (16)     | The GUID of the PDB to which the backup belongs. This is useful after the PDB is dropped to identify which PDB the backup belongs to.                                                                                                                                                                                                                                                                                                           |

## 8.161 V\$DATAFILE\_HEADER

V\$DATAFILE\_HEADER displays data file information from the data file headers.

| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE#            | NUMBER        | Data file number (from control file)                                                                                                                                                                                                                                                                                                                                                                  |
| STATUS           | VARCHAR2 (7)  | ONLINE   OFFLINE (from control file)                                                                                                                                                                                                                                                                                                                                                                  |
| ERROR            | VARCHAR2 (18) | NULL if the data file header read and validation were successful. If the read failed then the rest of the columns are NULL. If the validation failed then the rest of columns may display invalid data. If there is an error then usually the data file must be restored from a backup before it can be recovered or used.                                                                            |
| FORMAT           | NUMBER        | Indicates the format for the header block. The possible values are 6, 7, 8, 10 or 0. <ul style="list-style-type: none"> <li>6 - indicates Oracle Version 6</li> <li>7 - indicates Oracle Version 7</li> <li>8 - indicates Oracle Version 8</li> <li>10 - indicates Oracle Version 10</li> <li>0 - indicates the format could not be determined (for example, the header could not be read)</li> </ul> |
| RECOVER          | VARCHAR2 (3)  | File needs media recovery (YES   NO)                                                                                                                                                                                                                                                                                                                                                                  |
| FUZZY            | VARCHAR2 (3)  | File is fuzzy (YES   NO)                                                                                                                                                                                                                                                                                                                                                                              |
| CREATION_CHANGE# | NUMBER        | Data file creation change#                                                                                                                                                                                                                                                                                                                                                                            |

| Column                   | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CREATION_TIME            | DATE           | Data file creation timestamp                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TABSPACE_NAME            | VARCHAR2 (30)  | Tablespace name                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TS#                      | NUMBER         | Tablespace number                                                                                                                                                                                                                                                                                                                                                                                                                               |
| RFILE#                   | NUMBER         | Tablespace relative data file number                                                                                                                                                                                                                                                                                                                                                                                                            |
| RESETLOGS_CHANGE#        | NUMBER         | Resetlogs change#                                                                                                                                                                                                                                                                                                                                                                                                                               |
| RESETLOGS_TIME           | DATE           | Resetlogs timestamp                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CHECKPOINT_CHANGE#       | NUMBER         | Data file checkpoint change#                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CHECKPOINT_TIME          | DATE           | Data file checkpoint timestamp                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CHECKPOINT_COUNT         | NUMBER         | Data file checkpoint count                                                                                                                                                                                                                                                                                                                                                                                                                      |
| BYTES                    | NUMBER         | Current data file size in bytes                                                                                                                                                                                                                                                                                                                                                                                                                 |
| BLOCKS                   | NUMBER         | Current data file size in blocks                                                                                                                                                                                                                                                                                                                                                                                                                |
| NAME                     | VARCHAR2 (513) | Data file name                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SPACE_HEADER             | VARCHAR2 (40)  | Represents the block address of a space file header block of a locally managed data file                                                                                                                                                                                                                                                                                                                                                        |
| LAST_DEALLOC_CHANGE#     | VARCHAR2 (16)  | Last deallocated SCN                                                                                                                                                                                                                                                                                                                                                                                                                            |
| UNDO_OPT_CURRENT_CHANGE# | VARCHAR2 (40)  | For internal use only                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID                   | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| IS_SPARSE                | VARCHAR2 (3)   | Indicates whether the file is sparse (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                          |
| ENCRYPTED                | VARCHAR2 (3)   | After file encryption is completed, this column indicates whether the file is encrypted (YES) or not (NO).<br>When file encryption is still in progress, this column has a value of NO.                                                                                                                                                                                                                                                         |

## 8.162 V\$DATAGUARD\_CONFIG

V\$DATAGUARD\_CONFIG displays the unique database names defined with the DB\_UNIQUE\_NAME and LOG\_ARCHIVE\_CONFIG initialization parameters, providing a view of the Oracle Data Guard environment from any database in the configuration.

The first row of the view lists the unique database name of the current database that was specified with the DB\_UNIQUE\_NAME initialization parameter. Additional rows reflect the unique database names of the other databases in the configuration that were specified with the DG\_CONFIG keyword of the LOG\_ARCHIVE\_CONFIG initialization parameter.

| Column         | Datatype      | Description          |
|----------------|---------------|----------------------|
| DB_UNIQUE_NAME | VARCHAR2 (30) | Unique database name |

| Column      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PARENT_DBUN | VARCHAR2 (30) | <p>DB_UNIQUE_NAME of the parent database, also known as the database that supplies live redo to the destination.</p> <p>For example, suppose Boston is the DB_UNIQUE_NAME of the primary database, Chicago is the DB_UNIQUE_NAME of the Far Sync Instance, and Seattle is the DB_UNIQUE_NAME of the terminal standby database. Since Boston is the primary database, it has no parent database so the PARENT_DBUN for Boston will be NULL. Since Boston services Chicago, the PARENT_DBUN of Chicago will be Boston. Since Chicago services Seattle, Chicago will be the PARENT_DBUN for Seattle.</p> |
| DEST_ROLE   | VARCHAR2 (17) | <p>Type of archival destination database:</p> <ul style="list-style-type: none"><li>• LOCAL - Local to primary database</li><li>• PHYSICAL - Physical standby</li><li>• FAR_SYNC_INSTANCE - Far Sync Instance</li><li>• CROSS-INSTANCE - An instance of the primary</li><li>• LOGICAL - Logical standby</li><li>• SNAPSHOT - Snapshot standby database</li><li>• DOWNSTREAM - Streams downstream capture database</li></ul>                                                                                                                                                                           |
| CURRENT_SCN | NUMBER        | The SCN up to which the specified database has applied redo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID      | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul>                                                                                                                                              |

 **See Also:**

- "DB\_UNIQUE\_NAME"
- "LOG\_ARCHIVE\_CONFIG"

## 8.163 V\$DATAGUARD\_PROCESS

V\$DATAGUARD\_PROCESS displays one row for each Oracle Data Guard process that is currently running.

| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME   | VARCHAR2 (5)  | Name of the process whose information is being reported. Some of the possible values include: <ul style="list-style-type: none"><li>• ARC<i>n</i> - Archiver process</li><li>• DTS - Data transport process</li><li>• FAL - File/announce process</li><li>• LGWR - Log Writer Process</li><li>• MRP0 - Detached recovery server process</li><li>• NSS<i>n</i> - SYNC Redo Transport process</li><li>• ORA - Foreground process</li><li>• RFS - Remote file server</li><li>• RMI - Remote message process</li><li>• TMON - Redo Transport Process monitor</li><li>• TT<i>nn</i> - Redo Transport Worker Process</li></ul> |
| PID    | VARCHAR2 (24) | Operating system process identifier of the process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TYPE   | VARCHAR2 (3)  | Indicates which Oracle subsystem created the process. Possible values: <ul style="list-style-type: none"><li>• KSB</li><li>• KSV</li><li>• NET</li><li>• UNK</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |



| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ROLE   | VARCHAR2 (25) | <p>Role of the process. Possible values:</p> <ul style="list-style-type: none"><li>• test</li><li>• async ORL multi</li><li>• async ORL single</li><li>• async SRL multi</li><li>• async SRL single</li><li>• log writer</li><li>• sync</li><li>• archive redo</li><li>• archive local</li><li>• archive gap</li><li>• RFS async</li><li>• RFS sync</li><li>• RFS archive</li><li>• RFS gap</li><li>• RFS SMON</li><li>• data transport</li><li>• data receive</li><li>• redo transport monitor</li><li>• heartbeat redo informer</li><li>• process kill</li><li>• post role transition</li><li>• gap manager</li><li>• update TMI</li><li>• RFS ping</li><li>• FAL GAP</li><li>• FAL announce</li><li>• failover</li><li>• switchover</li><li>• remote failover</li><li>• remote switchover</li><li>• redo transport timer</li><li>• announce request</li><li>• managed recovery</li><li>• recovery</li><li>• controlfile update</li><li>• broker monitor</li><li>• broker worker</li><li>• broker net worker</li><li>• broker instance worker</li><li>• fast-start failover ping</li><li>• recovery coordinator</li><li>• recovery logmerger</li><li>• recovery applier</li><li>• recovery sender</li><li>• recovery receiver</li><li>• redo transport test</li><li>• temporary</li><li>• datafile pre-create</li><li>• redo log management</li><li>• managed recovery DGPDB BG</li><li>• managed recovery DGPDB FG</li></ul> |

| Column     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            |               | <ul style="list-style-type: none"><li>• Compress ORL master</li><li>• Compress ORL worker</li><li>• Compress SRL master</li><li>• Compress SRL worker</li><li>• UNKNOWN</li></ul>                                                                                                                                                                                                                                                                                                                   |
| PROC_TIME  | TIMESTAMP (0) | Timestamp of when the process started or registered for inclusion in this fixed view                                                                                                                                                                                                                                                                                                                                                                                                                |
| TASK_TIME  | TIMESTAMP (0) | Timestamp of when the first task of the process was requested                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TASK_DONE  | VARCHAR2 (1)  | Indicates whether the task performed by the process is done (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ACTION     | VARCHAR2 (12) | Current action of the process. Possible values can include: <ul style="list-style-type: none"><li>• ANNOUNCING</li><li>• APPLYING_LOG</li><li>• ATTACHED</li><li>• CLOSING</li><li>• CONNECTED</li><li>• ERROR</li><li>• IDLE</li><li>• OPENING</li><li>• PROCESSING</li><li>• RECEIVING</li><li>• REGISTERING</li><li>• STARTING</li><li>• TERMINATING</li><li>• UNKNOWN</li><li>• UNUSED</li><li>• WAIT_FOR_GAP</li><li>• WAIT_FOR_LOG</li><li>• WAIT_FOR_NEW_PRIMARY</li><li>• WRITING</li></ul> |
| CLIENT_PID | NUMBER        | For RFS and DTS processes, the PID of the process communicating with this process                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Column      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CLIENT_ROLE | VARCHAR2 (16) | <p>For RFS and DTS processes, the role of the process communicating with this process.</p> <p>Possible values can include:</p> <ul style="list-style-type: none"> <li>• none</li> <li>• async ORL multi</li> <li>• async ORL single</li> <li>• async SRL multi</li> <li>• async SRL single</li> <li>• log writer</li> <li>• sync</li> <li>• archive redo</li> <li>• archive gap</li> <li>• data transport</li> <li>• gap manager</li> <li>• failover</li> <li>• switchover</li> <li>• announce request</li> <li>• managed recovery</li> <li>• recovery</li> <li>• UNKNOWN</li> </ul> |
| GROUP#      | NUMBER        | Group number of the log that the process is operating upon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| RESETLOG_ID | NUMBER        | Resetlog ID (branch) of the log that the process is operating upon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| THREAD#     | NUMBER        | Thread number that the process is operating upon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SEQUENCE#   | NUMBER        | Sequence number that the process is operating upon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| BLOCK#      | NUMBER        | Starting block number that the process is operating upon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| BLOCK_COUNT | NUMBER        | Number of blocks that the process is operating upon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DELAY_MINS  | NUMBER        | Archived redo log delay interval in minutes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DEST_ID     | NUMBER        | Destination ID that the process is currently operating upon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DEST_MASK   | NUMBER        | <p>Mask of all destination IDs that the process will operate upon, where:</p> <p>Bit 0 is LOG_ARCHIVE_DEST1</p> <p>Bit 1 is LOG_ARCHIVE_DEST2</p> <p>Bit 2 is LOG_ARCHIVE_DEST3</p> <p>and so on.</p>                                                                                                                                                                                                                                                                                                                                                                                |
| TENANT_KEY  | NUMBER        | <p>Unique identifier assigned to each customer in the Oracle Cloud</p> <p>If the database is not in the cloud, then the value of this columns is 0.</p> <p>The combination of TENANT_KEY and DBID can be used to uniquely identify a database.</p>                                                                                                                                                                                                                                                                                                                                   |
| DBID        | NUMBER        | Database ID of the redo that the process is operating upon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DGID        | NUMBER        | Data Guard ID that the process must communicate with                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| INSTANCE    | NUMBER        | Instance number that the process must communicate with at the specified DGID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| STOP_STATE  | VARCHAR2 (7)  | <p>Indicates the method by which the process has been requested to stop:</p> <ul style="list-style-type: none"> <li>• NOW - Requested to stop immediately and exit</li> <li>• SOON - Requested to stop on next log and exit</li> <li>• COMMIT - Requested to write remaining redo and exit</li> <li>• N/A - No request to stop</li> </ul>                                                                                                                                                                                                                                            |
| APPLY       | NUMBER        | SCN at which the database has applied redo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

Oracle recommends that you use this view instead of V\$MANAGED\_STANDBY.

## 8.164 V\$DATAGUARD\_STATS

V\$DATAGUARD\_STATS displays information about Oracle Data Guard metrics when queried on a target database. No rows are returned when queried on a primary database. In the descriptions in this section, the originating database that is generating the redo is either a primary database or a logical standby database.

| Column                | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SOURCE_DBID           | NUMBER        | Database ID of the originating database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| SOURCE_DB_UNIQUE_NAME | VARCHAR2 (32) | DB unique name of the originating database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| NAME                  | VARCHAR2 (32) | Name of the metric: <ul style="list-style-type: none"> <li>APPLY FINISH TIME - An estimate of the time needed to apply all received, but unapplied redo from the originating database. If there are one or more redo gaps on the target database, an estimate of the time needed to apply all received, but unapplied redo up to the end of the last archived redo log before the beginning of the earliest redo gap.</li> <li>APPLY LAG - Apply lag is a measure of the degree to which the data in a target database lags behind the data in the originating database, due to delays in propagating and applying redo to the target database. This value is relevant only to the applying instance.</li> <li>TRANSPORT LAG - Transport lag is a measure of the degree to which the transport of redo to the target database lags behind the generation of redo on the originating database. If there are one or more redo gaps on the target database, the transport lag is calculated as if no redo has been received after the beginning of the earliest redo gap.</li> <li>ESTIMATED STARTUP TIME - An estimate of the time needed to start and open the database.</li> </ul> |
| VALUE                 | VARCHAR2 (64) | Value of the metric                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| UNIT                  | VARCHAR2 (30) | Unit of measurement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TIME_COMPUTED         | VARCHAR2 (30) | Local time at the target database when the metric was computed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Column     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DATUM_TIME | VARCHAR2 (30) | Local time at the target database when the data used to compute the metric was received<br><br>The APPLY LAG and TRANSPORT LAG metrics are computed based on data that is periodically received from the source database. An unchanging value in this column across multiple queries indicates that the target database is not receiving data from the source database.                                                                 |
| CON_ID     | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• n: Where n is the applicable container ID for the rows containing data</li> </ul> |

## 8.165 V\$DATAGUARD\_STATUS

V\$DATAGUARD\_STATUS displays messages recently written to the alert log or server process trace files that concern physical standby databases or redo transport services for all standby database types.

| Column      | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                       |
|-------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FACILITY    | VARCHAR2 (24)  | Facility that encountered the event: <ul style="list-style-type: none"> <li>• Crash Recovery</li> <li>• Log Transport Services</li> <li>• Log Apply Services</li> <li>• Role Management Services</li> <li>• Remote File Server</li> <li>• Fetch Archive Log</li> <li>• Data Guard</li> <li>• Network Services</li> </ul>                                          |
| SEVERITY    | VARCHAR2 (13)  | Severity of the event: <ul style="list-style-type: none"> <li>• Informational - Informational message</li> <li>• Warning - Warning message</li> <li>• Error - Indicates the process has failed</li> <li>• Fatal</li> <li>• Control - An expected change in state such as the start or completion of an archival, log recovery, or switchover operation</li> </ul> |
| DEST_ID     | NUMBER         | Destination ID number to which the event pertains. If the event does not pertain to a particular destination, then the value is 0.                                                                                                                                                                                                                                |
| MESSAGE_NUM | NUMBER         | A chronologically increasing number giving each event a unique number                                                                                                                                                                                                                                                                                             |
| ERROR_CODE  | NUMBER         | Error ID pertaining to the event                                                                                                                                                                                                                                                                                                                                  |
| CALLOUT     | VARCHAR2 (3)   | Reserved for future use                                                                                                                                                                                                                                                                                                                                           |
| TIMESTAMP   | DATE           | Message date                                                                                                                                                                                                                                                                                                                                                      |
| MESSAGE     | VARCHAR2 (256) | A text message describing the event                                                                                                                                                                                                                                                                                                                               |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.166 V\$DATAPUMP\_SESSIONWAIT\_INFO

V\$DATAPUMP\_SESSIONWAIT\_INFO displays information about the current or last wait for each session attached to a Data Pump job.

| Column             | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WAITING_SESSION    | NUMBER        | Session identifier; maps to V\$SESSION.SID                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SERIAL_NUMBER      | NUMBER        | Session serial number (used to uniquely identify a session's objects); maps to V\$SESSION.SERIAL#                                                                                                                                                                                                                                                                                                                                                          |
| SEQ_NUMBER         | NUMBER        | A number that uniquely identifies the current or last wait (incremented for each wait)                                                                                                                                                                                                                                                                                                                                                                     |
| EVENT              | VARCHAR2 (64) | <p>If the session is currently waiting, then the resource or event for which the session is waiting. If the session is not in a wait, then the resource or event for which the session most recently waited.</p> <p><b>See Also:</b> "Oracle Wait Events"</p>                                                                                                                                                                                              |
| DP_WAITTIME        | NUMBER        | <p>If the session is currently waiting, then the value is 0. If the session is not in a wait, then the value is as follows:</p> <ul style="list-style-type: none"> <li>&gt; 0 - Value is the duration of the last wait in hundredths of a second</li> <li>-1 - Duration of the last wait was less than a hundredth of a second</li> <li>-2 - Parameter TIMED_STATISTICS was set to false</li> </ul>                                                        |
| DP_SECONDS_IN_WAIT | NUMBER        | If the session is currently waiting, then the value is the amount of time waited for the current wait. If the session is not in a wait, then the value is the amount of time since the start of the last wait.                                                                                                                                                                                                                                             |
| DP_STATE_IN_WAIT   | VARCHAR2 (19) | <p>Wait state of the Data Pump session:</p> <ul style="list-style-type: none"> <li>WAITING - Session is currently waiting</li> <li>WAITED UNKNOWN TIME - Duration of the last wait is unknown; this is the value when the parameter TIMED_STATISTICS is set to false</li> <li>WAITED SHORT TIME - Last wait was less than a hundredth of a second</li> <li>WAITED KNOWN TIME - Duration of the last wait is specified in the DP_WAITTIME column</li> </ul> |
| DP_P1TEXT          | VARCHAR2 (64) | Description of the first wait event parameter                                                                                                                                                                                                                                                                                                                                                                                                              |
| DP_P1              | NUMBER        | First wait event parameter (in decimal)                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DP_P2TEXT          | VARCHAR2 (64) | Description of the second wait event parameter                                                                                                                                                                                                                                                                                                                                                                                                             |
| DP_P2              | NUMBER        | Second wait event parameter (in decimal)                                                                                                                                                                                                                                                                                                                                                                                                                   |
| DP_P3TEXT          | VARCHAR2 (64) | Description of the third wait event parameter                                                                                                                                                                                                                                                                                                                                                                                                              |
| DP_P3              | NUMBER        | Third wait event parameter (in decimal)                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

## 8.167 V\$DB\_CACHE\_ADVICE

V\$DB\_CACHE\_ADVICE contains rows that predict the number of physical reads for the cache size corresponding to each row.

The rows also compute a "physical read factor," which is the ratio of the number of estimated reads to the number of reads actually performed by the real buffer cache during the measurement interval.

**See Also:**

"DB\_CACHE\_ADVICE"

| Column                    | Datatype      | Description                                                                                                                                                                                                                          |
|---------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ID                        | NUMBER        | Buffer pool identifier (ranges from 1 to 8)                                                                                                                                                                                          |
| NAME                      | VARCHAR2 (20) | Buffer pool name                                                                                                                                                                                                                     |
| BLOCK_SIZE                | NUMBER        | Block size in bytes for buffers in this pool. Possible values: the standard block size, the power of 2 nonstandard block sizes, 2048, 4096, 8192, 16384, 32768.                                                                      |
| ADVICE_STATUS             | VARCHAR2 (3)  | Status of the advisory. ON indicates it is currently running; OFF indicates it is disabled (in this case the estimates are historical and calculated when last enabled).                                                             |
| SIZE_FOR_ESTIMATE         | NUMBER        | Cache size for prediction (in megabytes)                                                                                                                                                                                             |
| SIZE_FACTOR               | NUMBER        | Size factor with respect to the current cache size                                                                                                                                                                                   |
| BUFFERS_FOR_ESTIMATE      | NUMBER        | Cache size for prediction (in terms of buffers)                                                                                                                                                                                      |
| ESTD_PHYSICAL_READ_FACTOR | NUMBER        | Physical read factor for this cache size, which is the ratio of the number of estimated physical reads to the number of reads in the real cache. If there are no physical reads in the real cache, the value of this column is null. |
| ESTD_PHYSICAL_READS       | NUMBER        | Estimated number of physical reads for this cache size                                                                                                                                                                               |
| ESTD_PHYSICAL_READ_TIME   | NUMBER        | Estimated disk read time (in seconds)                                                                                                                                                                                                |

| Column                        | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ESTD_PCT_OF_DB_TIME_FOR_READS | NUMBER   | Estimated disk time as a percentage of the total time                                                                                                                                                                                                                                                                                                                                                                                           |
| ESTD_CLUSTER_READS            | NUMBER   | Estimated total number of blocks foreground processes read from the global cache (Oracle Real Application Clusters only)                                                                                                                                                                                                                                                                                                                        |
| ESTD_CLUSTER_READ_TIME        | NUMBER   | Estimated total amount of time, in seconds, foreground processes read from global cache (Oracle Real Application Clusters only)                                                                                                                                                                                                                                                                                                                 |
| CON_ID                        | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.168 V\$DB\_OBJECT\_CACHE

V\$DB\_OBJECT\_CACHE displays database objects that are cached in the library cache. Objects include tables, indexes, clusters, synonym definitions, PL/SQL procedures and packages, and triggers.

| Column        | Datatype        | Description                                                                                                                                               |
|---------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER         | VARCHAR2 (64)   | Owner of the object                                                                                                                                       |
| NAME          | VARCHAR2 (1000) | Name of the object                                                                                                                                        |
| DB_LINK       | VARCHAR2 (64)   | Database link name, if any                                                                                                                                |
| NAMESPACE     | VARCHAR2 (64)   | Library cache namespace of the object: TABLE/PROCEDURE, BODY, TRIGGER, INDEX, CLUSTER, OBJECT                                                             |
| TYPE          | VARCHAR2 (64)   | Type of the object: INDEX, TABLE, CLUSTER, VIEW, SET, SYNONYM, SEQUENCE, PROCEDURE, FUNCTION, PACKAGE, PACKAGE BODY, TRIGGER, CLASS, OBJECT, USER, DBLINK |
| SHARABLE_MEM  | NUMBER          | Amount of sharable memory in the shared pool consumed by the object                                                                                       |
| LOADS         | NUMBER          | Number of times the object has been loaded. This count also increases when an object has been invalidated.                                                |
| EXECUTIONS    | NUMBER          | Not used<br><b>See Also:</b> "V\$SQLAREA" to see actual execution counts                                                                                  |
| LOCKS         | NUMBER          | Number of users currently locking this object                                                                                                             |
| PINS          | NUMBER          | Number of users currently pinning this object                                                                                                             |
| KEPT          | VARCHAR2 (3)    | (YES   NO) Depends on whether this object has been "kept" (permanently pinned in memory) with the PL/SQL procedure DBMS_SHARED_POOL.KEEP                  |
| CHILD_LATCH   | NUMBER          | Child latch number that is protecting the object. This column is obsolete and maintained for backward compatibility.                                      |
| INVALIDATIONS | NUMBER          | Total number of times objects in the namespace were marked invalid because a dependent object was modified                                                |
| HASH_VALUE    | NUMBER          | Hash value of the object                                                                                                                                  |
| LOCK_MODE     | VARCHAR2 (9)    | Current lock mode of the object                                                                                                                           |
| PIN_MODE      | VARCHAR2 (9)    | Current pin mode of the object                                                                                                                            |



| Column             | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS             | VARCHAR2 (19)  | Status of the object                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TIMESTAMP          | VARCHAR2 (19)  | Timestamp for the specification of the object                                                                                                                                                                                                                                                                                                                                                                                                   |
| PREVIOUS_TIMESTAMP | VARCHAR2 (19)  | Previous timestamp for the specification of the object                                                                                                                                                                                                                                                                                                                                                                                          |
| LOCKED_TOTAL       | NUMBER         | Total number of times the object has been locked                                                                                                                                                                                                                                                                                                                                                                                                |
| PINNED_TOTAL       | NUMBER         | Total number of times the object has been pinned                                                                                                                                                                                                                                                                                                                                                                                                |
| PROPERTY           | VARCHAR2 (80)  | Property of the object. Possible values include <code>HOT</code> or <code>HOTCOPY</code> when the library cache hot copy feature is used using <code>DBMS_SHARED_POOL.MARKHOT</code> .                                                                                                                                                                                                                                                          |
| FULL_HASH_VALUE    | VARCHAR2 (32)  | Full hash value of the object                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID             | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| CON_NAME           | VARCHAR2 (64)  | Container name of the object. The value of this column is <code>NULL</code> in non-CDBs.                                                                                                                                                                                                                                                                                                                                                        |
| ADDR               | RAW (8)        | Address of the handle for this object                                                                                                                                                                                                                                                                                                                                                                                                           |
| EDITION            | VARCHAR2 (138) | Edition name                                                                                                                                                                                                                                                                                                                                                                                                                                    |



#### See Also:

- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_SHARED_POOL.KEEP` procedure
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_SHARED_POOL.MARKHOT` procedure

## 8.169 V\$DB\_PIPES

`V$DB_PIPES` displays the pipes that are currently represented in the shared pool for this instance.

| Column    | Datatype        | Description                                                                                                                                           |
|-----------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNERID   | NUMBER          | Owner ID of the owner (if this is a private pipe), else <code>NULL</code>                                                                             |
| NAME      | VARCHAR2 (1000) | Name of the pipe (for example, <code>SCOTT.PIPE</code> )                                                                                              |
| TYPE      | VARCHAR2 (7)    | Type of the pipe: <ul style="list-style-type: none"> <li><code>PUBLIC</code></li> <li><code>PRIVATE</code></li> </ul>                                 |
| PIPE_SIZE | NUMBER          | Amount of memory the pipe uses<br><b>Note:</b> The value of this column may be larger than <code>maxpipesize</code> because of an internal algorithm. |

| Column    | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SINGLETON | VARCHAR2 (3)  | Indicates whether the pipe is a singleton pipe (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                  |
| SHELFLIFE | NUMBER        | The shelf life time (in seconds) for a message in a singleton pipe<br>If the pipe is not a singleton pipe, then the value of this column is 0.                                                                                                                                                                                                                                                                                                    |
| CON_ID    | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |
| CON_NAME  | VARCHAR2 (64) | Container name of the object. The value of this column is NULL in non-CDBs.                                                                                                                                                                                                                                                                                                                                                                       |

## 8.170 V\$DB\_TRANSPORTABLE\_PLATFORM

V\$DB\_TRANSPORTABLE\_PLATFORM displays all platforms to which the database can be transported using the RMAN CONVERT DATABASE command.

The transportable database feature only supports transports of the same endian platform. Therefore, V\$DB\_TRANSPORTABLE\_PLATFORM displays fewer rows than V\$TRANSPORTABLE\_PLATFORM.

| Column        | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PLATFORM_ID   | NUMBER         | Platform identification number                                                                                                                                                                                                                                                                                                                                                                                                                    |
| PLATFORM_NAME | VARCHAR2 (101) | Platform name                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ENDIAN_FORMAT | VARCHAR2 (14)  | Platform endian format: <ul style="list-style-type: none"><li>• Big</li><li>• Little</li><li>• UNKNOWN FORMAT</li></ul>                                                                                                                                                                                                                                                                                                                           |
| CON_ID        | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



### See Also:

"V\$TRANSPORTABLE\_PLATFORM"

## 8.171 V\$DBFILE

V\$DBFILE displays all data files making up the database. This view is retained for historical compatibility. Use of V\$DATAFILE is recommended instead.

| Column | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE#  | NUMBER         | File identifier                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| NAME   | VARCHAR2 (513) | Name of the file                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$DATAFILE"

## 8.172 V\$DBLINK

V\$DBLINK describes all database links (links with IN\_TRANSACTION = YES) opened by the session issuing the query on V\$DBLINK. These database links must be committed or rolled back before being closed.

| Column                | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DB_LINK               | VARCHAR2 (128) | Name of the database link                                                                                                                                                                                                                                                                                                                                                                                                                       |
| OWNER_ID              | NUMBER         | Owner of the database link UID                                                                                                                                                                                                                                                                                                                                                                                                                  |
| LOGGED_ON             | VARCHAR2 (3)   | Whether the database link is currently logged on                                                                                                                                                                                                                                                                                                                                                                                                |
| HETEROGENEOUS         | VARCHAR2 (3)   | Whether the database link is heterogeneous                                                                                                                                                                                                                                                                                                                                                                                                      |
| PROTOCOL              | VARCHAR2 (6)   | Communication protocol for the database link                                                                                                                                                                                                                                                                                                                                                                                                    |
| OPEN_CURSORS          | NUMBER         | Whether there are open cursors for the database link                                                                                                                                                                                                                                                                                                                                                                                            |
| IN_TRANSACTION        | VARCHAR2 (3)   | Whether the database link is currently in a transaction                                                                                                                                                                                                                                                                                                                                                                                         |
| UPDATE_SENT           | VARCHAR2 (3)   | Whether there has been an update on the database link                                                                                                                                                                                                                                                                                                                                                                                           |
| COMMIT_POINT_STRENGTH | NUMBER         | Commit point strength of the transactions on the database link                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID                | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.173 V\$DEAD\_CLEANUP

V\$DEAD\_CLEANUP shows the terminated processes and sessions present in the instance and their cleanup status.

| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE             | VARCHAR2 (64) | Indicates whether a row contains a DEAD PROCESS or KILLED SESSION                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PADDR            | RAW (8)       | Process pointer. Can be joined with V\$PROCESS. For a KILLED SESSION, this is the owner of the session, which can be NULL.                                                                                                                                                                                                                                                                                                                                                                                 |
| SADDR            | RAW (8)       | Session pointer. Can be joined with V\$SESSION. For a DEAD PROCESS, this is the user session.                                                                                                                                                                                                                                                                                                                                                                                                              |
| ROOT_ADDR        | RAW (8)       | Pointer to the root of the tree                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CLEANUP_OWNER    | VARCHAR2 (64) | Indicates which process is responsible for cleanup of this tree: <ul style="list-style-type: none"> <li>CLEANUP PROCESS - a cleanup process is responsible</li> <li>OWNER PROCESS - the root owner is responsible</li> </ul>                                                                                                                                                                                                                                                                               |
| STATE            | VARCHAR2 (64) | Cleanup state: <ul style="list-style-type: none"> <li>CLEANUP PENDING - Occurs for a DEAD PROCESS or KILLED SESSION that can be cleaned up, but PMON has not yet made an attempt</li> <li>IN PROGRESS - A cleanup attempt is currently in progress</li> <li>RESOURCES FREED - Occurs for a DEAD PROCESS or KILLED SESSION where all children have been freed, but the process or session itself is not yet freed</li> <li>PARTIAL CLEANUP - Occurs if some of the children have been cleaned up</li> </ul> |
| DEAD_TIME        | NUMBER        | Time since the DEAD PROCESS or KILLED SESSION was marked as such (in seconds)                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CLEANUP_ATTEMPTS | NUMBER        | Number of times PMON has attempted cleanup                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| LAST_ATTEMPT     | NUMBER        | How long ago the last cleanup attempt occurred (in seconds)                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CLEANUP_PROCESS  | RAW (8)       | Process pointer for the cleanup process currently cleaning up this tree (can join with V\$CLEANUP_PROCESS). It will be NULL if cleanup is not currently in progress or if the owner is responsible for cleanup.                                                                                                                                                                                                                                                                                            |
| CLEANUP_TIME     | NUMBER        | Total amount of time PMON has spent on cleanup of the process/session (in seconds)                                                                                                                                                                                                                                                                                                                                                                                                                         |
| NUM_BLOCKED      | NUMBER        | Number of sessions blocked on cleanup of this session                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CON_ID           | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul>                                                                          |



### See Also:

"V\$CLEANUP\_PROCESS"

## 8.174 V\$DELETED\_OBJECT

V\$DELETED\_OBJECT displays information about deleted archived logs, data file copies and backup pieces from the control file.

The only purpose of this view is to optimize the recovery catalog resync operation. When an archived log, data file copy, or backup piece is deleted, the corresponding record is marked deleted.

| Column       | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RECID        | NUMBER        | Deleted object record ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| STAMP        | NUMBER        | Deleted object record stamp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TYPE         | VARCHAR2 (26) | Identifies the type of deleted object: <ul style="list-style-type: none"> <li>• ARCHIVED LOG</li> <li>• BACKUP PIECE</li> <li>• DATAFILE COPY</li> <li>• PROXY COPY</li> <li>• BACKUP PIECE AVAILABLE</li> <li>• BACKUP PIECE EXPIRED</li> <li>• PROXY COPY AVAILABLE</li> <li>• PROXY COPY EXPIRED</li> <li>• BACKUP PIECE UNAVAILABLE</li> <li>• PROXY COPY UNAVAILABLE</li> <li>• DATAFILE COPY AVAILABLE</li> <li>• DATAFILE COPY EXPIRED</li> <li>• DATAFILE COPY UNAVAILABLE</li> <li>• ARCHIVED LOG AVAILABLE</li> <li>• ARCHIVED LOG EXPIRED</li> <li>• ARCHIVED LOG UNAVAILABLE</li> <li>• BACKUP SET KEEP OPTIONS</li> <li>• BACKUP SET KEEP UNTIL</li> <li>• PROXY COPY KEEP OPTIONS</li> <li>• PROXY COPY KEEP UNTIL</li> <li>• DATAFILE COPY KEEP OPTIONS</li> <li>• DATAFILE COPY KEEP UNTIL</li> <li>• DATAFILE RENAME ON RESTORE</li> </ul> |
| OBJECT_RECID | NUMBER        | Record ID of the deleted object                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| OBJECT_STAMP | NUMBER        | Record timestamp of the deleted object                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| OBJECT_DATA  | NUMBER        | Displays additional internal information related to this deleted object. For internal Oracle use only.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SET_STAMP    | NUMBER        | Set stamp of the deleted object                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SET_COUNT    | NUMBER        | Set count of the deleted object                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID       | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                       |

## 8.175 V\$DG\_BROKER\_CONFIG

V\$DG\_BROKER\_CONFIG provides a summary of an Oracle Data Guard broker configuration.

This is similar to the DGMGRL CLI's `SHOW CONFIGURATION` command. It provides a view of the entire Oracle Data Guard broker configuration from any database in the configuration.

| Column             | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DATABASE           | VARCHAR2 (512) | Database unique name                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CONNECT_IDENTIFIER | VARCHAR2 (512) | Net connect identifier used to reach the database                                                                                                                                                                                                                                                                                                                                                                                               |
| DATAGUARD_ROLE     | VARCHAR2 (27)  | Oracle Data Guard role of the database: <ul style="list-style-type: none"> <li>PRIMARY</li> <li>PHYSICAL STANDBY</li> <li>LOGICAL STANDBY</li> <li>SNAPSHOT STANDBY</li> <li>FAR SYNC INSTANCE</li> <li>RECOVERY APPLIANCE</li> </ul>                                                                                                                                                                                                           |
| REDO_SOURCE        | VARCHAR (30)   | The database unique name of the redo source                                                                                                                                                                                                                                                                                                                                                                                                     |
| ENABLED            | VARCHAR2 (5)   | TRUE or FALSE to denote whether or not the database is managed by Oracle Data Guard broker                                                                                                                                                                                                                                                                                                                                                      |
| STATUS             | NUMBER         | An Oracle error number denoting the database's current status                                                                                                                                                                                                                                                                                                                                                                                   |
| SEVERITY           | VARCHAR2 (30)  | Severity of the Oracle error. Possible values: <ul style="list-style-type: none"> <li>FAILURE</li> <li>SUCCESS</li> <li>WARNING</li> </ul>                                                                                                                                                                                                                                                                                                      |
| STATUS_MESSAGE     | VARCHAR2 (256) | Error message associated with the Oracle error number in the STATUS column                                                                                                                                                                                                                                                                                                                                                                      |
| VERSION            | VARCHAR2 (30)  | Version of the broker configuration                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID             | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.176 V\$DG\_BROKER\_ROLE\_CHANGE

V\$DG\_BROKER\_ROLE\_CHANGE displays information about the last ten role changes across a Data Guard broker configuration.

| Column | Datatype      | Description                                                                                                                                                  |
|--------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EVENT  | VARCHAR2 (30) | Type of role change: <ul style="list-style-type: none"> <li>Failover</li> <li>Fast-Start Failover</li> <li>Immediate Failover</li> <li>Switchover</li> </ul> |

| Column             | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STANDBY_TYPE       | VARCHAR2 (30)  | Type of standby database: <ul style="list-style-type: none"> <li>Logical</li> <li>Physical</li> </ul>                                                                                                                                                                                                                                                                                                                                           |
| OLD_PRIMARY        | VARCHAR2 (30)  | Database unique name of the old primary database, that is, the primary database before the role change occurred                                                                                                                                                                                                                                                                                                                                 |
| NEW_PRIMARY        | VARCHAR2 (30)  | Database unique name of the new primary database, that is, the primary database after the role change occurred                                                                                                                                                                                                                                                                                                                                  |
| FS_FAILOVER_REASON | VARCHAR2 (255) | If the role change was a fast-start failover, then this column displays the reason for the fast-start failover. For example, the primary database became disconnected.<br>Otherwise, the value of this column is null.                                                                                                                                                                                                                          |
| BEGIN_TIME         | TIMESTAMP (9)  | Begin time of the role change <ul style="list-style-type: none"> <li>If the role change was a failover, then this column displays the time at which the <code>ALTER DATABASE FAILOVER</code> statement was issued on the target standby.</li> <li>If the role change was a switchover, then this column displays the time at which the <code>ALTER DATABASE SWITCHOVER</code> statement was issued on the old primary database.</li> </ul>      |
| END_TIME           | TIMESTAMP (9)  | End time of the role change<br>For both failover and switchover role changes, this column displays the time at which the <code>ALTER DATABASE OPEN</code> operation was completed on the first instance of the new primary database.                                                                                                                                                                                                            |
| CON_ID             | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

## 8.177 V\$DIAG\_ALERT\_EXT

V\$DIAG\_ALERT\_EXT shows the contents of the XML-based alert log in the Automatic Diagnostic Repository (ADR) for the current container (PDB).

| Column                | Datatype                     | Description                                                                                                            |
|-----------------------|------------------------------|------------------------------------------------------------------------------------------------------------------------|
| ORIGINATING_TIMESTAMP | TIMESTAMP (9) WITH TIME ZONE | Date and time when the message was generated                                                                           |
| NORMALIZED_TIMESTAMP  | TIMESTAMP (9) WITH TIME ZONE | Date and time when the message originated, normalized for clock drift to the Oracle Enterprise Manager repository time |

| Column                     | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORGANIZATION_ID            | VARCHAR2 (67)   | ID of the organization that wrote the originating component, usually the domain of the organization                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMPONENT_ID               | VARCHAR2 (67)   | ID of the product or component that originated the message                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| HOST_ID                    | VARCHAR2 (67)   | DNS hostname of originating host                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| HOST_ADDRESS               | VARCHAR2 (49)   | IP of other network address of the originating host for the mesaage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| MESSAGE_TYPE               | NUMBER          | Type of the message, indicating that a different type of response is required. Possible values include: <ul style="list-style-type: none"> <li>1: UNKNOWN - Essentially the NULL type</li> <li>2: INCIDENT_ERROR - The program has encountered an error for some internal or unexpected reason, and it must be reported to Oracle Support</li> <li>3: ERROR - An error of some kind has occurred</li> <li>4: WARNING: An action occurred or a condition was discovered that should be reviewed and may require action</li> <li>5: NOTIFICATION: reports a normal action or event. This could be a user action such as "logon completed"</li> <li>6: TRACE: Output of a diagnostic trace</li> </ul> |
| MESSAGE_LEVEL              | NUMBER          | Level the message belongs to. Lower level values imply higher severity for errors. Possible values include: <ul style="list-style-type: none"> <li>1: CRITICAL: critical errors</li> <li>2: SEVERE: severe errors</li> <li>8: IMPORTANT: important message</li> <li>16: NORMAL: normal message</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                          |
| MESSAGE_ID                 | VARCHAR2 (67)   | ID of the message                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| MESSAGE_GROUP              | VARCHAR2 (67)   | Name of the group to which the message belongs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CLIENT_ID                  | VARCHAR2 (67)   | ID of the client or security group that the message relates to                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| MODULE_ID                  | VARCHAR2 (67)   | ID of the module that originated the message. This value is unique within a component.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| PROCESS_ID                 | VARCHAR2 (35)   | ID of the process that originated the message                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| THREAD_ID                  | VARCHAR2 (67)   | ID of the thread of the process that originated the message                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| USER_ID                    | VARCHAR2 (131)  | ID of the user that originated the message                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| INSTANCE_ID                | VARCHAR2 (67)   | For internal use only                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| DETAILED_LOCATION          | VARCHAR2 (163)  | Absolute pathname of supplemental detail file on the originating host                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| UPSTREAM_COMP_ID           | VARCHAR2 (103)  | ID of a component that the originating component is working with on the upstream (client) side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DOWNSTREAM_COMP_ID         | VARCHAR2 (103)  | ID of a component that the originating component is working with on the downstream (server) side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| EXECUTION_CONTEXT_ID       | VARCHAR2 (103)  | Identifies the thread of execution that the originating component participates in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EXECUTION_CONTEXT_SEQUENCE | NUMBER          | Execution sequence of the thread that the originating component participates in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ERROR_INSTANCE_ID          | NUMBER          | ID of the instance where error occurred                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| ERROR_INSTANCE_SEQUENCE    | NUMBER          | Instance sequence where error occurred                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| MESSAGE_TEXT               | VARCHAR2 (2051) | Fully formed and localized text of the message                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| MESSAGE_ARGUMENTS          | VARCHAR2 (515)  | Arguments to be bound with the generic text of the message                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |



| Column                  | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SUPPLEMENTAL_ATTRIBUTES | VARCHAR2 (515) | Supplemental attributes that are specific to a message. This field contains the impacts for an incident type error message.                                                                                                                                                                                                                                                                                                                     |
| SUPPLEMENTAL_DETAILS    | VARCHAR2 (515) | Supplemental data that is specific to a particular program and error message required to complete the diagnosis. Similar to the extra detail referred to in DETAILED_LOCATION but short enough to simply provide in the message itself                                                                                                                                                                                                          |
| PARTITION               | NUMBER         | Segment number of physical file                                                                                                                                                                                                                                                                                                                                                                                                                 |
| RECORD_ID               | NUMBER         | Record number for the message (this value is same as the row number)                                                                                                                                                                                                                                                                                                                                                                            |
| FILENAME                | VARCHAR2 (515) | Physical file on disk                                                                                                                                                                                                                                                                                                                                                                                                                           |
| LOG_NAME                | VARCHAR2 (67)  | For internal use only                                                                                                                                                                                                                                                                                                                                                                                                                           |
| PROBLEM_KEY             | VARCHAR2 (553) | Describes the key for the current problem that the message is associated with                                                                                                                                                                                                                                                                                                                                                                   |
| VERSION                 | NUMBER         | ARB version number for the message                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_UID                 | NUMBER         | The unique ID of the container to which the data pertains                                                                                                                                                                                                                                                                                                                                                                                       |
| CONTAINER_ID            | NUMBER         | The ID of the container to which the data pertains                                                                                                                                                                                                                                                                                                                                                                                              |
| CONTAINER_NAME          | VARCHAR2 (33)  | The name of the container to which the data pertains                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID                  | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.178 V\$DIAG\_APP\_TRACE\_FILE

V\$DIAG\_APP\_TRACE\_FILE contains information about all trace files present in the Automatic Diagnostic Repository (ADR) for the current container (PDB) which contain application trace data (SQL\_TRACE or OPTIMIZER\_TRACE event data). This view also supports GV\$ global views.

| Column         | Datatype                     | Description                                                                                                                                                                                                                                                                                                      |
|----------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADR_HOME       | VARCHAR2 (444)               | Path to the current ADR home                                                                                                                                                                                                                                                                                     |
| TRACE_FILENAME | VARCHAR2 (68)                | Displays the name of the process trace file                                                                                                                                                                                                                                                                      |
| CHANGE_TIME    | TIMESTAMP (3) WITH TIME ZONE | Displays the change time timestamp of the process trace file                                                                                                                                                                                                                                                     |
| MODIFY_TIME    | TIMESTAMP (3) WITH TIME ZONE | Displays the last modification timestamp of the process trace file                                                                                                                                                                                                                                               |
| SQL_TRACE      | VARCHAR2 (1)                 | Identifies if the process trace file contains SQL_TRACE data. Possible values include: <ul style="list-style-type: none"> <li>Y: This value is used when the process trace file contains SQL_TRACE event data</li> <li>N: This value indicates that the process trace does not contain SQL_TRACE data</li> </ul> |

| Column          | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OPTIMIZER_TRACE | VARCHAR2 (1) | Identifies if the process trace file contains OPTIMIZER_TRACE data. Possible values include: <ul style="list-style-type: none"> <li>Y: This value is used when the process trace file contains OPTIMIZER_TRACE event data</li> <li>N: This value indicates that the process trace does not contain OPTIMIZER_TRACE data</li> </ul>                                                                                                |
| CON_ID          | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul> |

## 8.179 V\$DIAG\_INCIDENT

V\$DIAG\_INCIDENT contains information about all incident metadata records present in the Automatic Diagnostic Repository (ADR) for the current container (PDB).

| Column           | Datatype                     | Description                                                                                                                                                                                                                                                                                                                                                 |
|------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INCIDENT_ID      | NUMBER                       | ID for the current incident                                                                                                                                                                                                                                                                                                                                 |
| PROBLEM_ID       | NUMBER                       | ID for the problem that the incident is associated with                                                                                                                                                                                                                                                                                                     |
| CREATE_TIME      | TIMESTAMP (9) WITH TIME ZONE | Displays the date and time when the incident was created                                                                                                                                                                                                                                                                                                    |
| CLOSE_TIME       | TIMESTAMP (9) WITH TIME ZONE | Displays the date and time when the incident was closed                                                                                                                                                                                                                                                                                                     |
| STATUS           | NUMBER                       | Describes the current status for the incident. Possible values include: <ul style="list-style-type: none"> <li>1: Incident is inflight</li> <li>2: Incident is ready</li> <li>3: Incident is tracked</li> <li>4: Incident is closed</li> <li>5: Incident data is removed</li> <li>6: Incident has been purged</li> <li>7: Incident is incomplete</li> </ul> |
| FLAGS            | NUMBER                       | For internal use only                                                                                                                                                                                                                                                                                                                                       |
| FLOOD_CONTROLLED | NUMBER                       | Describes the flood control status for the current incident. Possible values include: <ul style="list-style-type: none"> <li>0: Incident is not flood-controlled</li> <li>1: Incident is fully flood controlled (no dumps)</li> </ul>                                                                                                                       |
| ERROR_FACILITY   | VARCHAR2 (12)                | Displays the error facility for the current incident                                                                                                                                                                                                                                                                                                        |
| ERROR_NUMBER     | NUMBER                       | Displays the error number for the current incident                                                                                                                                                                                                                                                                                                          |
| ERROR_ARG1       | VARCHAR2 (66)                | Displays error-arguments associated with the given incident                                                                                                                                                                                                                                                                                                 |
| ERROR_ARG2       | VARCHAR2 (66)                | Displays error-arguments associated with the given incident                                                                                                                                                                                                                                                                                                 |
| ERROR_ARG3       | VARCHAR2 (66)                | Displays error-arguments associated with the given incident                                                                                                                                                                                                                                                                                                 |
| ERROR_ARG4       | VARCHAR2 (66)                | Displays error-arguments associated with the given incident                                                                                                                                                                                                                                                                                                 |

| Column                  | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ERROR_ARG5              | VARCHAR2 (66) | Displays error-arguments associated with the given incident                                                                                                                                                                                                                                                                                                                                                                                     |
| ERROR_ARG6              | VARCHAR2 (66) | Displays error-arguments associated with the given incident                                                                                                                                                                                                                                                                                                                                                                                     |
| ERROR_ARG7              | VARCHAR2 (66) | Displays error-arguments associated with the given incident                                                                                                                                                                                                                                                                                                                                                                                     |
| ERROR_ARG8              | VARCHAR2 (66) | Displays error-arguments associated with the given incident                                                                                                                                                                                                                                                                                                                                                                                     |
| SIGNALLING_COMPONENT    | VARCHAR2 (66) | Signalling component for the given incident                                                                                                                                                                                                                                                                                                                                                                                                     |
| SIGNALLING_SUBCOMPONENT | VARCHAR2 (66) | Signalling sub-component for the given incident                                                                                                                                                                                                                                                                                                                                                                                                 |
| SUSPECT_COMPONENT       | VARCHAR2 (66) | Displays the suspect component for the given incident                                                                                                                                                                                                                                                                                                                                                                                           |
| SUSPECT_SUBCOMPONENT    | VARCHAR2 (66) | Displays the suspect sub-component for the given incident                                                                                                                                                                                                                                                                                                                                                                                       |
| ECID                    | VARCHAR2 (66) | Execution context ID for the current incident                                                                                                                                                                                                                                                                                                                                                                                                   |
| IMPACT                  | NUMBER        | Describes the internal representation of the incident impact for the given incident                                                                                                                                                                                                                                                                                                                                                             |
| ERROR_ARG9              | VARCHAR2 (66) | Displays error-arguments associated with the given incident                                                                                                                                                                                                                                                                                                                                                                                     |
| ERROR_ARG10             | VARCHAR2 (66) | Displays error-arguments associated with the given incident                                                                                                                                                                                                                                                                                                                                                                                     |
| ERROR_ARG11             | VARCHAR2 (66) | Displays error-arguments associated with the given incident                                                                                                                                                                                                                                                                                                                                                                                     |
| ERROR_ARG12             | VARCHAR2 (66) | Displays error-arguments associated with the given incident                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_UID                 | NUMBER        | Describes the container unique ID to which the data pertains                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID                  | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.180 V\$DIAG\_INFO

V\$DIAG\_INFO describes the state of Automatic Diagnostic Repository (ADR) functionality using NAME=VALUE pairs.

| Column  | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INST_ID | NUMBER        | Instance ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| NAME    | VARCHAR2 (64) | Identifies a piece of data that reflects the state of ADR, such as whether it is enabled, where the directories and files are located, and how many ongoing issues (incidents and problems) there are.<br>Possible values include: <ul style="list-style-type: none"> <li>Diag Enabled: Indicates whether ADR is enabled or not</li> <li>ADR Base through Health Monitor: Display different directories (ADR base, ADR home, and then subdirectories within the ADR home)</li> <li>Default Trace File: Specifies the current default trace file for the current process</li> <li>Active Problem Count and Active Incident Count: Specify how many problems/incidents there are in this ADR that <i>either</i> happened in the last 24 hours <i>or</i> have a piece of metadata set indicating that it is a persistent error (like a disk corruption)</li> </ul> |

| Column | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VALUE  | VARCHAR2 (512) | Describes the current state of the piece of data identified in the NAME column                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul> |

## 8.181 V\$DIAG\_OPT\_TRACE\_RECORDS

V\$DIAG\_OPT\_TRACE\_RECORDS contains all optimizer trace event data that is present in the trace files that are part of the current Automatic Diagnostic Repository (ADR). This view also supports GV\$ global views.

| Column         | Datatype                     | Description                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADR_HOME       | VARCHAR2 (444)               | Path to current ADR home                                                                                                                                                                                                                                                                                                                                                                                          |
| TRACE_FILENAME | VARCHAR2 (68)                | Displays the name of the process trace file                                                                                                                                                                                                                                                                                                                                                                       |
| RECORD_LEVEL   | NUMBER                       | Displays the level of the trace record                                                                                                                                                                                                                                                                                                                                                                            |
| PARENT_LEVEL   | NUMBER                       | Displays the top parent level of the trace record                                                                                                                                                                                                                                                                                                                                                                 |
| RECORD_TYPE    | NUMBER                       | Displays the type of the trace record. Possible values include: <ul style="list-style-type: none"> <li>1: Regular trace record</li> <li>2: Freeform trace record</li> <li>3: Begin Section trace record</li> <li>4: Begin Dump trace record</li> <li>5: Bucket Dump Begin trace record</li> <li>6: Section End trace record</li> <li>7: Dump End trace record</li> <li>8: Bucket Dump End trace record</li> </ul> |
| TIMESTAMP      | TIMESTAMP (3) WITH TIME ZONE | Displays the timestamp when the trace record was produced                                                                                                                                                                                                                                                                                                                                                         |
| PAYLOAD        | VARCHAR2 (4000)              | Describes the trace record payload (contents)                                                                                                                                                                                                                                                                                                                                                                     |
| SECTION_ID     | NUMBER                       | Displays the section ID / dump ID of the trace record                                                                                                                                                                                                                                                                                                                                                             |
| SECTION_NAME   | VARCHAR2 (64)                | Displays the section name / dump name of the trace record                                                                                                                                                                                                                                                                                                                                                         |
| COMPONENT_NAME | VARCHAR2 (64)                | Displays the component name which produced the trace record                                                                                                                                                                                                                                                                                                                                                       |
| OPERATION_NAME | VARCHAR2 (64)                | Displays the operation name which produced the trace record                                                                                                                                                                                                                                                                                                                                                       |
| FILE_NAME      | VARCHAR2 (64)                | Displays the name of the code file where this trace record is produced                                                                                                                                                                                                                                                                                                                                            |
| FUNCTION_NAME  | VARCHAR2 (64)                | Displays the function which produced this trace record                                                                                                                                                                                                                                                                                                                                                            |
| LINE_NUMBER    | NUMBER                       | Displays the line number in the code file which produced this trace record                                                                                                                                                                                                                                                                                                                                        |
| THREAD_ID      | VARCHAR2 (64)                | Displays the operating system thread ID of the process which produced the trace record                                                                                                                                                                                                                                                                                                                            |
| SESSION_ID     | NUMBER                       | Displays the user session ID which generated the trace record                                                                                                                                                                                                                                                                                                                                                     |

| Column         | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SERIAL#        | NUMBER        | Displays the user session serial number which produced the trace record                                                                                                                                                                                                                                                                                                                                                                               |
| SECURITY_LABEL | VARCHAR2 (16) | Displays the trace record security label classification. Possible values: <ul style="list-style-type: none"> <li>• ALGORITHM</li> <li>• CONFIG</li> <li>• DATA</li> <li>• INTERNAL</li> <li>• KEYS</li> <li>• METADATA</li> <li>• NONE</li> <li>• PROGRAM</li> <li>• STATIC</li> <li>• UNKNOWN</li> </ul>                                                                                                                                             |
| CON_UID        | NUMBER        | Displays the container unique ID where the trace record was produced                                                                                                                                                                                                                                                                                                                                                                                  |
| CONTAINER_NAME | VARCHAR2 (64) | Displays the container name where the trace record was produced                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID         | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.182 V\$DIAG\_PROBLEM

V\$DIAG\_PROBLEM contains information about all problem metadata records present in the Automatic Diagnostic Repository (ADR) for the current container (PDB).

| Column          | Datatype                     | Description                                                                                                    |
|-----------------|------------------------------|----------------------------------------------------------------------------------------------------------------|
| PROBLEM_ID      | NUMBER                       | Displays the ID for the current problem                                                                        |
| PROBLEM_KEY     | VARCHAR2 (552)               | Displays the problem key for the current problem                                                               |
| FIRST_INCIDENT  | NUMBER                       | Displays the first incident ID for the current problem                                                         |
| FIRSTINC_TIME   | TIMESTAMP (9) WITH TIME ZONE | Displays the timestamp when the first incident occurred for the current problem                                |
| LAST_INCIDENT   | NUMBER                       | Displays the last incident ID for the current problem                                                          |
| LASTINC_TIME    | TIMESTAMP (9) WITH TIME ZONE | Displays the timestamp when the last incident occurred for the current problem                                 |
| IMPACT1         | NUMBER                       | Displays the first impact for the current problem                                                              |
| IMPACT2         | NUMBER                       | Displays the second impact for the current problem                                                             |
| IMPACT3         | NUMBER                       | Displays the third impact for the current problem                                                              |
| IMPACT4         | NUMBER                       | Displays the fourth impact for the current problem                                                             |
| SERVICE_REQUEST | VARCHAR2 (66)                | Displays the service request number for the current problem, if a number has been entered in Support Workbench |
| BUG_NUMBER      | VARCHAR2 (66)                | Displays the bug number for the current problem, if a number has been entered in Support Workbench             |

| Column  | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_UID | NUMBER   | Displays the container unique ID to which the data pertains                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID  | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.183 V\$DIAG\_SESS\_OPT\_TRACE\_RECORDS

V\$DIAG\_SESS\_OPT\_TRACE\_RECORDS contains all optimizer trace event data that is present in the trace files for the current user session that is part of the current Automatic Diagnostic Repository (ADR).

| Column         | Datatype                     | Description                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADR_HOME       | VARCHAR2 (444)               | Path to current ADR home                                                                                                                                                                                                                                                                                                                                                                                                 |
| TRACE_FILENAME | VARCHAR2 (68)                | Displays the name of the process trace file                                                                                                                                                                                                                                                                                                                                                                              |
| RECORD_LEVEL   | NUMBER                       | Displays the level of the trace record                                                                                                                                                                                                                                                                                                                                                                                   |
| PARENT_LEVEL   | NUMBER                       | Displays the top parent level of the trace record                                                                                                                                                                                                                                                                                                                                                                        |
| RECORD_TYPE    | NUMBER                       | <p>Displays the type of the trace record. Possible values include:</p> <ul style="list-style-type: none"> <li>1: Regular trace record</li> <li>2: Freeform trace record</li> <li>3: Begin Section trace record</li> <li>4: Begin Dump trace record</li> <li>5: Bucket Dump Begin trace record</li> <li>6: Section End trace record</li> <li>7: Dump End trace record</li> <li>8: Bucket Dump End trace record</li> </ul> |
| TIMESTAMP      | TIMESTAMP (3) WITH TIME ZONE | Displays the timestamp when the trace record was produced                                                                                                                                                                                                                                                                                                                                                                |
| PAYLOAD        | VARCHAR2 (4000)              | Displays the trace record payload (contents)                                                                                                                                                                                                                                                                                                                                                                             |
| SECTION_ID     | NUMBER                       | Displays the section ID / dump ID of the trace record                                                                                                                                                                                                                                                                                                                                                                    |
| SECTION_NAME   | VARCHAR2 (64)                | Displays the section name / dump name of the trace record                                                                                                                                                                                                                                                                                                                                                                |
| COMPONENT_NAME | VARCHAR2 (64)                | Displays the component name which produced the trace record                                                                                                                                                                                                                                                                                                                                                              |
| OPERATION_NAME | VARCHAR2 (64)                | Displays the operation name which produced the trace record                                                                                                                                                                                                                                                                                                                                                              |
| FILE_NAME      | VARCHAR2 (64)                | Displays the name of the code file where this trace record is produced                                                                                                                                                                                                                                                                                                                                                   |
| FUNCTION_NAME  | VARCHAR2 (64)                | Displays the function which produced this trace record                                                                                                                                                                                                                                                                                                                                                                   |
| LINE_NUMBER    | NUMBER                       | Displays the line number in the code file which produced this trace record                                                                                                                                                                                                                                                                                                                                               |
| THREAD_ID      | VARCHAR2 (64)                | Displays the operating system thread ID of the process which produced the trace record                                                                                                                                                                                                                                                                                                                                   |
| SESSION_ID     | NUMBER                       | Displays the user session ID which generated the trace record                                                                                                                                                                                                                                                                                                                                                            |

| Column         | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SERIAL#        | NUMBER        | Displays the user session serial number which produced the trace record                                                                                                                                                                                                                                                                                                                                                                               |
| SECURITY_LABEL | VARCHAR2 (16) | Displays the trace record security label classification. Possible values: <ul style="list-style-type: none"> <li>• ALGORITHM</li> <li>• CONFIG</li> <li>• DATA</li> <li>• INTERNAL</li> <li>• KEYS</li> <li>• METADATA</li> <li>• NONE</li> <li>• PROGRAM</li> <li>• STATIC</li> <li>• UNKNOWN</li> </ul>                                                                                                                                             |
| CON_UID        | NUMBER        | Displays the container unique ID where the trace record was produced                                                                                                                                                                                                                                                                                                                                                                                  |
| CONTAINER_NAME | VARCHAR2 (64) | Displays the container name where the trace record was produced                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID         | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.184 V\$DIAG\_SESS\_SQL\_TRACE\_RECORDS

V\$DIAG\_SESS\_SQL\_TRACE\_RECORDS contains all SQL\_TRACE data that is present in the trace files for the current user session that is part of the current Automatic Diagnostic Repository (ADR).

| Column         | Datatype                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADR_HOME       | VARCHAR2 (444)               | Path to current ADR home                                                                                                                                                                                                                                                                                                                                                                                                          |
| TRACE_FILENAME | VARCHAR2 (68)                | Displays the name of the process trace file                                                                                                                                                                                                                                                                                                                                                                                       |
| RECORD_LEVEL   | NUMBER                       | Displays the level of the trace record                                                                                                                                                                                                                                                                                                                                                                                            |
| PARENT_LEVEL   | NUMBER                       | Displays the top parent level of the trace record                                                                                                                                                                                                                                                                                                                                                                                 |
| RECORD_TYPE    | NUMBER                       | Displays the type of the trace record. Possible values include: <ul style="list-style-type: none"> <li>• 1: Regular trace record</li> <li>• 2: Freeform trace record</li> <li>• 3: Begin Section trace record</li> <li>• 4: Begin Dump trace record</li> <li>• 5: Bucket Dump Begin trace record</li> <li>• 6: Section End trace record</li> <li>• 7: Dump End trace record</li> <li>• 8: Bucket Dump End trace record</li> </ul> |
| TIMESTAMP      | TIMESTAMP (3) WITH TIME ZONE | Displays the timestamp when the trace record was produced                                                                                                                                                                                                                                                                                                                                                                         |
| PAYLOAD        | VARCHAR2 (4000)              | Displays the trace record payload (contents)                                                                                                                                                                                                                                                                                                                                                                                      |

| Column         | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SECTION_ID     | NUMBER        | Displays the section ID / dump ID of the trace record                                                                                                                                                                                                                                                                                                                                                                                                 |
| SECTION_NAME   | VARCHAR2 (64) | Displays the section name / dump name of the trace record                                                                                                                                                                                                                                                                                                                                                                                             |
| COMPONENT_NAME | VARCHAR2 (64) | Displays the component name which produced the trace record                                                                                                                                                                                                                                                                                                                                                                                           |
| OPERATION_NAME | VARCHAR2 (64) | Displays the operation name which produced the trace record                                                                                                                                                                                                                                                                                                                                                                                           |
| FILE_NAME      | VARCHAR2 (64) | Displays the name of the code file where this trace record is produced                                                                                                                                                                                                                                                                                                                                                                                |
| FUNCTION_NAME  | VARCHAR2 (64) | Displays the function which produced this trace record                                                                                                                                                                                                                                                                                                                                                                                                |
| LINE_NUMBER    | NUMBER        | Displays the line number in the code file which produced this trace record                                                                                                                                                                                                                                                                                                                                                                            |
| THREAD_ID      | VARCHAR2 (64) | Displays the operating system thread ID of the process which produced the trace record                                                                                                                                                                                                                                                                                                                                                                |
| SESSION_ID     | NUMBER        | Displays the user session ID which generated the trace record                                                                                                                                                                                                                                                                                                                                                                                         |
| SERIAL#        | NUMBER        | Displays the user session serial number which produced the trace record                                                                                                                                                                                                                                                                                                                                                                               |
| SECURITY_LABEL | VARCHAR2 (16) | Displays the trace record security label classification. Possible values: <ul style="list-style-type: none"> <li>• ALGORITHM</li> <li>• CONFIG</li> <li>• DATA</li> <li>• INTERNAL</li> <li>• KEYS</li> <li>• METADATA</li> <li>• NONE</li> <li>• PROGRAM</li> <li>• STATIC</li> <li>• UNKNOWN</li> </ul>                                                                                                                                             |
| CON_UID        | NUMBER        | Displays the container unique ID where the trace record was produced                                                                                                                                                                                                                                                                                                                                                                                  |
| CONTAINER_NAME | VARCHAR2 (64) | Displays the container name where the trace record was produced                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID         | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.185 V\$DIAG\_SQL\_TRACE\_RECORDS

V\$DIAG\_SQL\_TRACE\_RECORDS contains all SQL\_TRACE data that is present in the trace files that are part of the current Automatic Diagnostic Repository (ADR). This view also supports GV\$ global views.

| Column         | Datatype       | Description                                 |
|----------------|----------------|---------------------------------------------|
| ADR_HOME       | VARCHAR2 (444) | Path to current ADR home                    |
| TRACE_FILENAME | VARCHAR2 (68)  | Displays the name of the process trace file |
| RECORD_LEVEL   | NUMBER         | Displays the level of the trace record      |



| Column         | Datatype                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PARENT_LEVEL   | NUMBER                      | Displays the top parent level of the trace record                                                                                                                                                                                                                                                                                                                                                                                                     |
| RECORD_TYPE    | NUMBER                      | Displays the type of the trace record. Possible values include: <ul style="list-style-type: none"> <li>• 1: Regular trace record</li> <li>• 2: Freeform trace record</li> <li>• 3: Begin Section trace record</li> <li>• 4: Begin Dump trace record</li> <li>• 5: Bucket Dump Begin trace record</li> <li>• 6: Section End trace record</li> <li>• 7: Dump End trace record</li> <li>• 8: Bucket Dump End trace record</li> </ul>                     |
| TIMESTAMP      | TIMESTAMP(3) WITH TIME ZONE | Displays the timestamp when the trace record was produced                                                                                                                                                                                                                                                                                                                                                                                             |
| PAYLOAD        | VARCHAR2(4000)              | Displays the trace record payload (contents)                                                                                                                                                                                                                                                                                                                                                                                                          |
| SECTION_ID     | NUMBER                      | Displays the section ID / dump ID of the trace record                                                                                                                                                                                                                                                                                                                                                                                                 |
| SECTION_NAME   | VARCHAR2(64)                | Displays the section name / dump name of the trace record                                                                                                                                                                                                                                                                                                                                                                                             |
| COMPONENT_NAME | VARCHAR2(64)                | Displays the component name which produced the trace record                                                                                                                                                                                                                                                                                                                                                                                           |
| OPERATION_NAME | VARCHAR2(64)                | Displays the operation name which produced the trace record                                                                                                                                                                                                                                                                                                                                                                                           |
| FILE_NAME      | VARCHAR2(64)                | Displays the name of the code file where this trace record is produced                                                                                                                                                                                                                                                                                                                                                                                |
| FUNCTION_NAME  | VARCHAR2(64)                | Displays the function which produced this trace record                                                                                                                                                                                                                                                                                                                                                                                                |
| LINE_NUMBER    | NUMBER                      | Displays the line number in the code file which produced this trace record                                                                                                                                                                                                                                                                                                                                                                            |
| THREAD_ID      | VARCHAR2(64)                | Displays the operating system thread ID of the process which produced the trace record                                                                                                                                                                                                                                                                                                                                                                |
| SESSION_ID     | NUMBER                      | Displays the user session ID which generated the trace record                                                                                                                                                                                                                                                                                                                                                                                         |
| SERIAL#        | NUMBER                      | Displays the user session serial number which produced the trace record                                                                                                                                                                                                                                                                                                                                                                               |
| SECURITY_LABEL | VARCHAR2(16)                | Displays the trace record security label classification. Possible values: <ul style="list-style-type: none"> <li>• ALGORITHM</li> <li>• CONFIG</li> <li>• DATA</li> <li>• INTERNAL</li> <li>• KEYS</li> <li>• METADATA</li> <li>• NONE</li> <li>• PROGRAM</li> <li>• STATIC</li> <li>• UNKNOWN</li> </ul>                                                                                                                                             |
| CON_UID        | NUMBER                      | Displays the container unique ID where the trace record was produced                                                                                                                                                                                                                                                                                                                                                                                  |
| CONTAINER_NAME | VARCHAR2(64)                | Displays the container name where the trace record was produced                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID         | NUMBER                      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.186 V\$DIAG\_TRACE\_FILE

V\$DIAG\_TRACE\_FILE contains information about all trace files present in the Automatic Diagnostic Repository (ADR) for the current container (PDB). This view also supports GV\$ global views.

| Column         | Datatype                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADR_HOME       | VARCHAR2 (444)               | Path to the current ADR home                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TRACE_FILENAME | VARCHAR2 (68)                | Displays the name of the process trace file                                                                                                                                                                                                                                                                                                                                                                                                       |
| CHANGE_TIME    | TIMESTAMP (3) WITH TIME ZONE | Displays the change time timestamp of the process trace file                                                                                                                                                                                                                                                                                                                                                                                      |
| MODIFY_TIME    | TIMESTAMP (3) WITH TIME ZONE | Displays the last modification timestamp of the process trace file                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID         | NUMBER                       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.187 V\$DIAG\_TRACE\_FILE\_CONTENTS

V\$DIAG\_TRACE\_FILE\_CONTENTS contains trace data that is present in the trace files that are part of the current Automatic Diagnostic Repository (ADR). This view also supports GV\$ global views.

| Column         | Datatype                     | Description                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADR_HOME       | VARCHAR2 (444)               | Path to the current ADR home                                                                                                                                                                                                                                                                                                                                                                                             |
| TRACE_FILENAME | VARCHAR2 (68)                | Displays the name of the process trace file                                                                                                                                                                                                                                                                                                                                                                              |
| RECORD_LEVEL   | NUMBER                       | Displays the level of the trace record                                                                                                                                                                                                                                                                                                                                                                                   |
| PARENT_LEVEL   | NUMBER                       | Displays the top parent level of the trace record                                                                                                                                                                                                                                                                                                                                                                        |
| RECORD_TYPE    | NUMBER                       | Displays the type of the trace record. Possible values include: <ul style="list-style-type: none"><li>• 1: Regular trace record</li><li>• 2: Freeform trace record</li><li>• 3: Begin Section trace record</li><li>• 4: Begin Dump trace record</li><li>• 5: Bucket Dump Begin trace record</li><li>• 6: Section End trace record</li><li>• 7: Dump End trace record</li><li>• 8: Bucket Dump End trace record</li></ul> |
| TIMESTAMP      | TIMESTAMP (3) WITH TIME ZONE | Displays the timestamp when the trace record was produced                                                                                                                                                                                                                                                                                                                                                                |
| PAYLOAD        | VARCHAR2 (4000)              | Displays the trace record payload (contents)                                                                                                                                                                                                                                                                                                                                                                             |
| SECTION_ID     | NUMBER                       | Displays the section ID / dump ID of the trace record                                                                                                                                                                                                                                                                                                                                                                    |

| Column         | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SECTION_NAME   | VARCHAR2 (64) | Displays the section name / dump name of the trace record                                                                                                                                                                                                                                                                                                                                                                                             |
| COMPONENT_NAME | VARCHAR2 (64) | Displays the component name which produced the trace record                                                                                                                                                                                                                                                                                                                                                                                           |
| OPERATION_NAME | VARCHAR2 (64) | Displays the operation name which produced the trace record                                                                                                                                                                                                                                                                                                                                                                                           |
| FILE_NAME      | VARCHAR2 (64) | Displays the name of the code file where this trace record is produced                                                                                                                                                                                                                                                                                                                                                                                |
| FUNCTION_NAME  | VARCHAR2 (64) | Displays the function which produced this trace record                                                                                                                                                                                                                                                                                                                                                                                                |
| LINE_NUMBER    | NUMBER        | Displays the line number in the code file which produced this trace record                                                                                                                                                                                                                                                                                                                                                                            |
| THREAD_ID      | VARCHAR2 (64) | Displays the operating system thread ID of the process which produced the trace record                                                                                                                                                                                                                                                                                                                                                                |
| SESSION_ID     | NUMBER        | Displays the user session ID which generated the trace record                                                                                                                                                                                                                                                                                                                                                                                         |
| SERIAL#        | NUMBER        | Displays the user session serial number which produced the trace record                                                                                                                                                                                                                                                                                                                                                                               |
| SECURITY_LABEL | VARCHAR2 (16) | Displays the trace record security label classification. Possible values: <ul style="list-style-type: none"> <li>• ALGORITHM</li> <li>• CONFIG</li> <li>• DATA</li> <li>• INTERNAL</li> <li>• KEYS</li> <li>• METADATA</li> <li>• NONE</li> <li>• PROGRAM</li> <li>• STATIC</li> <li>• UNKNOWN</li> </ul>                                                                                                                                             |
| CON_UID        | NUMBER        | Displays the container unique ID where the trace record was produced                                                                                                                                                                                                                                                                                                                                                                                  |
| CONTAINER_NAME | VARCHAR2 (64) | Displays the container name where the trace record was produced                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID         | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.188 V\$DISPATCHER

V\$DISPATCHER displays information about the dispatcher processes.

| Column  | Datatype        | Description                       |
|---------|-----------------|-----------------------------------|
| NAME    | VARCHAR2 (4)    | Name of the dispatcher process    |
| NETWORK | VARCHAR2 (1024) | Network address of the dispatcher |
| PADDR   | RAW (4   8)     | Process address                   |

| Column    | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS    | VARCHAR2 (16) | Status of the dispatcher: <ul style="list-style-type: none"> <li>• WAIT - Idle</li> <li>• SEND - Sending a message</li> <li>• RECEIVE - Receiving a message</li> <li>• CONNECT - Establishing a connection</li> <li>• DISCONNECT - Handling a disconnect request</li> <li>• BREAK - Handling a break</li> <li>• TERMINATE - In the process of terminating</li> <li>• ACCEPT - Accepting connections (no further information available)</li> <li>• REFUSE - Rejecting connections (no further information available)</li> </ul> |
| ACCEPT    | VARCHAR2 (3)  | Indicates whether the dispatcher is accepting new connections (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| MESSAGES  | NUMBER        | Number of messages processed by the dispatcher                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| BYTES     | NUMBER        | Size (in bytes) of messages processed by the dispatcher                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| BREAKS    | NUMBER        | Number of breaks occurring in the connection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| OWNED     | NUMBER        | Number of circuits owned by the dispatcher                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CREATED   | NUMBER        | Number of circuits created by the dispatcher                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| IDLE      | NUMBER        | Total idle time for the dispatcher (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| BUSY      | NUMBER        | Total busy time for the dispatcher (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CPU       | NUMBER        | Total CPU time for the dispatcher (in millionths of a second)                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| LISTENER  | NUMBER        | Most recent Oracle error number the dispatcher received from the listener                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CONF_INDX | NUMBER        | Zero-based index of the DISPATCHERS configuration used by the dispatcher                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID    | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                          |

## 8.189 V\$DISPATCHER\_CONFIG

V\$DISPATCHER\_CONFIG displays information about the dispatcher configurations and their attributes.

| Column      | Datatype        | Description                                                             |
|-------------|-----------------|-------------------------------------------------------------------------|
| CONF_INDX   | NUMBER          | Zero-based index of the DISPATCHERS configuration                       |
| NETWORK     | VARCHAR2 (1024) | Network protocol or listening address of dispatchers (may be truncated) |
| DISPATCHERS | NUMBER          | Number of dispatchers to maintain for the configuration                 |
| CONNECTIONS | NUMBER          | Maximum number of concurrent connections per dispatcher                 |
| SESSIONS    | NUMBER          | Maximum number of concurrent sessions per dispatcher                    |

| Column   | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MULTIPLY | VARCHAR2 (4)    | Indicates whether Session Multiplexing is on: <ul style="list-style-type: none"> <li>• IN</li> <li>• OUT</li> <li>• BOTH</li> <li>• OFF</li> </ul>                                                                                                                                                                                                                                                                                                    |
| LISTENER | VARCHAR2 (1200) | Listeners to register dispatchers with (may be truncated)                                                                                                                                                                                                                                                                                                                                                                                             |
| SERVICE  | VARCHAR2 (512)  | Service names supported (may be truncated)                                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID   | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.190 V\$DISPATCHER\_RATE

V\$DISPATCHER\_RATE displays rate statistics for a number of activities performed by the dispatcher processes.

Collected samples have an activity-specific "time-to-live" (TTL\_ \* columns). Statistics are reported over the following two types of time intervals:

- Current statistics (CUR\_ columns)

Current statistics use samples collected over the most recent time-to-live interval.

- Historical statistics (AVG\_ and most of the MAX\_ columns)

Historical statistics make use of all samples that are no longer current.

At the time of collection, a sample is current. After the time-to-live has elapsed, the sample becomes historical. Each type of activity has a specific scale (represented by the SCALE\_ \* columns) at which the statistics are reported.

| Column              | Datatype     | Description                                                                                                                                                                                            |
|---------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME                | VARCHAR2 (4) | Name of the dispatcher process                                                                                                                                                                         |
| PADDR               | RAW (4   8)  | Address of the dispatcher process                                                                                                                                                                      |
| CUR_LOOP_RATE       | NUMBER       | Rate at which the dispatcher has been iterating through its dispatching loop, reported over the past TTL_LOOPS, in iterations/SCALE_LOOPS                                                              |
| CUR_EVENT_RATE      | NUMBER       | Rate at which the dispatcher has been processing dispatcher events, reported over the past TTL_LOOPS, in events/SCALE_LOOPS. Such dispatcher events include network events and shared server requests. |
| CUR_EVENTS_PER_LOOP | NUMBER       | Average number of events the dispatcher has been processing in each iteration through its dispatching loop, reported over the past TTL_LOOPS, in events/iteration                                      |
| CUR_MSG_RATE        | NUMBER       | Rate at which the dispatcher has been relaying messages between clients and shared servers, reported over the past TTL_MSG, in messages/SCALE_MSG                                                      |

| Column               | Datatype | Description                                                                                                                                                                                  |
|----------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CUR_SVR_BUF_RATE     | NUMBER   | Rate at which the dispatcher has been relaying buffers to shared servers, reported over the past TTL_SVR_BUF, in messages/SCALE_SVR_BUF                                                      |
| CUR_SVR_BYTE_RATE    | NUMBER   | Rate at which the dispatcher has been relaying data to shared servers, reported over the past TTL_SVR_BUF, in bytes/SCALE_SVR_BUF                                                            |
| CUR_SVR_BYTE_PER_BUF | NUMBER   | Average number of data types in each buffer relayed to shared servers, reported over the past TTL_SVR_BUF, in bytes/buffer                                                                   |
| CUR_CLT_BUF_RATE     | NUMBER   | Rate at which the dispatcher has been relaying buffers to clients, reported over the past TTL_CLT_BUF, in buffers/SCALE_CLT_BUF                                                              |
| CUR_CLT_BYTE_RATE    | NUMBER   | Rate at which the dispatcher has been relaying data to clients, reported over the past TTL_CLT_BUF, in bytes/SCALE_CLT_BUF                                                                   |
| CUR_CLT_BYTE_PER_BUF | NUMBER   | Average number of data bytes in each buffer relayed to clients, reported over the past TTL_CLT_BUF, in bytes/buffer                                                                          |
| CUR_BUF_RATE         | NUMBER   | Rate at which the dispatcher has been relaying buffers to either clients or shared servers, reported over the past TTL_BUF, in bytes/SCALE_BUF                                               |
| CUR_BYTE_RATE        | NUMBER   | Rate at which the dispatcher has been relaying data to either clients or shared servers, reported over the past TTL_BUF, in bytes/SCALE_BUF                                                  |
| CUR_BYTE_PER_BUF     | NUMBER   | Average number of data bytes in each buffer relayed to either clients or shared servers, reported over the past TTL_BUF, in bytes/buffer                                                     |
| CUR_IN_CONNECT_RATE  | NUMBER   | Rate at which the dispatcher has been accepting incoming client connections, reported over the past TTL_IN_CONNECT, in connections/SCALE_IN_CONNECT                                          |
| CUR_OUT_CONNECT_RATE | NUMBER   | Rate at which the dispatcher has been establishing outbound connections, reported over the past TTL_OUT_CONNECT, in connections/SCALE_OUT_CONNECT                                            |
| CUR_RECONNECT_RATE   | NUMBER   | In a connection pooling setup, the rate at which clients have been reconnecting to the dispatcher, reported over the past TTL_RECONNECT, in reconnections/SCALE_RECONNECT                    |
| MAX_LOOP_RATE        | NUMBER   | Maximum rate at which the dispatcher has ever iterated through its dispatching loop, reported in iterations/SCALE_LOOPS, over the dispatcher's lifetime excluding the past TTL_LOOPS         |
| MAX_EVENT_RATE       | NUMBER   | Maximum rate at which the dispatcher has ever processed dispatcher events, reported in events/SCALE_LOOPS, over the dispatcher's lifetime excluding the past TTL_LOOPS                       |
| MAX_EVENTS_PER_LOOP  | NUMBER   | Maximum number of events the dispatcher has ever processed in one iteration through its dispatching loop, reported in events/iteration, over the dispatcher's lifetime                       |
| MAX_MSG_RATE         | NUMBER   | Maximum rate at which the dispatcher has ever relayed messages between clients and shared servers, reported in messages/SCALE_MSG, over the dispatcher's lifetime excluding the past TTL_MSG |
| MAX_SVR_BUF_RATE     | NUMBER   | Maximum rate at which the dispatcher has ever relayed buffers to shared servers, reported in buffers/SCALE_SVR_BUF, over the dispatcher's lifetime excluding the past TTL_SVR_BUF            |
| MAX_SVR_BYTE_RATE    | NUMBER   | Maximum rate at which the dispatcher has ever relayed data to shared servers, reported in bytes/SCALE_SVR_BUF, over the dispatcher's lifetime excluding the past TTL_SVR_BUF                 |
| MAX_SVR_BYTE_PER_BUF | NUMBER   | Maximum number of data bytes the dispatcher has ever relayed in one buffer to a client, reported in bytes/buffer, over the dispatcher's lifetime                                             |

| Column               | Datatype | Description                                                                                                                                                                                                           |
|----------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAX_CLT_BUF_RATE     | NUMBER   | Maximum rate at which the dispatcher has ever relayed buffers to either clients or shared servers, reported in buffers/SCALE_CLT_BUF, over the dispatcher's life time excluding the past TTL_CLT_BUF                  |
| MAX_CLT_BYTE_RATE    | NUMBER   | Maximum rate at which the dispatcher has ever relayed buffers to clients, reported in bytes/SCALE_CLT_BUF, over the dispatcher's lifetime excluding the last TTL_CLT_BUF                                              |
| MAX_CLT_BYTE_PER_BUF | NUMBER   | Maximum number of data bytes the dispatcher has ever relayed in one buffer to a client, reported in bytes/buffer, over the dispatcher's lifetime                                                                      |
| MAX_BUF_RATE         | NUMBER   | Maximum rate at which the dispatcher has ever relayed buffers to either clients or shared servers, reported in buffers/SCALE_BUF, over the dispatcher's lifetime, excluding the past TTL_BUF                          |
| MAX_BYTE_RATE        | NUMBER   | Maximum rate at which the dispatcher has ever relayed data to either clients or shared servers, reported in bytes/SCALE_BUF, over the dispatcher's lifetime excluding the past TTL_BUF                                |
| MAX_BYTE_PER_BUF     | NUMBER   | Maximum number of data bytes the dispatcher has ever relayed in one buffer to either a client or a shared server, reported in bytes/buffer, over the dispatcher's lifetime                                            |
| MAX_IN_CONNECT_RATE  | NUMBER   | Maximum rate at which the dispatcher has ever accepted incoming client connections, reported in connections/SCALE_IN_CONNECT, over the dispatcher's lifetime excluding the past TTL_IN_CONNECT                        |
| MAX_OUT_CONNECT_RATE | NUMBER   | Maximum rate at which the dispatcher has ever established outbound connections, reported in connections/SCALE_OUT_CONNECT, over the dispatcher's lifetime excluding the past TTL_OUT_CONNECT                          |
| MAX_RECONNECT_RATE   | NUMBER   | In a connection pooling setup, the maximum rate at which clients have ever reconnected to this dispatcher, reported in reconnections/SCALE_RECONNECT, over the dispatcher's lifetime excluding the past TTL_RECONNECT |
| AVG_LOOP_RATE        | NUMBER   | Historical average rate at which the dispatcher has iterated through its dispatching loop, reported in iterations/SCALE_LOOPS, over the dispatcher's lifetime excluding the past TTL_LOOPS                            |
| AVG_EVENT_RATE       | NUMBER   | Historical average rate at which the dispatcher has processed dispatcher events, reported in events/SCALE_LOOPS, over the dispatcher's lifetime excluding the past TTL_LOOPS                                          |
| AVG_EVENTS_PER_LOOP  | NUMBER   | Historical average number of events the dispatcher has processed in one iteration through its dispatching loop, reported in events/iteration, over the dispatcher's lifetime excluding the past TTL_LOOPS             |
| AVG_MSG_RATE         | NUMBER   | Historical average rate at which the dispatcher has relayed messages between clients and shared servers, reported in messages/SCALE_MSG, over the dispatcher's lifetime excluding the past TTL_MSG                    |
| AVG_SVR_BUF_RATE     | NUMBER   | Historical average rate at which the dispatcher has relayed buffers to shared servers, reported in buffers/SCALE_SVR_BUF, over the dispatcher's lifetime excluding the past TTL_SVR_BUF                               |
| AVG_SVR_BYTE_RATE    | NUMBER   | Historical average rate at which the dispatcher has relayed data to shared servers, reported in bytes/SCALE_SVR_BUF, over the dispatcher's lifetime excluding the past TTL_SVR_BUF                                    |
| AVG_SVR_BYTE_PER_BUF | NUMBER   | Historical average number of data bytes per buffer the dispatcher has relayed to shared servers, reported in bytes/buffer, over the dispatcher's lifetime excluding the past TTL_SVR_BUF                              |

| Column               | Datatype | Description                                                                                                                                                                                                                 |
|----------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AVG_CLT_BUF_RATE     | NUMBER   | Historical average rate at which the dispatcher has relayed buffers to clients, reported in buffers/SCALE_CLT_BUF, over the dispatcher's lifetime excluding the past TTL_CLT_BUF                                            |
| AVG_CLT_BYTE_RATE    | NUMBER   | Historical average rate at which the dispatcher has relayed data to clients, reported in bytes/SCALE_CLT_BUF, over the dispatcher's lifetime excluding the past TTL_CLT_BUF                                                 |
| AVG_CLT_BYTE_PER_BUF | NUMBER   | Historical average number of data bytes per buffer the dispatcher has relayed to clients, reported in bytes/buffer, over the dispatcher's lifetime excluding the past TTL_CLT_BUF                                           |
| AVG_BUF_RATE         | NUMBER   | Historical average rate at which the dispatcher has relayed buffers to either clients or shared servers, reported in buffers/SCALE_BUF, over the dispatcher's lifetime excluding the past TTL_BUF                           |
| AVG_BYTE_RATE        | NUMBER   | Historical average rate at which the dispatcher has relayed data to either clients or shared servers, reported in bytes/SCALE_BUF, over the dispatcher's lifetime excluding the past TTL_BUF                                |
| AVG_BYTE_PER_BUF     | NUMBER   | Historical average number of data bytes per buffer the dispatcher has relayed to either clients or shared servers, reported in bytes/buffer, over the dispatcher's lifetime excluding the past TTL_BUF                      |
| AVG_IN_CONNECT_RATE  | NUMBER   | Historical average rate at which the dispatcher has accepted incoming client connections, reported in connections/SCALE_IN_CONNECT, over the dispatcher's lifetime excluding the past TTL_IN_CONNECT                        |
| AVG_OUT_CONNECT_RATE | NUMBER   | Historical average rate at which the dispatcher has established outbound connections, reported in connections/SCALE_OUT_CONNECT, over the dispatcher's lifetime excluding the past TTL_OUT_CONNECT                          |
| AVG_RECONNECT_RATE   | NUMBER   | In a connection pooling setup, the historical average rate at which clients have reconnected to this dispatcher, reported in reconnections/SCALE_RECONNECT, over the dispatcher's lifetime excluding the past TTL_RECONNECT |
| TTL_LOOPS            | NUMBER   | Time-to-live for "loops" samples, reported in hundredths of a second. Default is 10 minutes.                                                                                                                                |
| TTL_MSG              | NUMBER   | Time-to-live for "messages" samples, reported in hundredths of a second. Default is 10 seconds.                                                                                                                             |
| TTL_SVR_BUF          | NUMBER   | Time-to-live for "buffers to servers" samples, reported in hundredths of a second. Default is 1 second.                                                                                                                     |
| TTL_CLT_BUF          | NUMBER   | Time-to-live for "buffers to clients" samples, reported in hundredths of a second. Default is 1 second.                                                                                                                     |
| TTL_BUF              | NUMBER   | Time-to-live for "buffers to clients/servers" samples, reported in hundredths of a second. Default is 1 second.                                                                                                             |
| TTL_IN_CONNECT       | NUMBER   | Time-to-live for "inbound connections" samples, reported in hundredths of a second. Default is 10 minutes.                                                                                                                  |
| TTL_OUT_CONNECT      | NUMBER   | Time-to-live for "outbound connections" samples, reported in hundredths of a second. Default is 10 minutes.                                                                                                                 |
| TTL_RECONNECT        | NUMBER   | Time-to-live for "reconnections" samples, reported in hundredths of a second. Default is 10 minutes.                                                                                                                        |
| SCALE_LOOPS          | NUMBER   | Scale for "loops" statistics, reported in hundredths of a second. Default is 1 minute.                                                                                                                                      |
| SCALE_MSG            | NUMBER   | Scale for "messages" statistics, reported in hundredths of a second. Default is 1 second.                                                                                                                                   |



| Column            | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCALE_SVR_BUF     | NUMBER   | Scale for "buffers to servers" statistics, reported in hundredths of a second. Default is 1/10 second.                                                                                                                                                                                                                                                                                                                                          |
| SCALE_CLT_BUF     | NUMBER   | Scale for "buffers to clients" statistics, reported in hundredths of a second. Default is 1/10 second.                                                                                                                                                                                                                                                                                                                                          |
| SCALE_BUF         | NUMBER   | Scale for "buffers to clients/servers" statistics, reported in hundredths of a second. Default is 1/10 second.                                                                                                                                                                                                                                                                                                                                  |
| SCALE_IN_CONNECT  | NUMBER   | Scale for "inbound connections" statistics, reported in hundredths of a second. Default is 1 minute.                                                                                                                                                                                                                                                                                                                                            |
| SCALE_OUT_CONNECT | NUMBER   | Scale for "outbound connections" statistics, reported in hundredths of a second. Default is 1 minute.                                                                                                                                                                                                                                                                                                                                           |
| SCALE_RECONNECT   | NUMBER   | Scale for "reconnections" statistics, reported in hundredths of a second. Default is 1 minute.                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID            | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.191 V\$DNFS\_CHANNELS

V\$DNFS\_CHANNELS displays information about the Oracle process connections (channels) open to NFS servers.

| Column  | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                            |
|---------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PNUM    | NUMBER         | Oracle process number                                                                                                                                                                                                                                                                                                                                                                                  |
| SVRNAME | VARCHAR2 (255) | NFS server name                                                                                                                                                                                                                                                                                                                                                                                        |
| PATH    | VARCHAR2 (255) | Network path to the NFS server specified by IP address or by name                                                                                                                                                                                                                                                                                                                                      |
| LOCAL   | VARCHAR2 (255) | Local path on the database host specified by IP address or by name                                                                                                                                                                                                                                                                                                                                     |
| CH_ID   | NUMBER         | Direct NFS channel identifier                                                                                                                                                                                                                                                                                                                                                                          |
| SVR_ID  | NUMBER         | Direct NFS server identifier                                                                                                                                                                                                                                                                                                                                                                           |
| SENDS   | NUMBER         | Send operations over the channel since the last select                                                                                                                                                                                                                                                                                                                                                 |
| RECVS   | NUMBER         | Receive operations over the channel since the last select                                                                                                                                                                                                                                                                                                                                              |
| PINGS   | NUMBER         | Ping operations over the channel since the last select                                                                                                                                                                                                                                                                                                                                                 |
| SPRECO  | NUMBER         | Reconnects for the channel on the same port since the last select, given that the reconnect occurred during the first series of reconnect attempts. If the first series of reconnect attempts fails and the reconnect process on that channel times out for 5 minutes, the next reconnect on that channel will not increment either the SPRECO or DPRECO columns, regardless of the port connected to. |

| Column       | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DPRECO       | NUMBER   | Reconnects for the channel on a different port since the last select, given that the reconnect occurred during the first series of reconnect attempts. If the first series of reconnect attempts fails and the reconnect process on that channel times out for 5 minutes, the next reconnect on that channel will not increment either the <code>SPRECO</code> or <code>DPRECO</code> columns, regardless of the port connected to.             |
| CON_ID       | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| RDMA         | NUMBER   | Indicates whether RDMA is enabled for the channel or not. Possible values: <ul style="list-style-type: none"> <li>0: RDMA is not enabled for the channel</li> <li>1: RDMA is enabled for the channel</li> </ul>                                                                                                                                                                                                                                 |
| RDMA_CREDITS | NUMBER   | The number of RDMA credits supported by the server                                                                                                                                                                                                                                                                                                                                                                                              |
| CLIENTPORT   | NUMBER   | The client port to which the channel is bounded                                                                                                                                                                                                                                                                                                                                                                                                 |
| ACTIVE_SPEED | NUMBER   | The active speed of the HCA card present (in Gb/second)                                                                                                                                                                                                                                                                                                                                                                                         |
| PEAK_FMR     | NUMBER   | The size of fast memory registration (FMR) memory registered by the channel (in bytes)                                                                                                                                                                                                                                                                                                                                                          |
| CURRENT_FMR  | NUMBER   | The current FMR memory registered (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                    |
| FMRREG_COUNT | NUMBER   | The number of FMR memory registration calls for the channel                                                                                                                                                                                                                                                                                                                                                                                     |

**Note:**

RDMA functionality is enabled only for the Exadata environment

## 8.192 V\$DNFS\_FILES

`V$DNFS_FILES` displays information about the Oracle process files open through Direct NFS.

| Column   | Datatype       | Description                                                                  |
|----------|----------------|------------------------------------------------------------------------------|
| FILENAME | VARCHAR2 (513) | File name                                                                    |
| FILESIZE | NUMBER         | File Size                                                                    |
| PNUM     | NUMBER         | Oracle process number which opened the file                                  |
| SVR_ID   | NUMBER         | Direct NFS server identifier which identifies the server the file is open on |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.193 V\$DNFS\_SERVERS

V\$DNFS\_SERVERS displays information about the Direct NFS servers accessed by Direct NFS.

| Column     | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ID         | NUMBER          | Direct NFS server identifier                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SVRNAME    | VARCHAR2 (255)  | NFS server name                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| DIRNAME    | VARCHAR2 (1024) | Mounted directory                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| MNTPORT    | NUMBER          | NFS mount port                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| NFSPORT    | NUMBER          | NFS port                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| NFSVERSION | VARCHAR2 (8)    | NFS version                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| WTMAX      | NUMBER          | WTMAX exported by the NFS server                                                                                                                                                                                                                                                                                                                                                                                                                       |
| RTMAX      | NUMBER          | RTMAX exported by the NFS server                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID     | NUMBER          | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| RDMAENABLE | VARCHAR2 (16)   | <p>Indicates whether the server is RDMA enabled. Possible values:</p> <ul style="list-style-type: none"> <li>YES: The server is RDMA enabled.</li> <li>NO: The server is not RDMA enabled.</li> </ul>                                                                                                                                                                                                                                                  |
| RDMAPORT   | NUMBER          | The port number for RDMA communications on the server. The value is always 20049.                                                                                                                                                                                                                                                                                                                                                                      |
| SECURITY   | VARCHAR2 (32)   | NFS RPC authentication method used for the given NFS export                                                                                                                                                                                                                                                                                                                                                                                            |



### Note:

RDMA functionality is enabled only for the Exadata environment

## 8.194 V\$DNFS\_STATS

V\$DNFS\_STATS displays information about the Oracle process NFS operation statistics issued by Direct NFS.

| Column          | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PNUM            | NUMBER   | Oracle process number that statistics are relevant to                                                                                                                                                                                                                                                                                                                                                                                                  |
| NFS_NULL        | NUMBER   | Null                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| NFS_GETATTR     | NUMBER   | Get attributes                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| NFS_SETATTR     | NUMBER   | Set attributes                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| NFS_LOOKUP      | NUMBER   | Lookup object                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NFS_ACCESS      | NUMBER   | Access object                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NFS_READLINK    | NUMBER   | Read link                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NFS_READ        | NUMBER   | Read file                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NFS_WRITE       | NUMBER   | Write file                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| NFS_CREATE      | NUMBER   | Create file                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| NFS_MKDIR       | NUMBER   | Make directory                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| NFS_SYMLINK     | NUMBER   | Symbolic link                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NFS_MKNOD       | NUMBER   | Make node                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NFS_REMOVE      | NUMBER   | Remove file                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| NFS_RMDIR       | NUMBER   | Remove directory                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| NFS_RENAME      | NUMBER   | Rename                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| NFS_LINK        | NUMBER   | Link                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| NFS_READDIR     | NUMBER   | Read directory                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| NFS_READDIRPLUS | NUMBER   | Read directory plus                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NFS_FSSTAT      | NUMBER   | File system status                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| NFS_FSINFO      | NUMBER   | File system information                                                                                                                                                                                                                                                                                                                                                                                                                                |
| NFS_PATHCONF    | NUMBER   | Path configuration                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| NFS_COMMIT      | NUMBER   | Commit                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| NFS_MOUNT       | NUMBER   | Mount                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| NFS_READBYTES   | NUMBER   | Number of bytes read from NFS server                                                                                                                                                                                                                                                                                                                                                                                                                   |
| NFS_WRITEBYTES  | NUMBER   | Number of bytes written to NFS server                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID          | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.195 V\$DYNAMIC\_REMASTER\_STATS

V\$DYNAMIC\_REMASTER\_STATS displays statistical information about the dynamic remastering process of object affinity and read-mostly. All times are given in hundredths of a second, except where otherwise noted, and total values reflect what has been collected since instance startup.

| Column                  | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REMASTER_TYPE           | VARCHAR2 (11) | Remaster process type. Possible values: <ul style="list-style-type: none"> <li>AFFINITY: This value is used for the row containing statistics that pertain to dynamic remastering activity on object affinity.</li> <li>READ-MOSTLY: This value is used for the row containing statistics that pertain to dynamic remastering activity on read-mostly objects.</li> </ul> |
| REMASTER_OPS            | NUMBER        | Total number of dynamic remastering operations                                                                                                                                                                                                                                                                                                                            |
| REMASTER_TIME           | NUMBER        | Total dynamic remastering time                                                                                                                                                                                                                                                                                                                                            |
| REMASTERED_OBJECTS      | NUMBER        | Total number of objects dynamically remastered due to affinity                                                                                                                                                                                                                                                                                                            |
| PERSISTENT_OBJECTS      | NUMBER        | Current number of objects that are marked persistent read-mostly in the cluster                                                                                                                                                                                                                                                                                           |
| QUIESCE_TIME            | NUMBER        | Total quiesce step time                                                                                                                                                                                                                                                                                                                                                   |
| FREEZE_TIME             | NUMBER        | Total freeze step time                                                                                                                                                                                                                                                                                                                                                    |
| CLEANUP_TIME            | NUMBER        | Total cleanup step time                                                                                                                                                                                                                                                                                                                                                   |
| REPLAY_TIME             | NUMBER        | Total replay step time                                                                                                                                                                                                                                                                                                                                                    |
| FIXWRITE_TIME           | NUMBER        | Total fixwrite step time                                                                                                                                                                                                                                                                                                                                                  |
| SYNC_TIME               | NUMBER        | Total synchronization step time                                                                                                                                                                                                                                                                                                                                           |
| RESOURCES_CLEANED       | NUMBER        | Total number of resources cleaned in the cleanup steps                                                                                                                                                                                                                                                                                                                    |
| REPLAYED_LOCKS_SENT     | NUMBER        | Total number of locks replayed to other instances in the replay steps                                                                                                                                                                                                                                                                                                     |
| REPLAYED_LOCKS_RECEIVED | NUMBER        | Total number of locks received from other instances in the replay steps                                                                                                                                                                                                                                                                                                   |
| CURRENT_OBJECTS         | NUMBER        | Current number of objects remastered on this instance due to affinity or the current number of objects that are marked read-mostly in the cluster                                                                                                                                                                                                                         |
| REMASTERED_BUFFERS      | NUMBER        | Total sum of the sizes (number of buffers) of all dynamically remastered objects<br><br>The size of a buffer is specified by the DB_BLOCK_SIZE initialization parameter. The default is 8192 bytes.                                                                                                                                                                       |
| AVG_BUFFER_AGE          | NUMBER        | Average time (in seconds) that buffers spent in the request queue, waiting to be processed                                                                                                                                                                                                                                                                                |
| FILTERED_OBJECTS        | NUMBER        | Number of requests that were filtered (not processed)                                                                                                                                                                                                                                                                                                                     |
| FILTERED_BUFFERS        | NUMBER        | Total sum of the sizes (number of buffers) of all requests that were filtered<br><br>The size of a buffer is specified by the DB_BLOCK_SIZE initialization parameter. The default is 8192 bytes.                                                                                                                                                                          |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.196 V\$EDITIONABLE\_TYPES

V\$EDITIONABLE\_TYPES lists all the editionable types based on the current compatibility setting. The SELECT privilege on V\$EDITIONABLE\_TYPES will be granted to PUBLIC.

The database compatibility setting will determine the set of editionable types.

With compatibility set to 11.2 or 12, this set includes FUNCTION, LIBRARY, PACKAGE, PACKAGE BODY, PROCEDURE, SYNONYM, TRIGGER, TYPE, TYPE BODY, and VIEW. With compatibility set to 12, the set will include these types as well as the SQL TRANSLATION PROFILE.

| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EDITIONABLE_TYPE | VARCHAR2 (64) | The name of the type that is editionable                                                                                                                                                                                                                                                                                                                                                                                                               |
| TYPE#            | NUMBER        | The number of the type that is editionable                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID           | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



### See Also:

For more information about edition-based redefinitions, see *Oracle Database Development Guide*.

## 8.197 V\$EMON

V\$EMON displays performance statistics per event monitor (EMON) worker for diagnosability of notifications. All processing time and latency is in seconds.

| Column | Datatype | Description             |
|--------|----------|-------------------------|
| EMON#  | NUMBER   | EMON identifier (0 - 9) |
| SID    | NUMBER   | Session identifier      |

| Column                    | Datatype                    | Description                                                                                                                                          |
|---------------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| STARTUP_TIME              | TIMESTAMP(3) WITH TIME ZONE | Time when this EMON worker was started                                                                                                               |
| SERVER_TYPE               | VARCHAR2(8)                 | Notification quality of the service provided by EMON: <ul style="list-style-type: none"> <li>REGULAR</li> <li>RELIABLE</li> </ul>                    |
| STATUS                    | VARCHAR2(6)                 | EMON status: <ul style="list-style-type: none"> <li>IDLE</li> <li>ACTIVE</li> </ul>                                                                  |
| STATUS_CHANGE_TIME        | TIMESTAMP(3) WITH TIME ZONE | Time at which EMON switched to the current STATUS                                                                                                    |
| NUM_NTFNS                 | NUMBER                      | Total number of notifications (including grouping notifications)                                                                                     |
| NUM_GROUPING_NTFNS        | NUMBER                      | Number of grouping notifications                                                                                                                     |
| NUM_NTFNS_ALL_GROUPS      | NUMBER                      | Total number of events in all notification groups                                                                                                    |
| NUM_OCI_NTFNS             | NUMBER                      | Number of OCI notifications                                                                                                                          |
| NUM_PLSQL_NTFNS           | NUMBER                      | Number of PL/SQL notifications                                                                                                                       |
| NUM_EMAIL_NTFNS           | NUMBER                      | Number of E-mail notifications                                                                                                                       |
| NUM_HTTP_NTFNS            | NUMBER                      | Number of HTTP notifications                                                                                                                         |
| NUM_EVENTS_PROCESSED      | NUMBER                      | Number of events posted by a publisher for which notifications have been delivered                                                                   |
| NUM_EVENTS_PENDING        | NUMBER                      | Number of events posted by a publisher for which notifications are not yet delivered                                                                 |
| NUM_ANONYMOUS_NTFNS       | NUMBER                      | Number of anonymous notifications                                                                                                                    |
| NUM_AQ_NTFNS              | NUMBER                      | Number of AQ notifications                                                                                                                           |
| NUM_DBCHANGE_NTFNS        | NUMBER                      | Number of DBChange notifications                                                                                                                     |
| TOTAL_ANONYMOUS_NTFN_TIME | NUMBER                      | Total time to process Anonymous notifications                                                                                                        |
| TOTAL_AQ_NTFN_TIME        | NUMBER                      | Total time to process AQ notifications                                                                                                               |
| TOTAL_DBCHANGE_NTFN_TIME  | NUMBER                      | Total time to process dbchange notifications                                                                                                         |
| TOTAL_PLSQL_NTFN_TIME     | NUMBER                      | Total time to process PL/SQL notifications                                                                                                           |
| TOTAL_OCI_NTFN_TIME       | NUMBER                      | Total time to process OCI notifications                                                                                                              |
| TOTAL_EMAIL_NTFN_TIME     | NUMBER                      | Total time to process E-mail notifications                                                                                                           |
| TOTAL_HTTP_NTFN_TIME      | NUMBER                      | Total time to process HTTP notifications                                                                                                             |
| TOTAL_EMON_LATENCY        | NUMBER                      | Total latency in processing events                                                                                                                   |
| REGISTRATIONS_EXPIRED     | NUMBER                      | Number of expired registrations                                                                                                                      |
| REGISTRATIONS_PURGED      | NUMBER                      | Number of purged registrations                                                                                                                       |
| REGISTRATIONS_INVALID     | NUMBER                      | Number of registrations invalidated due to notification delivery failure                                                                             |
| LAST_UPDATE_TIME          | TIMESTAMP(3) WITH TIME ZONE | Time when statistics were last updated                                                                                                               |
| CON_ID                    | NUMBER                      | The ID of the container to which the data pertains. The CON_ID value in this view is always 0. The rows pertain to the entire CDB or to the non-CDB. |

## 8.198 V\$ENABLEDPRIVS

V\$ENABLEDPRIVS displays the system privileges that have been granted to the current user directly or through the currently enabled roles.

| Column      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRIV_NUMBER | NUMBER        | Numeric identifier of the system privilege<br>The matching privilege name for each PRIV_NUMBER can be found in the table SYSTEM_PRIVILEGE_MAP.                                                                                                                                                                                                                                                                                                    |
| SCOPE       | VARCHAR2 (11) | Indicates the scope with which a privilege was granted. Possible values: <ul style="list-style-type: none"><li>• COMMON</li><li>• APPLICATION</li><li>• LOCAL</li></ul>                                                                                                                                                                                                                                                                           |
| CON_ID      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



**See Also:**

"SYSTEM\_PRIVILEGE\_MAP"

## 8.199 V\$ENABLEDSCHMAPRIVS

V\$ENABLEDSCHMAPRIVS displays the schema privileges that have been granted to the current user directly or through the currently enabled roles.

| Column      | Datatype      | Description                                                                                                                                                               |
|-------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRIV_NUMBER | NUMBER        | Numeric identifier of the schema privilege<br>The matching privilege name for each PRIV_NUMBER can be found in the table SYSTEM_PRIVILEGE_MAP.                            |
| SCHEMA      | NUMBER        | Schema on which the privilege was granted                                                                                                                                 |
| SCOPE       | VARCHAR2 (11) | Indicates the scope with which the privilege was granted. Possible values: <ul style="list-style-type: none"><li>• COMMON</li><li>• APPLICATION</li><li>• LOCAL</li></ul> |



| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

## 8.200 V\$ENCRYPTED\_TABLESPACES

V\$ENCRYPTED\_TABLESPACES displays information about tablespaces that are encrypted.

The information displayed by this view is meaningful only for tablespaces in open containers and for the data files that are online. This is because the information is derived after the file headers making up a tablespace have been examined during the open operation.

During an encryption or decryption operation, the encryption or decryption progress can be obtained by comparing the values of the BLOCKS\_ENCRYPTED and BLOCKS\_DECRYPTED columns in this view with the value of the BLOCKS column in the DBA\_DATA\_FILES view.

| Column           | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TS#              | NUMBER       | Tablespace number                                                                                                                                                                                                                                                                                                                                                                                                  |
| ENCRYPTIONALG    | VARCHAR2 (7) | <p>Encryption algorithm:</p> <ul style="list-style-type: none"> <li>NONE</li> <li>3DES168</li> <li>AES128</li> <li>AES192</li> <li>AES256</li> </ul>                                                                                                                                                                                                                                                               |
| ENCRYPTEDTS      | VARCHAR2 (3) | Indicates whether the tablespace is encrypted (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                    |
| ENCRYPTEDKEY     | RAW (32)     | Encrypted version of the tablespace key for the encrypted tablespace                                                                                                                                                                                                                                                                                                                                               |
| MASTERKEYID      | RAW (16)     | ID of the master key that was used to encrypt the tablespace key                                                                                                                                                                                                                                                                                                                                                   |
| BLOCKS_ENCRYPTED | NUMBER       | Number of tablespace blocks that have been encrypted during the lifetime of this instance                                                                                                                                                                                                                                                                                                                          |
| BLOCKS_DECRYPTED | NUMBER       | Number of tablespace blocks that have been decrypted during the lifetime of this instance                                                                                                                                                                                                                                                                                                                          |
| KEY_VERSION      | NUMBER       | Every encrypt/decrypt/rekey of a tablespace adds a carnation/version of the tablespace key, and the key version is incremented. A decrypted tablespace could still have a none-zero key version. In certain scenarios, however, the tablespace key version might reset to 0; for example, when a tablespace or a pluggable database (PDB) is plugged into a foreign database, or if the control file is recreated. |

| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS | VARCHAR2 (10) | Shows the status of a tablespace. Possible values: <ul style="list-style-type: none"> <li>NORMAL: Used when the tablespace is not in one of the other statuses.</li> <li>REKEYING: Used when a rekey operation is taking place</li> <li>ENCRYPTING: Used when an encrypt operation is taking place</li> <li>DECRYPTING: Used when a decrypt operation is taking place</li> <li>UNKNOWN: Used when the database is mounted but not open (before the datafile is online and the key is known to the database)</li> </ul> <b>Note:</b> The REKEYING, ENCRYPTING, and DECRYPTING values can also be reported after a datafile, whose encryption state is different from the tablespace definition, is restored. In such cases, the value represents the operation that is required to make all datafiles in the tablespace consistent by using the FINISH clause of the ALTER TABLESPACE ENCRYPTION statement. See <i>Oracle Database Transparent Data Encryption Guide</i> for information about changing the encryption state of a tablespace. |
| CON_ID | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |



**See Also:**

"V\$DATABASE\_KEY\_INFO"

## 8.201 V\$ENCRYPTION\_KEYS

V\$ENCRYPTION\_KEYS displays master key description attributes.

Note that, even if Transparent Data Encryption (TDE) is not configured in the database, a query of V\$ENCRYPTION\_KEYS checks for TDE configuration validity and may print warnings in alert log.

| Column          | Datatype                     | Description                                             |
|-----------------|------------------------------|---------------------------------------------------------|
| KEY_ID          | VARCHAR2 (78)                | Master key identifier                                   |
| HEX_MKID        | VARCHAR2 (78)                | Master key identifier, in hex format                    |
| TAG             | VARCHAR2 (4000)              | Associated user-defined Information with the master key |
| CREATION_TIME   | TIMESTAMP (6) WITH TIME ZONE | Time that the master key was created                    |
| ACTIVATION_TIME | TIMESTAMP (6) WITH TIME ZONE | Time that the master key was put into use               |
| CREATOR         | VARCHAR2 (128)               | User that created the master key                        |
| CREATOR_ID      | NUMBER                       | User ID that created the master key                     |

| Column                     | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USER                       | VARCHAR2 (128) | User that activated the master key                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| USER_ID                    | NUMBER         | User ID that activated the master key                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| KEY_USE                    | VARCHAR2 (10)  | Indicates whether the master key is used for TDE operations in a PDB or not                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| KEystore_TYPE              | VARCHAR2 (17)  | Type of keystore in which the master key is stored: <ul style="list-style-type: none"> <li>OKV - Oracle Key Vault</li> <li>SOFTWARE KEYSTORE</li> <li>UNDEFINED - This value is shown if the database has no information about the type of keystore where the master key resides</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                             |
| ORIGIN                     | VARCHAR2 (41)  | Provides information about the origin of the master key: <ul style="list-style-type: none"> <li>LOCAL - The master key was created locally in this database</li> <li>IMPORTED - The master key was imported from another database</li> <li>IMPORTED BUT KEY METADATA CREATED LOCALLY - The master key was imported from another database, but the key metadata was created locally due to activation</li> <li>UNKNOWN BUT KEY METADATA CREATED LOCALLY - It is unknown whether the master key was imported from another database or created locally, but the key metadata was created locally due to activation</li> <li>UNDEFINED - The status of the master key is unknown</li> </ul> |
| BACKED_UP                  | VARCHAR2 (9)   | Indicates whether the key has been backed up or not                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CREATOR_DBNAME             | VARCHAR2 (128) | Database that created the key                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CREATOR_DBID               | NUMBER         | Database ID where the key was created                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CREATOR_INSTANCE_NAME      | VARCHAR2 (30)  | Instance name of the instance where the key was created                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CREATOR_INSTANCE_NUMBER    | NUMBER         | Instance number of the instance where the key was created                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CREATOR_INSTANCE_SERIAL    | NUMBER         | Serial number of the instance where the key was created                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CREATOR_PDBNAME            | VARCHAR2 (128) | PDB where the key was created                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CREATOR_PDBID              | NUMBER         | PDB ID where the key was created                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CREATOR_PDBUID             | NUMBER         | PDB UID where the key was created                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CREATOR_PDBGUID            | RAW (16)       | PDB GUID where the key was created                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ACTIVATING_DBNAME          | VARCHAR2 (128) | Database that activated the key                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ACTIVATING_DBID            | NUMBER         | Database ID where the key was activated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| ACTIVATING_INSTANCE_NAME   | VARCHAR2 (30)  | Instance name of the instance where the key was activated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| ACTIVATING_INSTANCE_NUMBER | NUMBER         | Instance number of the instance where the key was activated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ACTIVATING_INSTANCE_SERIAL | NUMBER         | Serial number of the instance where the key was activated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| ACTIVATING_PDBNAME         | VARCHAR2 (128) | PDB where the key was activated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ACTIVATING_PDBID           | NUMBER         | PDB ID where the key was activated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ACTIVATING_PDBUID          | NUMBER         | PDB UID where the key was activated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ACTIVATING_PDBGUID         | RAW (16)       | PDB GUID where the key was activated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ALGORITHM                  | VARCHAR2 (9)   | Master key encryption algorithm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

*Oracle Database Transparent Data Encryption Guide* for information about keystore management

## 8.202 V\$ENCRYPTION\_WALLET

V\$ENCRYPTION\_WALLET displays information on the status of the wallet and the wallet location for Transparent Data Encryption (TDE).

In a multitenant container database (CDB), this view displays information on the wallets for all pluggable database (PDBs) when queried from CDB\$ROOT. When queried from a PDB, this view only displays wallet details of that PDB.

Note that, even if TDE is not configured in the database, a query of V\$ENCRYPTION\_WALLET checks for TDE configuration validity and may print warnings in alert log.

| Column        | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WRL_TYPE      | VARCHAR2 (20)   | Type of the wallet resource locator (for example, FILE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| WRL_PARAMETER | VARCHAR2 (4000) | Parameter of the wallet resource locator (for example, absolute directory location of the wallet or keystore, if WRL_TYPE = FILE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| STATUS        | VARCHAR2 (30)   | <p>Status of the wallet. Possible values:</p> <ul style="list-style-type: none"> <li>CLOSED: The wallet is closed</li> <li>NOT_AVAILABLE: The wallet is not available in the location specified by the WALLET_ROOT initialization parameter</li> <li>OPEN: The wallet is open</li> <li>OPEN_NO_MASTER_KEY: The wallet is open, but no master key is set</li> <li>OPEN_UNKNOWN_MASTER_KEY_STATUS: The wallet is open, but the database could not determine whether the master key is set. This situation can occur when the database is in the mounted state and cannot check if the master key for a hardware keystore is set because the data dictionary is not available.</li> <li>UNDEFINED: The database could not determine the status of the wallet</li> </ul> |
| WALLET_TYPE   | VARCHAR2 (20)   | <p>Displays the type of keystore being used, FILE or OKV</p> <p>If the keystore was created with the mkstore utility, then the WALLET_TYPE is UNKNOWN. Oracle recommends that you create keystores with the ADMINISTER KEY MANAGEMENT statement.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Column          | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WALLET_ORDER    | VARCHAR2 (9) | <p>Possible values:</p> <ul style="list-style-type: none"> <li><code>SINGLE</code> - When only a single wallet is configured, this is the value in the column.</li> <li><code>PRIMARY</code> - When more than one wallet is configured, this value indicates that the wallet is primary (holds the current master key).</li> <li><code>SECONDARY</code> - When more than one wallet is configured, this value indicates that the wallet is secondary (holds old keys).</li> </ul> <p>The lookup of master keys happens in the primary keystore first, and then in the secondary keystore, if required.</p> <p>If there is only one type of keystore being used, then <code>SINGLE</code> will appear.</p> <p>If both types are used, then the value in this column shows the order in which each keystore will be looked up.</p> |
| KEystore_MODE   | VARCHAR2 (8) | <p>Displays the keystore mode:</p> <ul style="list-style-type: none"> <li><code>NONE</code>: This value is seen when this column is queried from the <code>CDB\$ROOT</code>, or when the database is a non-CDB. The keystore mode does not apply in these cases.</li> <li><code>UNITED</code>: The PDB is configured to use the wallet of the <code>CDB\$ROOT</code>. To open the wallet in this configuration, the password of the wallet of the <code>CDB\$ROOT</code> must be used.</li> <li><code>ISOLATED</code>: The PDB is configured to use its own wallet. To open the wallet in this configuration, the password of the isolated wallet must be used.</li> </ul>                                                                                                                                                       |
| FULLY_BACKED_UP | VARCHAR2 (9) | Indicates whether all the keys in the keystore have been backed up                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID          | NUMBER       | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li><code>0</code>: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li><code>1</code>: This value is used for rows containing data that pertain to only the root</li> <li><code>n</code>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                           |

 **See Also:**

- ["TDE\\_CONFIGURATION"](#)
- ["WALLET\\_ROOT"](#)
- *Oracle Database Transparent Data Encryption Guide* for information about creating user-defined master encryption keys
- *Oracle Database Transparent Data Encryption Guide* for information about opening hardware keystores

## 8.203 V\$ENQUEUE\_LOCK

V\$ENQUEUE\_LOCK displays all locks owned by enqueue state objects. The columns in this view are identical to the columns in V\$LOCK.



**See Also:**

"V\$LOCK"

| Column  | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADDR    | RAW (4   8)  | Address of lock state object                                                                                                                                                                                                                                                                                                                                                                                                                      |
| KADDR   | RAW (4   8)  | Address of lock                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SID     | NUMBER       | Identifier for session holding or acquiring the lock                                                                                                                                                                                                                                                                                                                                                                                              |
| TYPE    | VARCHAR2 (2) | Type of lock. Lists user and system types that can have locks.                                                                                                                                                                                                                                                                                                                                                                                    |
| ID1     | NUMBER       | Lock identifier #1 (depends on type)                                                                                                                                                                                                                                                                                                                                                                                                              |
| ID2     | NUMBER       | Lock identifier #2 (depends on type)                                                                                                                                                                                                                                                                                                                                                                                                              |
| LMODE   | NUMBER       | Lock mode in which the session holds the lock: <ul style="list-style-type: none"><li>• 0 - none</li><li>• 1 - null (NULL)</li><li>• 2 - row-S (SS)</li><li>• 3 - row-X (SX)</li><li>• 4 - share (S)</li><li>• 5 - S/Row-X (SSX)</li><li>• 6 - exclusive (X)</li></ul>                                                                                                                                                                             |
| REQUEST | NUMBER       | Lock mode in which the process requests the lock: <ul style="list-style-type: none"><li>• 0 - none</li><li>• 1 - null (NULL)</li><li>• 2 - row-S (SS)</li><li>• 3 - row-X (SX)</li><li>• 4 - share (S)</li><li>• 5 - S/Row-X (SSX)</li><li>• 6 - exclusive (X)</li></ul>                                                                                                                                                                          |
| CTIME   | NUMBER       | Time since current mode was granted                                                                                                                                                                                                                                                                                                                                                                                                               |
| BLOCK   | NUMBER       | The lock is blocking another lock                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID  | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.204 V\$ENQUEUE\_STAT

V\$ENQUEUE\_STAT displays statistics on the number of enqueue (lock) requests for each type of lock.

| Column        | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INST_ID       | NUMBER       | ID of the instance                                                                                                                                                                                                                                                                                                                                                                                                                              |
| EQ_TYPE       | VARCHAR2 (2) | Type of enqueue requested                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TOTAL_REQ#    | NUMBER       | Total number of enqueue requests or enqueue conversions for this type of enqueue                                                                                                                                                                                                                                                                                                                                                                |
| TOTAL_WAIT#   | NUMBER       | Total number of times an enqueue request or conversion resulted in a wait                                                                                                                                                                                                                                                                                                                                                                       |
| SUCC_REQ#     | NUMBER       | Number of times an enqueue request or conversion was granted                                                                                                                                                                                                                                                                                                                                                                                    |
| FAILED_REQ#   | NUMBER       | Number of times an enqueue request or conversion failed                                                                                                                                                                                                                                                                                                                                                                                         |
| CUM_WAIT_TIME | NUMBER       | Total amount of time (in milliseconds) spent waiting for the enqueue or enqueue conversion                                                                                                                                                                                                                                                                                                                                                      |
| CON_ID        | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.205 V\$ENQUEUE\_STATISTICS

V\$ENQUEUE\_STATISTICS displays statistics on the number of enqueue (lock) requests for each type of lock.

V\$ENQUEUE\_STATISTICS encompasses V\$ENQUEUE\_STAT and gives more detailed information (several rows for same enqueues with different reasons).

| Column          | Datatype        | Description                                                                                |
|-----------------|-----------------|--------------------------------------------------------------------------------------------|
| EQ_NAME         | VARCHAR2 (64)   | Name of the enqueue request                                                                |
| EQ_TYPE         | VARCHAR2 (2)    | Type of enqueue requested                                                                  |
| REQ_REASON      | VARCHAR2 (64)   | Reason for the enqueue request                                                             |
| TOTAL_REQ#      | NUMBER          | Total number of enqueue requests or enqueue conversions for this type of enqueue           |
| TOTAL_WAIT#     | NUMBER          | Total number of times an enqueue request or conversion resulted in a wait                  |
| SUCC_REQ#       | NUMBER          | Number of times an enqueue request or conversion was granted                               |
| FAILED_REQ#     | NUMBER          | Number of times an enqueue request or conversion failed                                    |
| CUM_WAIT_TIME   | NUMBER          | Total amount of time (in milliseconds) spent waiting for the enqueue or enqueue conversion |
| REQ_DESCRIPTION | VARCHAR2 (4000) | Description of the enqueue request                                                         |
| EVENT#          | NUMBER          | Event number                                                                               |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

 **See Also:**  
"V\$ENQUEUE\_STAT"

## 8.206 V\$EQ\_CACHED\_PARTITIONS

V\$EQ\_CACHED\_PARTITIONS describes all cached Transactional Event Queue (TxEventQ) event stream partitions.

| Column                    | Datatype                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUE                     | NUMBER                       | Queue ID                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| EVENT_STREAM_ID           | NUMBER                       | Event stream ID                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PRIORITY                  | NUMBER                       | Priority of the event stream partition                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EVENT_STREAM_PARTITION_ID | NUMBER                       | Event stream partition ID                                                                                                                                                                                                                                                                                                                                                                                                                              |
| OPT_STATE                 | VARCHAR2 (19)                | <p>Current message cache optimizer state of the event stream partition. Possible values:</p> <ul style="list-style-type: none"> <li>EMPTY</li> <li>READY</li> <li>EVICTION_PROGRESS</li> <li>EVICTED</li> <li>UNEVICTION_PROGRESS</li> <li>PREFETCH_PROGRESS</li> <li>NEED_RELOAD</li> <li>RELOAD_PROGRESS</li> <li>NA: Error in the message cache optimizer state of the event stream partition</li> </ul>                                            |
| OPT_TIME                  | TIMESTAMP (3) WITH TIME ZONE | The predicted absolute time when the event stream partition could be accessed in future                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID                    | NUMBER                       | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Transactional Event Queues and Advanced Queuing

## 8.207 V\$EQ\_CROSS\_INSTANCE\_JOBS

V\$EQ\_CROSS\_INSTANCE\_JOBS describes Transactional Event Queue (TxEventQ) cross-instance jobs.

Each job forwards messages for an event stream from a source instance to a destination instance for a set of subscribers of a TxEventQ.

| Column                          | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JOB_ID                          | NUMBER         | Job ID within this coordinator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SCHEMA_NAME                     | VARCHAR2 (128) | Source schema of the job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| QUEUE_NAME                      | VARCHAR2 (128) | Source queue name of the job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| EVENT_STREAM_ID                 | NUMBER         | Source event stream ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| START_EVENT_STREAM_PARTITION_ID | NUMBER         | Start event stream partition ID of the job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| DESTINATION_INSTANCE_ID         | NUMBER         | Destination instance of the job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| COORDINATOR_ID                  | NUMBER         | Index of the coordinator serving the job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| DEST_SERVER_PROCESS_ID          | NUMBER         | Process ID of the destination server                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| JOB_STATE                       | VARCHAR2 (28)  | State of the job. Possible values: <ul style="list-style-type: none"> <li>REQUESTED</li> <li>RUNNING</li> <li>STOPPED</li> <li>PAUSED</li> <li>CRASHED</li> <li>INACTIVE</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| FLOW_CONTROL                    | NUMBER         | Indicates whether the job is flow controlled. Possible values: <ul style="list-style-type: none"> <li>0 - The job is not flow controlled</li> <li>1 - The job is flow controlled</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| MSG_SENT                        | NUMBER         | Number of messages sent during the job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| BYTES_SENT                      | NUMBER         | Number of bytes sent during the job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ACK_LATENCY                     | NUMBER         | Latency for receiving ACK for the job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| JOB_TYPE                        | VARCHAR2 (26)  | Job type. Possible values: <ul style="list-style-type: none"> <li>CROSS_STREAM: This job type is responsible for forwarding an event stream from its owner instance to a destination dequeue instance for all subscribers performing dequeue from that event stream at the destination dequeue instance.</li> <li>DEQUEUE_AFFINITY_TO_REMOTE: This job type is responsible for switching a subscriber's dequeue affinity from an event stream's owner instance to a remote dequeue instance.</li> <li>DEQUEUE_AFFINITY_TO_LOCAL: This job type is responsible for switching back a subscriber's dequeue affinity from a remote dequeue instance to an event stream's owner instance.</li> </ul> |

| Column              | Datatype                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRIORITY0_CROSS_LWM | NUMBER                      | ID of last priority 0 event stream partition received at DESTINATION_INSTANCE_ID                                                                                                                                                                                                                                                                                                                                                                |
| PRIORITY1_CROSS_LWM | NUMBER                      | ID of last priority 1 event stream partition received at DESTINATION_INSTANCE_ID                                                                                                                                                                                                                                                                                                                                                                |
| PRIORITY2_CROSS_LWM | NUMBER                      | ID of last priority 2 event stream partition received at DESTINATION_INSTANCE_ID                                                                                                                                                                                                                                                                                                                                                                |
| PRIORITY3_CROSS_LWM | NUMBER                      | ID of last priority 3 event stream partition received at DESTINATION_INSTANCE_ID                                                                                                                                                                                                                                                                                                                                                                |
| PRIORITY4_CROSS_LWM | NUMBER                      | ID of last priority 4 event stream partition received at DESTINATION_INSTANCE_ID                                                                                                                                                                                                                                                                                                                                                                |
| PRIORITY5_CROSS_LWM | NUMBER                      | ID of last priority 5 event stream partition received at DESTINATION_INSTANCE_ID                                                                                                                                                                                                                                                                                                                                                                |
| PRIORITY6_CROSS_LWM | NUMBER                      | ID of last priority 6 event stream partition received at DESTINATION_INSTANCE_ID                                                                                                                                                                                                                                                                                                                                                                |
| PRIORITY7_CROSS_LWM | NUMBER                      | ID of last priority 7 event stream partition received at DESTINATION_INSTANCE_ID                                                                                                                                                                                                                                                                                                                                                                |
| PRIORITY8_CROSS_LWM | NUMBER                      | ID of last priority 8 event stream partition received at DESTINATION_INSTANCE_ID                                                                                                                                                                                                                                                                                                                                                                |
| PRIORITY9_CROSS_LWM | NUMBER                      | ID of last priority 9 event stream partition received at DESTINATION_INSTANCE_ID                                                                                                                                                                                                                                                                                                                                                                |
| JOB_START_TIME      | TIMESTAMP(3) WITH TIME ZONE | Start time of this job                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SUBSCRIBER_ID       | NUMBER                      | ID of the subscriber whose affinity is being switched for the DEQUEUE_AFFINITY_TO_REMOTE and DEQUEUE_AFFINITY_TO_LOCAL job types                                                                                                                                                                                                                                                                                                                |
| SUBSCRIBER_NAME     | VARCHAR2(512)               | Name of subscriber whose affinity is being switched for the DEQUEUE_AFFINITY_TO_REMOTE and DEQUEUE_AFFINITY_TO_LOCAL job types.<br>This column is NULL for the CROSS_STREAM job type.                                                                                                                                                                                                                                                           |
| OWNER_INSTANCE_ID   | NUMBER                      | ID of the instance that owns the event stream                                                                                                                                                                                                                                                                                                                                                                                                   |
| QUEUE_ID            | NUMBER                      | Queue ID                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID              | NUMBER                      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Transactional Event Queues and Advanced Queuing

## 8.208 V\$EQ\_INACTIVE\_PARTITIONS

V\$EQ\_INACTIVE\_PARTITIONS describes all inactive Transactional Event Queue (TxEventQ) event stream partitions.

| Column                    | Datatype                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUE                     | NUMBER                      | Queue ID                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| EVENT_STREAM_ID           | NUMBER                      | Event stream ID                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PRIORITY                  | NUMBER                      | Priority of the event stream partition                                                                                                                                                                                                                                                                                                                                                                                                          |
| EVENT_STREAM_PARTITION_ID | NUMBER                      | Event stream partition ID                                                                                                                                                                                                                                                                                                                                                                                                                       |
| OPT_STATE                 | VARCHAR2 (19)               | Current message cache optimizer state of the event stream partition.<br>Possible values: <ul style="list-style-type: none"> <li>EMPTY</li> <li>CACHED</li> <li>EVICTED</li> <li>UNEVICTION_PROGRESS</li> <li>PREFETCH_PROGRESS</li> <li>NA: Error in the message cache optimizer state of the event stream partition</li> </ul>                                                                                                                 |
| OPT_TIME                  | TIMESTAMP(3) WITH TIME ZONE | The predicted absolute time when the event stream partition could be accessed in future                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID                    | NUMBER                      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

### See Also:

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Transactional Event Queues and Advanced Queuing

## 8.209 V\$EQ\_MESSAGE\_CACHE

V\$EQ\_MESSAGE\_CACHE provides performance statistics of the message cache for Transactional Event Queues (TxEventQs) at the event stream partition level in the instance.

| Column          | Datatype | Description                                                     |
|-----------------|----------|-----------------------------------------------------------------|
| QUEUE_ID        | NUMBER   | Queue ID                                                        |
| EVENT_STREAM_ID | NUMBER   | Event stream ID                                                 |
| PRIORITY        | NUMBER   | Priority of the event stream partition for dequeue, range 0 - 9 |

| Column                    | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EVENT_STREAM_PARTITION_ID | NUMBER        | Event stream partition ID                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PARTITION_ID              | NUMBER        | Queue partition ID                                                                                                                                                                                                                                                                                                                                                                                                                                |
| MAX_MSGS                  | NUMBER        | Maximum number of messages for the event stream partition                                                                                                                                                                                                                                                                                                                                                                                         |
| ENQUEUED_MSGS             | NUMBER        | Number of messages enqueued for the event stream partition                                                                                                                                                                                                                                                                                                                                                                                        |
| MSGS_MADE_EXPIRED         | NUMBER        | Number of messages made expired                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CHUNK_SIZE                | NUMBER        | The size of the memory chunk for storing messages                                                                                                                                                                                                                                                                                                                                                                                                 |
| NUM_CHUNKS                | NUMBER        | Number of chunks for the event stream partition                                                                                                                                                                                                                                                                                                                                                                                                   |
| NUM_FREE_CHUNKS           | NUMBER        | Number of free chunks for the event stream partition                                                                                                                                                                                                                                                                                                                                                                                              |
| USED_MEMORY_SIZE          | NUMBER        | Total estimated size of memory in use (in bytes) for the event stream partition                                                                                                                                                                                                                                                                                                                                                                   |
| STATE                     | VARCHAR2 (13) | Event stream partition state. Possible values: <ul style="list-style-type: none"><li>• CACHED (in memory)</li><li>• UNCACHED (on disk)</li><li>• UNCACHED_FREE</li><li>• CACHED_FREE</li><li>• UNKNOWN</li></ul>                                                                                                                                                                                                                                  |
| CON_ID                    | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Transactional Event Queues and Advanced Queuing

## 8.210 V\$EQ\_MESSAGE\_CACHE\_ADVICE

V\$EQ\_MESSAGE\_CACHE\_ADVICE shows simulated metrics for a range of potential message cache sizes for Transactional Event Queues (TxEventQs). This view assists in cache sizing by providing information in the form of metrics as described below.

| Column            | Datatype | Description                                        |
|-------------------|----------|----------------------------------------------------|
| SIZE_FOR_ESTIMATE | NUMBER   | Cache size for simulation (in megabytes)           |
| SIZE_FACTOR       | NUMBER   | Size factor with respect to the current cache size |

| Column                   | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ESTD_SIZE_TYPE           | VARCHAR2 (9) | Possible values: <ul style="list-style-type: none"> <li>• MINIMUM: This cache size is required to have all dequeues in-memory (no uncached).</li> <li>• CURRENT: This is the current size of the message cache.</li> <li>• MAXIMUM: This cache size is required to have zero evictions.</li> <li>• NULL: This is the value in all other cases.</li> </ul>                                                                                             |
| ESTD_CACHED_PARTITIONS   | NUMBER       | Estimated number of cached event stream partitions for this size                                                                                                                                                                                                                                                                                                                                                                                      |
| ESTD_UNCACHED_PARTITIONS | NUMBER       | Estimated number of uncached event stream partitions for this size                                                                                                                                                                                                                                                                                                                                                                                    |
| ESTD_EVICTIONS           | NUMBER       | Estimated number of event stream partitions evicted for this size                                                                                                                                                                                                                                                                                                                                                                                     |
| ESTD_EVICTION_RATE       | NUMBER       | Estimated number of event stream partitions getting evicted per minute                                                                                                                                                                                                                                                                                                                                                                                |
| ESTD_FG_UNEVICTIONS      | NUMBER       | Estimated number of event stream partitions unevicted by foreground processes                                                                                                                                                                                                                                                                                                                                                                         |
| ESTD_FG_UNEVICTION_RATE  | NUMBER       | Estimated number of event stream partitions getting unevicted by foreground processes                                                                                                                                                                                                                                                                                                                                                                 |
| ESTD_BG_UNEVICTIONS      | NUMBER       | Estimated number of event stream partitions unevicted by background processes                                                                                                                                                                                                                                                                                                                                                                         |
| ESTD_BG_UNEVICTION_RATE  | NUMBER       | Estimated number of event stream partitions getting unevicted by background processes                                                                                                                                                                                                                                                                                                                                                                 |
| ESTD_BG_PROCESSES        | NUMBER       | Estimated number of background processes required for this size                                                                                                                                                                                                                                                                                                                                                                                       |
| TOTAL_ENQUEUE_RATE       | NUMBER       | Simulated number of messages being enqueued per second                                                                                                                                                                                                                                                                                                                                                                                                |
| TOTAL_DEQUEUE_RATE       | NUMBER       | Simulated number of messages being dequeued per second                                                                                                                                                                                                                                                                                                                                                                                                |
| AVG_PARTITION_SIZE       | NUMBER       | Simulated average number of messages per cached event stream partitions                                                                                                                                                                                                                                                                                                                                                                               |
| AVG_PARTITION_MEMORY     | NUMBER       | Simulated average memory per cached event stream partition (in megabytes)                                                                                                                                                                                                                                                                                                                                                                             |
| AVG_EVICTION_TIME        | NUMBER       | Simulated average time to evict a cached event stream partition (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                     |
| AVG_UNEVICTION_TIME      | NUMBER       | Simulated average time to unevict a cached event stream partition (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                   |
| FLAGS                    | NUMBER       | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SIMULATION_TIME          | NUMBER       | Amount of time that was simulated for (in minutes)                                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID                   | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Transactional Event Queues and Advanced Queuing

## 8.211 V\$EQ\_MESSAGE\_CACHE\_STAT

V\$EQ\_MESSAGE\_CACHE\_STAT displays statistics about memory management for Transactional Event Queues (TxEventQs) in the Streams pool within the System Global Area (SGA). TxEventQs use the Streams pool in units of event queue partitions. Thus, columns of this view shows statistics at the event queue partition level. This view shows statistics across all TxEventQs.

| Column                            | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM_EVICTED                       | NUMBER   | Number of evicted event queue partitions across all TxEventQs                                                                                                                                                                                                                                                                                                                                                                                             |
| NUM_PREFETCHED                    | NUMBER   | Number of event queue partitions pre-fetched by an AQ background process                                                                                                                                                                                                                                                                                                                                                                                  |
| NUM_UNEVICTED                     | NUMBER   | Number of event queue partitions unevicted by a foreground process, such as the dequeue process                                                                                                                                                                                                                                                                                                                                                           |
| NUM_UNCACHED                      | NUMBER   | Number of event queue partitions stored as uncached                                                                                                                                                                                                                                                                                                                                                                                                       |
| NUM_TRACKED                       | NUMBER   | Number of event queue partitions which are actively tracking dequeue rates                                                                                                                                                                                                                                                                                                                                                                                |
| NUM_CACHED                        | NUMBER   | Number of event queue partitions stored as cached                                                                                                                                                                                                                                                                                                                                                                                                         |
| MAX_SUBSH_SIZE                    | NUMBER   | Maximum event queue partition size seen till now, in terms of number of messages per event queue partition                                                                                                                                                                                                                                                                                                                                                |
| MIN_SUBSH_SIZE                    | NUMBER   | Minimum event queue partition size seen till now, in terms of number of messages per event queue partition                                                                                                                                                                                                                                                                                                                                                |
| MEAN_SUBSH_SIZE                   | NUMBER   | Mean event queue partition size seen till now, in terms of number of messages per event queue partition                                                                                                                                                                                                                                                                                                                                                   |
| AVG_EVICTED_RATE                  | NUMBER   | Average number of event queue partitions evicted per second                                                                                                                                                                                                                                                                                                                                                                                               |
| AVG_LOAD_RATE                     | NUMBER   | Average number of event queue partitions pre-fetched or unevicted per second                                                                                                                                                                                                                                                                                                                                                                              |
| AVG_EVICTED_TIME                  | NUMBER   | Average time taken to evict one event queue partition (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                   |
| AVG_LOAD_TIME                     | NUMBER   | Average time taken to un-evict one event queue partition (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                |
| AVG_MISS_RATIO                    | NUMBER   | Average ratio of number of foreground un-evictions versus background pre-fetch                                                                                                                                                                                                                                                                                                                                                                            |
| AVG_THRASH_RATIO                  | NUMBER   | Average ratio of number of event queue partitions pre-fetched by background without dequeue attempt versus total number of event queue partitions prefetched                                                                                                                                                                                                                                                                                              |
| MANDATORY_AFF_SWITCH_ATT<br>EMPTS | NUMBER   | An affinity switch is a change in dequeue instance for a TxEventQ-subscriber pair. A mandatory affinity switch is when there are local enqueues in the queue at the instance but no local dequeues present, so the dequeue affinity is switched to another instance for that TxEventQ-subscriber pair. This column shows the number of times mandatory affinity switches were attempted across all instances. Populated at the smallest instance ID only. |
| OPTIONAL_AFF_SWITCH_ATT<br>MPTS   | NUMBER   | Optional affinity switches are affinity switches that are not mandatory. Optional affinity switches are done for global load balancing across the Oracle Real Application Clusters (Oracle RAC) database. This column shows the number of times optional affinity switches were attempted across all instances. Populated at the smallest instance ID only.                                                                                               |
| MIN_EVICT_PERCENT                 | NUMBER   | Percentage of streams_pool memory beyond which event queue partition eviction is triggered                                                                                                                                                                                                                                                                                                                                                                |

| Column                    | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LAST_AVG_CACHED_HORIZON   | NUMBER   | Last average number of cached event queue partitions seen in TxEventQ memory manager horizon                                                                                                                                                                                                                                                                                                                                                    |
| LAST_AVG_MEMORY_HORIZON   | NUMBER   | Last average memory of cached event queue partitions seen in TxEventQ memory manager horizon                                                                                                                                                                                                                                                                                                                                                    |
| LAST_AVG_SUBSHARD_HORIZON | NUMBER   | Last average number of event queue partitions seen in TxEventQ memory manager horizon                                                                                                                                                                                                                                                                                                                                                           |
| LAST_LEEWAY_SHIFT         | NUMBER   | Internal leeway for memory threshold                                                                                                                                                                                                                                                                                                                                                                                                            |
| AVG_OPTTIME_DRIFT         | NUMBER   | Average drift of opt_time for all event queue partitions. A drift is defined as a difference between opt_time as set on an event queue partition and the actual time at which an event queue partition is first dequeued after prefetch/uneviction.                                                                                                                                                                                             |
| NUM_THRESHOLD_DRIFT       | NUMBER   | Number of times drift value has gone over threshold time. A typical threshold time can be horizon_time/2.                                                                                                                                                                                                                                                                                                                                       |
| MAX_OPT_TIME_DRIFT        | NUMBER   | Maximum drift until now                                                                                                                                                                                                                                                                                                                                                                                                                         |
| MIN_OPT_TIME_DRIFT        | NUMBER   | Minimum drift until now                                                                                                                                                                                                                                                                                                                                                                                                                         |
| AVG_OPT_TIME_ERROR        | NUMBER   | An opt_time error occurs when a cached event queue partition is unevicted by a foreground process (instead of being prefetched by the AQ background). Thus, opt_time error is the difference between the actual opt_time set for an event queue partition and the absolute time at which foreground unevicts the same event queue partition. This column represents the average time of this error.                                             |
| MAX_OPT_TIME_ERROR        | NUMBER   | Maximum opt_time error                                                                                                                                                                                                                                                                                                                                                                                                                          |
| MIN_OPT_TIME_ERROR        | NUMBER   | Minimum opt_time error                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NUM_FG_RELOADED           | NUMBER   | Number of event stream partitions reloaded from disk into message cache by foreground processes                                                                                                                                                                                                                                                                                                                                                 |
| NUM_PRERELOADED           | NUMBER   | Number of event stream partitions reloaded from disk into message cache in advance by background processes                                                                                                                                                                                                                                                                                                                                      |
| AVG_RELOAD_TIME           | NUMBER   | Average time to reload an event stream partition from disk into message cache (in milliseconds)                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID                    | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Transactional Event Queues and Advanced Queuing

## 8.212 V\$EQ\_NONDUR\_SUBSCRIBER

V\$EQ\_NONDUR\_SUBSCRIBER provides information about the non-durable subscriptions on Transactional Event Queues (TxEventQs).

| Column               | Datatype                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUE_ID             | NUMBER                      | Queue ID                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SUBSCRIBER_ID        | NUMBER                      | ID of the non-durable subscriber                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SUBSCRIBER_NAME      | VARCHAR2 (128)              | Subscriber name                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| RULE_CONDITION       | VARCHAR2 (4000)             | Rule condition of the subscriber                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TRANSFORMATION_OWNER | VARCHAR2 (128)              | Owner of the transformation (for JMS queues)                                                                                                                                                                                                                                                                                                                                                                                                      |
| TRANSFORMATION_NAME  | VARCHAR2 (128)              | Name of the transformation (for JMS queues)                                                                                                                                                                                                                                                                                                                                                                                                       |
| CREATION_TIME        | TIMESTAMP(1) WITH TIME ZONE | Non-durable subscriber creation time                                                                                                                                                                                                                                                                                                                                                                                                              |
| FLAGS                | NUMBER                      | Property of the subscriber. Possible values: <ul style="list-style-type: none"><li>• 0x0001 – Persistent subscriber</li><li>• 0x0002 – Buffered subscriber</li><li>• 0x0004 – JMS subscriber</li><li>• 0x0008 – Rule-based subscriber</li><li>• 0x0010 – Subscriber has transformation</li><li>• 0x0020 – Notification-only non-durable subscriber</li></ul>                                                                                      |
| SUBSCRIBER_TYPE      | NUMBER                      | Type of subscriber. Possible values: <ul style="list-style-type: none"><li>• 1 – JMS non-durable subscriber</li><li>• 2 – Service layer dummy non-durable subscriber</li><li>• 3 – Notification-only non-durable subscriber</li></ul>                                                                                                                                                                                                             |
| BITPOS               | NUMBER                      | Position of subscriber in subscriber bitmap                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID               | NUMBER                      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

### See Also:

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Transactional Event Queues and Advanced Queuing



## 8.213 V\$EQ\_NONDUR\_SUBSCRIBER\_LWM

V\$EQ\_NONDUR\_SUBSCRIBER\_LWM projects the low watermarks (LWMs) of non-durable subscribers in a Transactional Event Queue (TxEventQ). The LWM of a non-durable subscriber is a combination of event stream, priority, and LWM (event queue partition).

| Column          | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUE_ID        | NUMBER   | Queue ID                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SUBSCRIBER_ID   | NUMBER   | ID of the non-durable subscriber                                                                                                                                                                                                                                                                                                                                                                                                            |
| EVENT_STREAM_ID | NUMBER   | Event stream ID                                                                                                                                                                                                                                                                                                                                                                                                                             |
| PRIORITY        | NUMBER   | Priority of the event stream                                                                                                                                                                                                                                                                                                                                                                                                                |
| LWM             | NUMBER   | Lower watermark (in an event stream partition) of the non-durable subscriber                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID          | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



### See Also:

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Transactional Event Queues and Advanced Queuing

## 8.214 V\$EQ\_PARTITION\_STATS

V\$EQ\_PARTITION\_STATS displays usage statistics for the Transactional Event Queue (TxEventQ) queue partition cache and the dequeue log partition cache.

| Column                 | Datatype       | Description                                                                                                                                                                                               |
|------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INST_ID                | NUMBER         | Current instance ID                                                                                                                                                                                       |
| QUEUE_ID               | NUMBER         | Queue ID                                                                                                                                                                                                  |
| QUEUE_TABLE_ID         | NUMBER         | Queue table object ID                                                                                                                                                                                     |
| QUEUE_SCHEMA           | VARCHAR2 (128) | Queue schema name                                                                                                                                                                                         |
| QUEUE_NAME             | VARCHAR2 (128) | Queue name                                                                                                                                                                                                |
| PT_TUNED_SIZ_QT        | NUMBER         | Current tuned size of the queue partition cache, expressed in number of partition cache elements                                                                                                          |
| PT_CACHED_PTNS_QT      | NUMBER         | Current number of cached partitions in the queue partition cache                                                                                                                                          |
| PT_OVER_CACHED_PTNS_QT | NUMBER         | Current number of over-cached partitions in the queue partition cache, that is, the number of cached partitions whose partition cache elements exceed the current tuned size of the queue partition cache |

| Column                 | Datatype | Description                                                                                                                                                                                                                       |
|------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PT_TOTAL_UPTUNE_QT     | NUMBER   | Total amount of space added to the queue partition cache due to tune-ups, since the cache was initialized, expressed in number of partition cache elements                                                                        |
| PT_NO_OF_UPTUNES_QT    | NUMBER   | Total number of times a tune-up was triggered on the queue partition cache, since the cache was initialized                                                                                                                       |
| PT_TOTAL_DOWNTUNE_QT   | NUMBER   | Total amount of space removed from the queue partition cache due to tune-downs, since the cache was initialized, expressed in number of partition cache elements                                                                  |
| PT_NO_OF_DOWNTUNES_QT  | NUMBER   | Total number of times a tune-down was triggered on the queue partition cache, since the cache was initialized                                                                                                                     |
| PT_CACHE_MISS_QT       | NUMBER   | Total number of cache misses during partition lookups on the queue partition cache                                                                                                                                                |
| PT_CACHE_HIT_QT        | NUMBER   | Total number of cache hits during partition lookups on the queue partition cache                                                                                                                                                  |
| PT_TOTAL_CACH_GET_QT   | NUMBER   | Total number of successful fetches from the queue partition cache                                                                                                                                                                 |
| PT_TOTAL_CACH_PUT_QT   | NUMBER   | Total number of caching operations that occurred on the queue partition cache                                                                                                                                                     |
| PT_UNBOUNDINGS_QT      | NUMBER   | Total number of times queue partitions were unbounded                                                                                                                                                                             |
| PT_TUNED_SIZ_DQ        | NUMBER   | Current tuned size of the dequeue log partition cache, expressed in number of partition cache elements                                                                                                                            |
| PT_CACHED_PTNS_DQ      | NUMBER   | Current number of cached partitions in the dequeue log partition cache                                                                                                                                                            |
| PT_OVER_CACHED_PTNS_DQ | NUMBER   | Current number of over-cached partitions in the dequeue log partition cache, that is, the number of cached dequeue log partitions whose partition cache elements exceed the current tuned size of the dequeue log partition cache |
| PT_TOTAL_UPTUNE_DQ     | NUMBER   | Total amount of space added to the dequeue log partition cache due to tune-ups, since the cache was initialized, expressed in number of partition cache elements                                                                  |
| PT_NO_OF_UPTUNES_DQ    | NUMBER   | Total number of times a tune-up was triggered on the dequeue log partition cache, since the cache was initialized                                                                                                                 |
| PT_TOTAL_DOWNTUNE_DQ   | NUMBER   | Total amount of space removed from the dequeue log partition cache due to tune-downs, since the cache was initialized, expressed in number of partition cache elements                                                            |
| PT_NO_OF_DOWNTUNES_DQ  | NUMBER   | Total number of times a tune-down was triggered on the dequeue log partition cache, since the cache was initialized                                                                                                               |
| PT_CACHE_MISS_DQ       | NUMBER   | Total number of cache misses during partition lookups on the dequeue log partition cache                                                                                                                                          |
| PT_CACHE_HIT_DQ        | NUMBER   | Total number of cache hits during partition lookups on the dequeue log partition cache                                                                                                                                            |
| PT_TOTAL_CACH_GET_DQ   | NUMBER   | Total number of successful fetches from the dequeue log partition cache                                                                                                                                                           |
| PT_TOTAL_CACH_PUT_DQ   | NUMBER   | Total number of caching operations that occurred on the dequeue log partition cache                                                                                                                                               |
| PT_UNBOUNDINGS_DQ      | NUMBER   | Total number of times dequeue log partitions were unbounded                                                                                                                                                                       |
| ADD_PARTITION_FG_QT    | NUMBER   | Total number of queue partitions created inline during foreground AQ enqueue operations                                                                                                                                           |
| ADD_PARTITION_BG_QT    | NUMBER   | Total number of queue partitions created asynchronously by the AQ partitioning background process                                                                                                                                 |

| Column                 | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADD_PARTITION_FG_DQLOG | NUMBER   | Total number of dequeue log partitions created inline during foreground AQ dequeue operations                                                                                                                                                                                                                                                                                                                                               |
| ADD_PARTITION_BG_DQLOG | NUMBER   | Total number of dequeue log partitions created asynchronously by the AQ partitioning background process                                                                                                                                                                                                                                                                                                                                     |
| TRUNC_PARTITION_QT     | NUMBER   | Total number of truncated and recycled queue partitions                                                                                                                                                                                                                                                                                                                                                                                     |
| TRUNC_PARTITION_DQLOG  | NUMBER   | Total number of truncated and recycled dequeue log partitions                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID                 | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Transactional Event Queues and Advanced Queuing

## 8.215 V\$EQ\_REMOTE\_DEQUEUE\_AFFINITY

V\$EQ\_REMOTE\_DEQUEUE\_AFFINITY lists the for Transactional Event Queue (TxEventQ) dequeue affinity instance of the subscribers not dequeuing locally from the event streams's owner instance. Cross-instance message forwarding is used for these subscribers.

| Column             | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUE_ID           | NUMBER        | Queue ID                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| EVENT_STREAM_ID    | NUMBER        | Event stream ID, which is being forwarded from SOURCE_INSTANCE to INST_ID for the subscriber                                                                                                                                                                                                                                                                                                                                                |
| SOURCE_INSTANCE_ID | NUMBER        | Owner instance ID from which the event stream is being forwarded                                                                                                                                                                                                                                                                                                                                                                            |
| SUBSCRIBER_ID      | NUMBER        | Subscriber ID                                                                                                                                                                                                                                                                                                                                                                                                                               |
| QUEUE_SCHEMA       | VARCHAR2(128) | Owner of the queue                                                                                                                                                                                                                                                                                                                                                                                                                          |
| QUEUE_NAME         | VARCHAR2(128) | Queue name                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID             | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Transactional Event Queues and Advanced Queuing

## 8.216 V\$EQ\_SUBSCRIBER\_LOAD

V\$EQ\_SUBSCRIBER\_LOAD describes the load of all subscribers of Transactional Event Queue (TxEventQ) event streams in terms of latency at every instance in an Oracle RAC environment.

Latency denotes the predicted amount of time (in seconds) required from the current time to drain all the messages for that subscriber at each respective instance. The latency calculation considers past enqueue/dequeue rates and future enqueue/dequeue rates based on history.

| Column                 | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUE_ID               | NUMBER         | Queue ID                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| QUEUE_SCHEMA           | VARCHAR2 (128) | Queue schema                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| QUEUE_NAME             | VARCHAR2 (128) | Queue name                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SUBSCRIBER_ID          | NUMBER         | Subscriber ID                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SUBSCRIBER_NAME        | VARCHAR2 (128) | Subscriber name                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| LATENCY_STATE          | VARCHAR2 (8)   | Latency state. Possible values: <ul style="list-style-type: none"> <li>FINITE - The subscriber will be able to dequeue all the messages in a finite amount of time</li> <li>INFINITE - The subscriber's dequeue rate may not catch up to the enqueue rate</li> <li>UNKNOWN - Latency is not yet known</li> </ul>                                                                                                                                     |
| LATENCY                | NUMBER         | Latency (in seconds). Valid only when LATENCY_STATE is FINITE.                                                                                                                                                                                                                                                                                                                                                                                       |
| DEQUEUE_REQUESTS       | NUMBER         | Approximate number of dequeue requests noted recently                                                                                                                                                                                                                                                                                                                                                                                                |
| ACTIVE_EVENT_STREAM_ID | NUMBER         | Number of event streams that have messages for this subscriber                                                                                                                                                                                                                                                                                                                                                                                       |
| ACTIVE_LISTENER        | VARCHAR2 (5)   | Indicates whether the subscriber is actively listening at this instance for messages (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                           |
| DEQUEUE_SESSIONS       | NUMBER         | Displays the number of active dequeue sessions for this subscriber                                                                                                                                                                                                                                                                                                                                                                                   |
| FLAGS                  | NUMBER         | For internal use only                                                                                                                                                                                                                                                                                                                                                                                                                                |
| MANDATORY_AFF_SWITCHES | NUMBER         | An affinity switch is a change in the dequeue instance for an event stream-subscriber pair. A mandatory affinity switch is when there are local enqueues in the queue at the instance but no local dequeues present, so the dequeue affinity is switched to another instance for that event stream-subscriber pair. This column shows the number of times mandatory affinity switches were needed from this instance to another for this subscriber. |
| OPTIONAL_AFF_SWITCHES  | NUMBER         | Optional affinity switches are affinity switches that are not mandatory. Optional affinity switches are done for global load balancing across the Oracle Real Application Clusters (Oracle RAC) database. This column shows the number of times optional affinity switches were needed from this instance to another for this subscriber.                                                                                                            |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Transactional Event Queues and Advanced Queuing

## 8.217 V\$EQ\_SUBSCRIBER\_STAT

V\$EQ\_SUBSCRIBER\_STAT displays basic statistical information about the subscribers of Transactional Event Queue (TxEventQ) event streams. There is one row per queue per event stream per subscriber.

| Column                    | Datatype | Description                                                                                                                                                                                              |
|---------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUE_ID                  | NUMBER   | Queue identifier                                                                                                                                                                                         |
| SUBSCRIBER_ID             | NUMBER   | Subscriber identifier                                                                                                                                                                                    |
| EVENT_STREAM_ID           | NUMBER   | Event stream identifier                                                                                                                                                                                  |
| PRIORITY                  | NUMBER   | Priority value of the event stream                                                                                                                                                                       |
| MSG_SN                    | NUMBER   | Message serial number                                                                                                                                                                                    |
| DEQUEUE_PARTITION_ID      | NUMBER   | Last known dequeue position in this event stream                                                                                                                                                         |
| ENQUEUED_MSGS             | NUMBER   | Number of enqueued messages                                                                                                                                                                              |
| DEQUEUED_MSGS             | NUMBER   | Number of dequeued messages                                                                                                                                                                              |
| ELAPSED_DEQUEUE_TIME      | NUMBER   | Amount of time spent performing dequeues (in seconds)                                                                                                                                                    |
| CPU_DEQUEUE_TIME          | NUMBER   | Actual amount of CPU time spent performing dequeues (in seconds)                                                                                                                                         |
| DEQUEUE_RATE              | NUMBER   | Number of messages dequeued per second                                                                                                                                                                   |
| DEQUEUE_POSITION          | RAW(16)  | <p>Message ID at the dequeue position of the subscriber in this event stream</p> <p>A NULL value indicates that either the event stream is empty or no dequeues have been done on this event stream.</p> |
| TIME_SINCE_LAST_DEQUEUE   | NUMBER   | Time since last dequeue activity (in seconds)                                                                                                                                                            |
| ESTD_TIME_TO_DRAIN        | NUMBER   | Estimated amount of time to drain the event stream (in seconds) with current enqueue and dequeue rates. Null, if the enqueue rate is greater than the dequeue rate.                                      |
| ESTD_TIME_TO_DRAIN_NO_ENQ | NUMBER   | Estimated amount of time to drain the event stream (in seconds) with no new enqueues                                                                                                                     |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Transactional Event Queues and Advanced Queuing

## 8.218 V\$EQ\_UNCACHED\_PARTITIONS

V\$EQ\_UNCACHED\_PARTITIONS describes all uncached Transactional Event Queue (TxEventQ) event stream partitions.

| Column                    | Datatype                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUE_ID                  | NUMBER                       | Queue ID                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| EVENT_STREAM_ID           | NUMBER                       | Event stream ID                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PRIORITY                  | NUMBER                       | Priority of the event stream partition                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EVENT_STREAM_PARTITION_ID | NUMBER                       | Event stream partition ID                                                                                                                                                                                                                                                                                                                                                                                                                              |
| OPT_STATE                 | VARCHAR2 (19)                | <p>Current message cache optimizer state of the event stream partition. Possible values:</p> <ul style="list-style-type: none"> <li>EMPTY</li> <li>READY</li> <li>EVICTED_PROGRESS</li> <li>EVICTED</li> <li>UNEVICTION_PROGRESS</li> <li>PREFETCH_PROGRESS</li> <li>NEED_RELOAD</li> <li>RELOAD_PROGRESS</li> <li>NA: Error in the message cache optimizer state of the event stream partition</li> </ul>                                             |
| OPT_TIME                  | TIMESTAMP (3) WITH TIME ZONE | The predicted absolute time when the event stream partition could be accessed in future                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID                    | NUMBER                       | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**

*Oracle Database Advanced Queuing User's Guide* for more information about Oracle Transactional Event Queues and Advanced Queuing

## 8.219 V\$EVENT\_HISTOGRAM

V\$EVENT\_HISTOGRAM displays a histogram of the number of waits, the maximum wait, and total wait time on an event basis, in milliseconds. The histogram has buckets of time intervals from < 1 ms, < 2 ms, < 4 ms, < 8 ms, ... < 2<sup>21</sup> ms, < 2<sup>22</sup> ms, and >= 2<sup>22</sup> ms.

The histogram will not be filled unless the TIMED\_STATISTICS initialization parameter is set to true.

| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EVENT#           | NUMBER        | Event number                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| EVENT            | VARCHAR2 (64) | Name of the event                                                                                                                                                                                                                                                                                                                                                                                                                               |
| WAIT_TIME_MILLI  | NUMBER        | Amount of time the bucket represents (in milliseconds). If the duration = <i>num</i> , then this column represents waits of duration < <i>num</i> that are not included in any smaller bucket.                                                                                                                                                                                                                                                  |
| WAIT_COUNT       | NUMBER        | Number of waits of the duration belonging to the bucket of the histogram                                                                                                                                                                                                                                                                                                                                                                        |
| LAST_UPDATE_TIME | VARCHAR2 (64) | Indicates the last time the bucket was updated (the ending timestamp of the last wait falling into the bucket's duration)                                                                                                                                                                                                                                                                                                                       |
| CON_ID           | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**

"TIMED\_STATISTICS"

## 8.220 V\$EVENT\_HISTOGRAM\_MICRO

V\$EVENT\_HISTOGRAM\_MICRO displays a histogram of the number of waits, the maximum wait, and total wait time on an event basis, in microseconds. The histogram has buckets of time intervals from < 1 us, < 2 us, < 4 us, < 8 us, ... < 2<sup>31</sup> us, < 2<sup>32</sup> us, and >= 2<sup>32</sup> us.

The histogram will not be filled unless the TIMED\_STATISTICS initialization parameter is set to true.

| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EVENT#           | NUMBER        | Event number                                                                                                                                                                                                                                                                                                                                                                                                                      |
| EVENT            | VARCHAR2 (64) | Name of the event                                                                                                                                                                                                                                                                                                                                                                                                                 |
| WAIT_TIME_FORMAT | VARCHAR2 (30) | A human readable time string which is converted from WAIT_TIME_MICRO. When WAIT_TIME_MICRO < 1 millisecond, WAIT_TIME_FORMAT is shown in microseconds. When WAIT_TIME_MICRO < 1 second, WAIT_TIME_FORMAT is shown in milliseconds. When WAIT_TIME_MICRO < 1 minute, WAIT_TIME_FORMAT is shown in seconds. When WAIT_TIME_MICRO > 1 minute, WAIT_TIME_FORMAT is shown in minutes and seconds.                                      |
| WAIT_TIME_MICRO  | NUMBER        | Amount of time the bucket represents (in microseconds). If the duration = num, then this column represents waits of duration < num that are not included in any smaller bucket.                                                                                                                                                                                                                                                   |
| WAIT_COUNT       | NUMBER        | Number of waits of the duration belonging to the bucket of the histogram                                                                                                                                                                                                                                                                                                                                                          |
| LAST_UPDATE_TIME | VARCHAR2 (64) | Indicates the last time the bucket was updated (the ending timestamp of the last wait falling into the bucket's duration)                                                                                                                                                                                                                                                                                                         |
| CON_ID           | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul> |

## 8.221 V\$EVENT\_NAME

V\$EVENT\_NAME displays information about wait events.

| Column        | Datatype      | Description                                                                                                                                            |
|---------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| EVENT#        | NUMBER        | Number of the wait event                                                                                                                               |
| EVENT_ID      | NUMBER        | Identifier of the wait event                                                                                                                           |
| NAME          | VARCHAR2 (64) | Name of the wait event. Names that appear in this column remain stable across Oracle Database releases, and they can be relied on by customer scripts. |
| PARAMETER1    | VARCHAR2 (64) | Description of the first parameter for the wait event                                                                                                  |
| PARAMETER2    | VARCHAR2 (64) | Description of the second parameter for the wait event                                                                                                 |
| PARAMETER3    | VARCHAR2 (64) | Description of the third parameter for the wait event                                                                                                  |
| WAIT_CLASS_ID | NUMBER        | Identifier of the class of the wait event                                                                                                              |
| WAIT_CLASS#   | NUMBER        | Number of the class of the wait event                                                                                                                  |
| WAIT_CLASS    | VARCHAR2 (64) | Name of the class of the wait event<br><b>See Also:</b> <a href="#">"Classes of Wait Events"</a> for a description of the different wait event classes |



| Column       | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DISPLAY_NAME | VARCHAR2 (64) | A clearer and more descriptive name for the wait event that appears in the NAME column. Names that appear in the DISPLAY_NAME column can change across Oracle Database releases, therefore customer scripts should not rely on names that appear in the DISPLAY_NAME column across releases.                                                                                                                                                    |
| CON_ID       | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.222 V\$EVENTMETRIC

V\$EVENTMETRIC displays values of wait event metrics for the most recent 60-second interval.

| Column           | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BEGIN_TIME       | DATE     | Begin time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                      |
| END_TIME         | DATE     | End time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                        |
| INTSIZE_CSEC     | NUMBER   | Interval size (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                       |
| EVENT#           | NUMBER   | Number of the event                                                                                                                                                                                                                                                                                                                                                                                                                             |
| EVENT_ID         | NUMBER   | Identifier of the event                                                                                                                                                                                                                                                                                                                                                                                                                         |
| NUM_SESS_WAITING | NUMBER   | Number of sessions waiting at the end of the interval                                                                                                                                                                                                                                                                                                                                                                                           |
| TIME_WAITED      | NUMBER   | Time waited (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                         |
| WAIT_COUNT       | NUMBER   | Number of times waited                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TIME_WAITED_FG   | NUMBER   | Time waited (in hundredths of a second), from foreground sessions                                                                                                                                                                                                                                                                                                                                                                               |
| WAIT_COUNT_FG    | NUMBER   | Number of times waited, from foreground sessions                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID           | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.223 V\$EXADIRECT\_ACL

V\$EXADIRECT\_ACL monitors current ACLs propagated to the database instance.

| Column       | Datatype       | Description                                                       |
|--------------|----------------|-------------------------------------------------------------------|
| SERVICE_NAME | VARCHAR2 (512) | Database service name                                             |
| SGID         | VARCHAR2 (39)  | Identifier of the VM allowed access to the specified service name |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.224 V\$EXECUTION

V\$EXECUTION displays information on parallel execution.

| Column   | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PID      | NUMBER        | Session ID                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| DEPTH    | NUMBER        | The depth                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| FUNCTION | VARCHAR2 (10) | Session serial number                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TYPE     | VARCHAR2 (7)  | Name of the OBJECT_NODE in plan table                                                                                                                                                                                                                                                                                                                                                                                                                  |
| NVALS    | NUMBER        | Elapsed time for OBJECT_NODE                                                                                                                                                                                                                                                                                                                                                                                                                           |
| VAL1     | NUMBER        | The value for number 1                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| VAL2     | NUMBER        | The value for number 2                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SEQH     | NUMBER        | A sequence                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SEQL     | NUMBER        | A sequence                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID   | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.225 V\$EXP\_STATS

V\$EXP\_STATS stores the expression tracking statistics of recently executed queries.

| Column  | Datatype | Description                                         |
|---------|----------|-----------------------------------------------------|
| EXPID   | NUMBER   | Expression ID of the current expression             |
| OBJNUM  | NUMBER   | The object number contained in the expression       |
| DYNCOST | NUMBER   | Optimizer dynamic cost of evaluating the expression |
| EVALCNT | NUMBER   | Number of times the expression has been evaluated   |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

 **See Also:**

- "ALL\_EXPRESSION\_STATISTICS"
- "DBA\_EXPRESSION\_STATISTICS"
- "ALL\_EXPRESSION\_STATISTICS"

## 8.226 V\$FALSE\_PING

V\$FALSE\_PING is deprecated. The information that was provided in this view is now provided in the V\$INSTANCE\_CACHE\_TRANSFER and V\$SEGMENT\_STATISTICS views.

| Column         | Datatype       | Description                                                                                                                                                                                                                                                                                                            |
|----------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE#          | NUMBER         | Data file identifier number (to find the file name, query DBA_DATA_FILES or V\$DBFILE)                                                                                                                                                                                                                                 |
| BLOCK#         | NUMBER         | Block number                                                                                                                                                                                                                                                                                                           |
| STATUS         | VARCHAR2 (10)  | <p>Status of the block:</p> <ul style="list-style-type: none"> <li>free - Not currently in use</li> <li>xcur - Exclusive</li> <li>scur - Shared current</li> <li>cr - Consistent read</li> <li>read - Being read from disk</li> <li>mrec - In media recovery mode</li> <li>irec - In instance recovery mode</li> </ul> |
| XNC            | NUMBER         | Number of PCM lock conversions from Exclusive mode due to contention with another instance. This column is obsolete and maintained for backward compatibility.                                                                                                                                                         |
| FORCED_READS   | NUMBER         | Number of times the block had to be reread from the cache because another instance has forced it out of this instance's cache by requesting the lock on the block in exclusive mode                                                                                                                                    |
| FORCED_WRITES  | NUMBER         | Number of times GCS had to write this block to cache because this instance had used the block and another instance had requested the lock on the block in a conflicting mode                                                                                                                                           |
| NAME           | VARCHAR2 (128) | Name of the database object containing the block                                                                                                                                                                                                                                                                       |
| PARTITION_NAME | VARCHAR2 (128) | NULL for nonpartitioned objects                                                                                                                                                                                                                                                                                        |
| KIND           | VARCHAR2 (15)  | Type of database object                                                                                                                                                                                                                                                                                                |

| Column            | Datatype    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER#            | NUMBER      | Owner number                                                                                                                                                                                                                                                                                                                                                                                                                                |
| LOCK_ELEMENT_ADDR | RAW (4   8) | Address of the lock element that contains the PCM lock that is covering the buffer. If more than one buffer has the same address, then these buffers are covered by the same PCM lock.                                                                                                                                                                                                                                                      |
| LOCK_ELEMENT_NAME | NUMBER      | Name of the lock that contains the PCM lock that is covering the buffer                                                                                                                                                                                                                                                                                                                                                                     |
| CLASS#            | NUMBER      | Lock element class                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID            | NUMBER      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

- "V\$INSTANCE\_CACHE\_TRANSFER"
- "V\$SEGMENT\_STATISTICS"

## 8.227 V\$FAST\_START\_FAILOVER\_CONFIG

V\$FAST\_START\_FAILOVER\_CONFIG displays configuration details about Oracle Data Guard fast-start failover.

| Column                   | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FAST_START_FAILOVER_MODE | VARCHAR2 (19) | Displays the current fast-start failover mode. Possible values are: <ul style="list-style-type: none"><li>DISABLED - Fast-start failover is disabled.</li><li>OBSERVE-ONLY - Fast-start failover is enabled in test drive mode.</li><li>POTENTIAL DATA LOSS - Fast-start failover is enabled and a fast-start failover can incur data loss within FastStartFailoverLagLimit seconds.</li><li>ZERO DATA LOSS - Fast-start failover is enabled and a fast-start failover cannot incur any data loss.</li></ul> |

| Column           | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS           | VARCHAR2 (22)  | <p>Fast-start failover status:</p> <ul style="list-style-type: none"> <li>• BYSTANDER</li> <li>• DISABLED</li> <li>• LOADING DICTIONARY</li> <li>• PRIMARY UNOBSERVED</li> <li>• REINSTATE FAILED</li> <li>• REINSTATE REQUIRED</li> <li>• STALLED</li> <li>• SUSPENDED</li> <li>• SYNCHRONIZED</li> <li>• TARGET OVER LAG LIMIT</li> <li>• TARGET UNDER LAG LIMIT</li> <li>• UNSYNCHRONIZED</li> </ul> <p><b>See Also:</b> <i>Oracle Data Guard Broker</i> for detailed descriptions of these values</p> <p><b>Note:</b> If the value of this column is <code>DISABLED</code>, then the values for the <code>CURRENT_TARGET</code>, <code>THRESHOLD</code>, <code>OBSERVER_PRESENT</code>, and <code>OBSERVER_HOST</code> columns in this table are not meaningful.</p> |
| CURRENT_TARGET   | VARCHAR2 (30)  | DB_UNIQUE_NAME of the standby that is the current fail-safe failover observer target standby for the Data Guard configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| THRESHOLD        | NUMBER         | Time (in seconds) that the observer will attempt to reconnect with a disconnected primary before attempting fail-safe failover observer with the target standby                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| OBSERVER_PRESENT | VARCHAR2 (7)   | <p>Indicates whether the master observer is currently connected to the local database (YES) or not (NO)</p> <p><b>Note:</b> This column is consistent throughout an Oracle RAC environment; that is, if the observer is connected to any instance, then all instances will show a value of YES.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| OBSERVER_HOST    | VARCHAR2 (512) | Machine name that is currently hosting the master observer process, if fast-start failover is enabled. If fast-start failover is not enabled, this column returns a NULL string.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PING_INTERVAL    | NUMBER         | <p>ObserverPingInterval value for the fast-start failover configuration</p> <p>This value specifies how frequently the observer must ping the primary database (in milliseconds).</p> <p><b>See Also:</b> <i>Oracle Data Guard Broker</i> for more information about the ObserverPingInterval configuration property</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PING_RETRY       | NUMBER         | <p>ObserverPingRetry value for the fast-start failover configuration</p> <p>This value specifies the number of times that the observer retries a failed ping before it initiates a failover to the target standby database.</p> <p><b>See Also:</b> <i>Oracle Data Guard Broker</i> for more information about the ObserverPingRetry configuration property</p>                                                                                                                                                                                                                                                                                                                                                                                                          |
| PROTECTION_MODE  | VARCHAR2 (120) | <p>Protection mode for the fast-start failover configuration:</p> <ul style="list-style-type: none"> <li>• MAXAVAILABILITY</li> <li>• MAXPERFORMANCE</li> <li>• MAXPROTECTION</li> </ul> <p><b>See Also:</b> <i>Oracle Data Guard Broker</i> for more information about protection modes</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Column             | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LAG_LIMIT          | NUMBER          | <p>FastStartFailoverLagLimit value for the fast-start failover configuration</p> <p>This value establishes an acceptable limit (in seconds) that the standby is allowed to fall behind the primary in terms of redo applied.</p> <p><b>See Also:</b> <i>Oracle Data Guard Broker</i> for more information about the FastStartFailoverLagLimit configuration property</p>                                                                                     |
| AUTO_REINSTATE     | VARCHAR2 (5)    | <p>FastStartFailoverAutoReinstate value (TRUE or FALSE) for the fast-start failover configuration</p> <p>This value specifies whether the former primary database is to be automatically reinstated if a fast-start failover was initiated because the primary database was either isolated or had crashed.</p> <p><b>See Also:</b> <i>Oracle Data Guard Broker</i> for more information about the FastStartFailoverAutoReinstate configuration property</p> |
| OBSERVER_RECONNECT | NUMBER          | <p>ObserverReconnect value for the fast-start failover configuration</p> <p>This value specifies how often (in seconds) the observer establishes a new connection to the primary database.</p> <p><b>See Also:</b> <i>Oracle Data Guard Broker</i> for more information about the ObserverReconnect configuration property</p>                                                                                                                               |
| OBSERVER_OVERRIDE  | VARCHAR2 (5)    | <p>ObserverOverride value (TRUE or FALSE) for the fast-start failover configuration</p> <p>This value specifies whether an automatic failover is allowed to occur when the observer has lost connectivity to the primary.</p> <p><b>See Also:</b> <i>Oracle Data Guard Broker</i> for more information about the ObserverOverride configuration property</p>                                                                                                 |
| SHUTDOWN_PRIMARY   | VARCHAR2 (5)    | <p>FastStartFailoverPmyShutdown value (TRUE or FALSE) for the fast-start failover configuration</p> <p>This value specifies whether the primary database should shut down under certain conditions.</p> <p><b>See Also:</b> <i>Oracle Data Guard Broker</i> for more information about the FastStartFailoverPmyShutdown configuration property</p>                                                                                                           |
| LAG_TYPE           | VARCHAR2 (4000) | <p>FastStartFailoverLagType value (APPLY or TRANSPORT) for the fast-start failover configuration</p> <p>This value specifies the type of lag (apply lag or transport lag) that is used to specify the data loss threshold.</p> <p><b>See Also:</b> <i>Oracle Data Guard Broker</i> for more information about the FastStartFailoverLagType configuration property</p>                                                                                        |
| LAG_GRACE_TIME     | NUMBER          | <p>FastStartFailoverLagGraceTime value for the fast-start failover configuration</p> <p>This value specifies the maximum amount of time (in seconds) that can pass before the lag limit (FastStartFailoverLagLimit) is reached when the primary database requests permission to move to the lagging state.</p> <p><b>See Also:</b> <i>Oracle Data Guard Broker</i> for more information about the FastStartFailoverLagGraceTime configuration property</p>   |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

## 8.228 V\$FAST\_START\_SERVERS

V\$FAST\_START\_SERVERS provides information about all the recovery workers performing parallel transaction recovery.

| Column         | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATE          | VARCHAR2 (11) | State of the server (IDLE or RECOVERING)                                                                                                                                                                                                                                                                                                                                                                                                    |
| UNDOBLOCKSDONE | NUMBER        | Number of undo blocks done so far                                                                                                                                                                                                                                                                                                                                                                                                           |
| PID            | NUMBER        | Process ID                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| XID            | RAW (8)       | Transaction ID                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID         | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.229 V\$FAST\_START\_TRANSACTIONS

V\$FAST\_START\_TRANSACTIONS displays information about the progress of the transactions that Oracle is recovering.

This view displays only transactions recovered in parallel. Recovery progress for serial transactions is not displayed.

| Column | Datatype | Description                            |
|--------|----------|----------------------------------------|
| USN    | NUMBER   | Undo segment number of the transaction |
| SLT    | NUMBER   | Slot within the rollback segment       |
| SEQ    | NUMBER   | Incarnation number of the slot         |

| Column          | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATE           | VARCHAR2 (16) | State of the transaction (may be TO BE RECOVERED, RECOVERED, or RECOVERING)                                                                                                                                                                                                                                                                                                                                                                     |
| UNDOBLOCKSDONE  | NUMBER        | Number of undo blocks completed on the transaction                                                                                                                                                                                                                                                                                                                                                                                              |
| UNDOBLOCKSTOTAL | NUMBER        | Total number of undo blocks that need recovery                                                                                                                                                                                                                                                                                                                                                                                                  |
| PID             | NUMBER        | ID of the current server it has been assigned to                                                                                                                                                                                                                                                                                                                                                                                                |
| CPUTIME         | NUMBER        | Time for which recovery has progressed (in seconds)                                                                                                                                                                                                                                                                                                                                                                                             |
| PARENTUSN       | NUMBER        | Undo segment number of the parent transaction in PDML                                                                                                                                                                                                                                                                                                                                                                                           |
| PARENTSLT       | NUMBER        | Slot of the parent transaction in PDML                                                                                                                                                                                                                                                                                                                                                                                                          |
| PARENTSEQ       | NUMBER        | Sequence number of the parent transaction in PDML                                                                                                                                                                                                                                                                                                                                                                                               |
| XID             | RAW (8)       | Transaction ID                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PXID            | RAW (8)       | Parent transaction ID                                                                                                                                                                                                                                                                                                                                                                                                                           |
| RCVSERVERS      | NUMBER        | Number of servers used in the last recovery                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID          | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.230 V\$FILE\_CACHE\_TRANSFER

V\$FILE\_CACHE\_TRANSFER is deprecated. The information that was provided in this view is now provided in the V\$INSTANCE\_CACHE\_TRANSFER and V\$SEGMENT\_STATISTICS views.

| Column                | Datatype | Description                                                                           |
|-----------------------|----------|---------------------------------------------------------------------------------------|
| FILE_NUMBER           | NUMBER   | Number of the data file                                                               |
| X_2_NULL              | NUMBER   | Number of blocks with Exclusive-to-NULL conversions; always 0                         |
| X_2_NULL_FORCED_WRITE | NUMBER   | Number of Exclusive-to-NULL forced writes; always 0                                   |
| X_2_NULL_FORCED_STALE | NUMBER   | Number of Exclusive-to-NULL blocks converted to CR; always 0                          |
| X_2_S                 | NUMBER   | Number of blocks with Exclusive-to-Shared conversions; always 0                       |
| X_2_S_FORCED_WRITE    | NUMBER   | Number of Exclusive-to-Shared forced writes; always 0                                 |
| S_2_NULL              | NUMBER   | Number of blocks with Shared-to-NULL conversions; always 0                            |
| S_2_NULL_FORCED_STALE | NUMBER   | Number of Shared-to-NULL blocks converted to CR; always 0                             |
| RBR                   | NUMBER   | Number of reuse blocks cross-instance calls; always 0                                 |
| RBR_FORCED_WRITE      | NUMBER   | Number of blocks written due to reuse blocks cross-instance calls; always 0           |
| RBR_FORCED_STALE      | NUMBER   | Number of blocks marked as flushed due to reuse blocks cross-instance calls; always 0 |
| NULL_2_X              | NUMBER   | Number of blocks with NULL-to-Exclusive conversions; always 0                         |
| S_2_X                 | NUMBER   | Number of blocks with Shared-to-Exclusive conversions; always 0                       |



| Column        | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NULL_2_S      | NUMBER   | Number of blocks with NULL-to-Shared conversions; always 0                                                                                                                                                                                                                                                                                                                                                                                      |
| CR_TRANSFERS  | NUMBER   | Number of CR blocks received; always 0                                                                                                                                                                                                                                                                                                                                                                                                          |
| CUR_TRANSFERS | NUMBER   | Number of current blocks received; always 0                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID        | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

 **See Also:**

- "V\$INSTANCE\_CACHE\_TRANSFER"
- "V\$SEGMENT\_STATISTICS"

## 8.231 V\$FILE\_HISTOGRAM

V\$FILE\_HISTOGRAM displays a histogram of all synchronous single block reads on a per-file basis (for data files). The histogram has buckets of time intervals from < 1 ms, < 2 ms, < 4 ms, < 8 ms, ... < 2<sup>21</sup> ms, < 2<sup>22</sup> ms, and >= 2<sup>22</sup> ms.

The histogram will not be filled unless the STATISTICS\_LEVEL initialization parameter is set to ALL.

| Column               | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE#                | NUMBER   | File number                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SINGLEBLKRDTIM_MILLI | NUMBER   | Amount of time the bucket represents (in milliseconds). If the duration = <i>num</i> , then this column represents waits of duration < <i>num</i> that are not included in any smaller bucket.                                                                                                                                                                                                                                                  |
| SINGLEBLKRDS         | NUMBER   | Number of waits of the duration belonging to the bucket of the histogram                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID               | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.232 V\$FILEMETRIC

V\$FILEMETRIC displays values of file metrics for the most recent 10-minute interval. A history of the last one hour will be kept in the system.

| Column                | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BEGIN_TIME            | DATE     | Begin time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                  |
| END_TIME              | DATE     | End time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                    |
| INTSIZE_CSEC          | NUMBER   | Interval size (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                   |
| FILE_ID               | NUMBER   | File number                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CREATION_TIME         | NUMBER   | Timestamp of the file creation                                                                                                                                                                                                                                                                                                                                                                                                              |
| AVERAGE_READ_TIME     | NUMBER   | Average file read time (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                          |
| AVERAGE_WRITE_TIME    | NUMBER   | Average file write time (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                         |
| PHYSICAL_READS        | NUMBER   | Number of physical reads                                                                                                                                                                                                                                                                                                                                                                                                                    |
| PHYSICAL_WRITES       | NUMBER   | Number of physical writes                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PHYSICAL_BLOCK_READS  | NUMBER   | Number of physical block reads                                                                                                                                                                                                                                                                                                                                                                                                              |
| PHYSICAL_BLOCK_WRITES | NUMBER   | Number of physical block writes                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID                | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.233 V\$FILEMETRIC\_HISTORY

V\$FILEMETRIC\_HISTORY displays values of file metrics for all intervals in the last one hour.

| Column                | Datatype | Description                                         |
|-----------------------|----------|-----------------------------------------------------|
| BEGIN_TIME            | DATE     | Begin time of the interval                          |
| END_TIME              | DATE     | End time of the interval                            |
| INTSIZE_CSEC          | NUMBER   | Interval size (in hundredths of a second)           |
| FILE_ID               | NUMBER   | File number                                         |
| CREATION_TIME         | NUMBER   | Timestamp of the file creation                      |
| AVERAGE_READ_TIME     | NUMBER   | Average file read time (in hundredths of a second)  |
| AVERAGE_WRITE_TIME    | NUMBER   | Average file write time (in hundredths of a second) |
| PHYSICAL_READS        | NUMBER   | Number of physical reads                            |
| PHYSICAL_WRITES       | NUMBER   | Number of physical writes                           |
| PHYSICAL_BLOCK_READS  | NUMBER   | Number of physical block reads                      |
| PHYSICAL_BLOCK_WRITES | NUMBER   | Number of physical block writes                     |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.234 V\$FILESPACE\_USAGE

V\$FILESPACE\_USAGE summarizes space allocation information of each data file and temp file.

| Column          | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABSPACE_ID     | NUMBER   | ID of the tablespace to which the file belongs                                                                                                                                                                                                                                                                                                                                                                                                  |
| RFNO            | NUMBER   | Relative file number of the file                                                                                                                                                                                                                                                                                                                                                                                                                |
| ALLOCATED_SPACE | NUMBER   | Total allocated space in the file                                                                                                                                                                                                                                                                                                                                                                                                               |
| FILE_SIZE       | NUMBER   | Current file size                                                                                                                                                                                                                                                                                                                                                                                                                               |
| FILE_MAXSIZE    | NUMBER   | Maximum file size                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CHANGESCN_BASE  | NUMBER   | SCN base of the last change to the file                                                                                                                                                                                                                                                                                                                                                                                                         |
| CHANGESCN_WRAP  | NUMBER   | SCN wrap of the last change to the file                                                                                                                                                                                                                                                                                                                                                                                                         |
| CHANGESCN8      | NUMBER   | The 8-byte representation of the SCN at which the last change happened to the file                                                                                                                                                                                                                                                                                                                                                              |
| FLAG            | NUMBER   | Flags for file attributes                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID          | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.235 V\$FILESTAT

V\$FILESTAT displays the number of physical reads and writes done and the total number of single-block and multiblock I/Os done at file level.

As of Oracle Database 10g Release 2 (10.2), this view also includes reads done by RMAN processes for backup operations.

| Column   | Datatype | Description                               |
|----------|----------|-------------------------------------------|
| FILE#    | NUMBER   | Number of the file                        |
| PHYRDS   | NUMBER   | Number of physical reads done             |
| PHYWRTS  | NUMBER   | Number of times DBWR is required to write |
| PHYBLKRD | NUMBER   | Number of physical blocks read            |

| Column             | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OPTIMIZED_PHYBLKRD | NUMBER   | Number of physical reads from Database Smart Flash Cache blocks                                                                                                                                                                                                                                                                                                                                                                                        |
| PHYBLKWRT          | NUMBER   | Number of blocks written to disk, which may be the same as PHYWRTS if all writes are single blocks                                                                                                                                                                                                                                                                                                                                                     |
| SINGLEBLKRDS       | NUMBER   | Number of single block reads                                                                                                                                                                                                                                                                                                                                                                                                                           |
| READTIM            | NUMBER   | Time (in hundredths of a second) spent doing reads if the TIMED_STATISTICS parameter is true; 0 if false                                                                                                                                                                                                                                                                                                                                               |
| WRITETIM           | NUMBER   | Time (in hundredths of a second) spent doing writes if the TIMED_STATISTICS parameter is true; 0 if false                                                                                                                                                                                                                                                                                                                                              |
| SINGLEBLKRDTIM     | NUMBER   | Cumulative single block read time (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                          |
| AVGIOTIM           | NUMBER   | Average time (in hundredths of a second) spent on I/O, if the TIMED_STATISTICS parameter is true; 0 if false                                                                                                                                                                                                                                                                                                                                           |
| LSTIOTIM           | NUMBER   | Time (in hundredths of a second) spent doing the last I/O, if the TIMED_STATISTICS parameter is true; 0 if false                                                                                                                                                                                                                                                                                                                                       |
| MINIOTIM           | NUMBER   | Minimum time (in hundredths of a second) spent on a single I/O, if the TIMED_STATISTICS parameter is true; 0 if false                                                                                                                                                                                                                                                                                                                                  |
| MAXIORTM           | NUMBER   | Maximum time (in hundredths of a second) spent doing a single read, if the TIMED_STATISTICS parameter is true; 0 if false                                                                                                                                                                                                                                                                                                                              |
| MAXIOWTM           | NUMBER   | Maximum time (in hundredths of a second) spent doing a single write, if the TIMED_STATISTICS parameter is true; 0 if false                                                                                                                                                                                                                                                                                                                             |
| CON_ID             | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.236 V\$FIXED\_TABLE

V\$FIXED\_TABLE displays all dynamic performance tables, views, and derived tables in the database.

Some V\$ tables (for example, V\$ROLLNAME) refer to real tables and are therefore not listed.

| Column    | Datatype       | Description                                                                 |
|-----------|----------------|-----------------------------------------------------------------------------|
| NAME      | VARCHAR2 (128) | Name of the object                                                          |
| OBJECT_ID | NUMBER         | Identifier of the fixed object                                              |
| TYPE      | VARCHAR2 (5)   | Object type (TABLE   VIEW)                                                  |
| TABLE_NUM | NUMBER         | Number that identifies the dynamic performance table if it is of type TABLE |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.237 V\$FIXED\_VIEW\_DEFINITION

V\$FIXED\_VIEW\_DEFINITION contains the definitions of all the fixed views (views beginning with V\$).

Use this table with caution. Oracle tries to keep the behavior of fixed views the same from release to release, but the definitions of the fixed views can change without notice. Use these definitions to optimize your queries by using indexed columns of the dynamic performance tables.

| Column          | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VIEW_NAME       | VARCHAR2 (128)  | Name of the fixed view                                                                                                                                                                                                                                                                                                                                                                                                                      |
| VIEW_DEFINITION | VARCHAR2 (4000) | Definition of the fixed view                                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID          | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.238 V\$FLASHBACK\_DATABASE\_LOG

V\$FLASHBACK\_DATABASE\_LOG displays information about the flashback data. Use this view to help estimate the amount of flashback space required for the current workload.

| Column                   | Datatype | Description                                                                         |
|--------------------------|----------|-------------------------------------------------------------------------------------|
| OLDEST_FLASHBACK_SCN     | NUMBER   | Lowest system change number (SCN) in the flashback data, for any incarnation        |
| OLDEST_FLASHBACK_TIME    | DATE     | Time of the lowest SCN in the flashback data, for any incarnation                   |
| RETENTION_TARGET         | NUMBER   | Target retention time (in minutes)                                                  |
| FLASHBACK_SIZE           | NUMBER   | Current size (in bytes) of the flashback data                                       |
| ESTIMATED_FLASHBACK_SIZE | NUMBER   | Estimated size of flashback data needed (in bytes) for the current target retention |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.239 V\$FLASHBACK\_DATABASE\_LOGFILE

V\$FLASHBACK\_DATABASE\_LOGFILE displays information about the flashback log files.

| Column        | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME          | VARCHAR2 (513) | Name of the log file                                                                                                                                                                                                                                                                                                                                                                                                                              |
| LOG#          | NUMBER         | Log file number                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| THREAD#       | NUMBER         | Log file thread number                                                                                                                                                                                                                                                                                                                                                                                                                            |
| SEQUENCE#     | NUMBER         | Log file sequence number                                                                                                                                                                                                                                                                                                                                                                                                                          |
| BYTES         | NUMBER         | Log file size (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                          |
| FIRST_CHANGE# | NUMBER         | Lowest system change number (SCN) in the log file                                                                                                                                                                                                                                                                                                                                                                                                 |
| FIRST_TIME    | DATE           | Time of the first SCN in the log file                                                                                                                                                                                                                                                                                                                                                                                                             |
| TYPE          | VARCHAR2 (9)   | Log type: <ul style="list-style-type: none"><li>• NORMAL</li><li>• RESERVED</li><li>• FREE</li><li>• TO DELETE</li></ul>                                                                                                                                                                                                                                                                                                                          |
| CON_ID        | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.240 V\$FLASHBACK\_DATABASE\_STAT

V\$FLASHBACK\_DATABASE\_STAT displays statistics for monitoring the I/O overhead of logging flashback data. This view also displays the estimated flashback space needed based on previous workloads.

| Column         | Datatype | Description                                                           |
|----------------|----------|-----------------------------------------------------------------------|
| BEGIN_TIME     | DATE     | Beginning of the time interval                                        |
| END_TIME       | DATE     | End of the time interval                                              |
| FLASHBACK_DATA | NUMBER   | Number of bytes of flashback data written during the interval         |
| DB_DATA        | NUMBER   | Number of bytes of database data read and written during the interval |

| Column                   | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REDO_DATA                | NUMBER   | Number of bytes of redo data written during the interval                                                                                                                                                                                                                                                                                                                                                                                    |
| ESTIMATED_FLASHBACK_SIZE | NUMBER   | Value of ESTIMATED_FLASHBACK_SIZE in V\$FLASHBACK_DATABASE_LOG at the end of the time interval                                                                                                                                                                                                                                                                                                                                              |
| CON_ID                   | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.241 V\$FLASHBACK\_LOG\_DEST

V\$FLASHBACK\_LOG\_DEST displays information about the disk quota and current disk usage for the flashback database log storage area.

| Column          | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME            | VARCHAR2 (513) | Location of the flashback database log storage area<br>This value is specified by the DB_FLASHBACK_LOG_DEST initialization parameter.                                                                                                                                                                                                                                                                                                       |
| SPACE_LIMIT     | NUMBER         | Maximum amount of disk space (in bytes) that the database can use for the flashback database log storage area<br>This is the value specified by the DB_FLASHBACK_LOG_DEST_SIZE initialization parameter.                                                                                                                                                                                                                                    |
| SPACE_USED      | NUMBER         | Amount of disk space (in bytes) currently used by flashback database log files in the flashback database log storage area                                                                                                                                                                                                                                                                                                                   |
| NUMBER_OF_FILES | NUMBER         | Number of files currently in the flashback database log storage area                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID          | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



### Note:

This view is available starting with Oracle Database 23ai.

**See Also:**

- "DB\_FLASHBACK\_LOG\_DEST"
- "DB\_FLASHBACK\_LOG\_DEST\_SIZE"

## 8.242 V\$FLASHBACK\_TXN\_GRAPH

V\$FLASHBACK\_TXN\_GRAPH displays a tabular representation of the transaction dependency graph. For each dependency edge, there could be multiple rows, one for each conflicting operation.

This view is relevant AFTER a compensating transaction has been started through the DBMS\_FLASHBACK.TRANSACTION\_BACKOUT() set of functions, and is no longer relevant once the compensating transaction is either committed or rolled back. It also provides a tabular representation of the undo SQL that is not available through the CLOB XML construct in the DBA\_FLASHBACK\_TXN\_REPORT view.

| Column                | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPENSATING_XID      | RAW (8)        | Transaction ID of the compensating transaction                                                                                                                                                                                                                                                                                                                                                                                          |
| COMPENSATING_TXN_NAME | VARCHAR2 (255) | Name of the compensating transaction                                                                                                                                                                                                                                                                                                                                                                                                    |
| XID                   | RAW (8)        | Transaction ID of a relevant transaction found in memory                                                                                                                                                                                                                                                                                                                                                                                |
| TXN_NAME              | VARCHAR2 (255) | Name of the transaction with XID as the transaction ID; NULL if none                                                                                                                                                                                                                                                                                                                                                                    |
| PARENT_XID            | RAW (8)        | Parent transaction ID (for a PDML transaction)                                                                                                                                                                                                                                                                                                                                                                                          |
| INTERESTING           | NUMBER         | If the transaction is in the transaction dependency graph                                                                                                                                                                                                                                                                                                                                                                               |
| ORIGINAL              | NUMBER         | If the transaction is part of the input set provided                                                                                                                                                                                                                                                                                                                                                                                    |
| BACKOUT_SEQ           | NUMBER         | Order in which the transaction has been backed out                                                                                                                                                                                                                                                                                                                                                                                      |
| NUM_PREDS             | NUMBER         | Number of predecessors of the transaction specified by XID in the transaction graph                                                                                                                                                                                                                                                                                                                                                     |
| NUM_SUCCS             | NUMBER         | Number of successors of the transaction specified by XID in the transaction graph                                                                                                                                                                                                                                                                                                                                                       |
| DEP_XID               | RAW (8)        | One dependent transaction ID of the transaction specified by XID. This is a particular child of XID.                                                                                                                                                                                                                                                                                                                                    |
| DEP_TXN_NAME          | VARCHAR2 (255) | Transaction name, if any, for the transaction specified by DEP_XID                                                                                                                                                                                                                                                                                                                                                                      |
| TXN_CONF_SQL_ID       | NUMBER         | SQL ID of undo SQL executed in the context of XID which conflicts with the dependent transaction                                                                                                                                                                                                                                                                                                                                        |
| DEP_TXN_CONF_SQL_ID   | NUMBER         | SQL ID of undo SQL executed in the context of DEP_XID which conflicts with XID                                                                                                                                                                                                                                                                                                                                                          |
| CONFLICT_TYPE         | VARCHAR2 (32)  | The type of conflict that the conflict resolution method is used to resolve: delete, uniqueness, or update                                                                                                                                                                                                                                                                                                                              |
| CON_ID                | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• n: Where n is the applicable container ID for the rows containing data</li> </ul> |



 **See Also:**

- "DBA\_FLASHBACK\_TXN\_REPORT"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_FLASHBACK.TRANSACTION\_BACKOUT procedures

## 8.243 V\$FLASHBACK\_TXN\_MODS

V\$FLASHBACK\_TXN\_MODS displays the individual modifications of all the transactions in memory.

This view is relevant AFTER a compensating transaction has been started through the DBMS\_FLASHBACK.TRANSACTION\_BACKOUT() set of functions, and is no longer relevant once the compensating transaction is either committed or rolled back. It also provides a tabular representation of the undo SQL that is not available through the CLOB XML construct in the DBA\_FLASHBACK\_TXN\_REPORT view.

| Column                | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPENSATING_XID      | RAW (8)         | Transaction ID of the compensating transaction                                                                                                                                                                                                                                                                                                                                                                                                        |
| COMPENSATING_TXN_NAME | VARCHAR2 (255)  | Name of the compensating transaction                                                                                                                                                                                                                                                                                                                                                                                                                  |
| XID                   | RAW (8)         | Transaction ID of a relevant transaction found in memory                                                                                                                                                                                                                                                                                                                                                                                              |
| TXN_NAME              | VARCHAR2 (255)  | Name of the transaction with XID as the transaction ID; NULL if none                                                                                                                                                                                                                                                                                                                                                                                  |
| PARENT_XID            | RAW (8)         | Parent transaction ID (for a PDML transaction)                                                                                                                                                                                                                                                                                                                                                                                                        |
| INTERESTING           | NUMBER          | If the transaction is in the transaction dependency graph                                                                                                                                                                                                                                                                                                                                                                                             |
| ORIGINAL              | NUMBER          | If the transaction is part of the input set provided                                                                                                                                                                                                                                                                                                                                                                                                  |
| BACKOUT_SEQ           | NUMBER          | Order in which the transaction has been backed out                                                                                                                                                                                                                                                                                                                                                                                                    |
| UNDO_SQL              | VARCHAR2 (4000) | Undo SQL for the modification                                                                                                                                                                                                                                                                                                                                                                                                                         |
| UNDO_SQL_SEQ          | NUMBER          | Order in which the given SQL has been executed to back out this transaction                                                                                                                                                                                                                                                                                                                                                                           |
| UNDO_SQL_SUB_SEQ      | NUMBER          | If the undo SQL is greater than 4000 bytes, then a sequence number, starting from 1, of a 4000-byte division of the undo SQL                                                                                                                                                                                                                                                                                                                          |
| BACKOUT_SQL_ID        | NUMBER          | SQL ID of the undo SQL (used only for this compensating transaction)                                                                                                                                                                                                                                                                                                                                                                                  |
| OPERATION             | VARCHAR2 (128)  | Operation (such as insert/update/delete) performed by the forward-going operation                                                                                                                                                                                                                                                                                                                                                                     |
| BACKEDOUT             | NUMBER          | Indicates whether the transaction has been backed out as of now                                                                                                                                                                                                                                                                                                                                                                                       |
| CONFLICT_MOD          | NUMBER          | If the concerned modification is causing a conflict                                                                                                                                                                                                                                                                                                                                                                                                   |
| MODS_PER_LCR          | NUMBER          | Sometimes an LCR could cause multiple modifications (for example, an update of an IOT could actually be a delete followed by an insert)                                                                                                                                                                                                                                                                                                               |
| CON_ID                | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

 **See Also:**

- ["DBA\\_FLASHBACK\\_TXN\\_REPORT"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_FLASHBACK.TRANSACTION_BACKOUT` procedures

## 8.244 V\$FLASHFILESTAT

V\$FLASHFILESTAT displays statistics about Database Smart Flash Cache.

By taking snapshots of `SINGLEBLKRDS` and `SINGLEBLKRDTIM_MICRO`, you can easily calculate the average latency of all the flash files in a given time period

| Column               | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FLASHFILE#           | NUMBER         | The file number of the flash file                                                                                                                                                                                                                                                                                                                                                                                                                     |
| NAME                 | VARCHAR2 (513) | Name and path of the flash file                                                                                                                                                                                                                                                                                                                                                                                                                       |
| BYTES                | NUMBER         | Size of the flash file, in bytes                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ENABLED              | NUMBER         | Indicates whether this flash file is enabled or not                                                                                                                                                                                                                                                                                                                                                                                                   |
| SINGLEBLKRDS         | NUMBER         | Number of reads to the flash file                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SINGLEBLKRDTIM_MICRO | NUMBER         | Cumulative latency of reading blocks from this particular flash file/device, in microseconds                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID               | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

 **See Also:**

*Oracle Database Administrator's Guide* for more information about configuring Database Smart Flash Cache

## 8.245 V\$FOREIGN\_ARCHIVED\_LOG

V\$FOREIGN\_ARCHIVED\_LOG can be queried on a logical standby database to find out the list of foreign archived logs received by a database.

No rows are returned for this view on a physical standby database.

| Column | Datatype | Description               |
|--------|----------|---------------------------|
| RECID  | NUMBER   | Archived log record ID    |
| STAMP  | NUMBER   | Archived log record stamp |

| Column            | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME              | VARCHAR2 (513) | Archived log file name. If set to NULL, either the log file was cleared before it was archived or an RMAN BACKUP command with the delete input option was executed to back up archivelog all (RMAN> backup archivelog all delete input;).                                                                                                                                                                                                                                                                                                                                                                                                                        |
| DEST_ID           | NUMBER         | Original destination from which the archive log was generated. The value is 0 if the destination identifier is not available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| THREAD#           | NUMBER         | Redo thread number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SEQUENCE#         | NUMBER         | Redo log sequence number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| RESETLOGS_CHANGE# | NUMBER         | Resetlogs change number of the database when the log was written                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| RESETLOGS_TIME    | DATE           | Resetlogs time of the database when the log was written                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| RESETLOGS_ID      | NUMBER         | Resetlogs identifier associated with the archived redo log                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| FIRST_CHANGE#     | NUMBER         | First change number in the archived log                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| FIRST_TIME        | DATE           | Timestamp of the first change                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NEXT_CHANGE#      | NUMBER         | First change in the next log                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| NEXT_TIME         | DATE           | Timestamp of the next change                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| BLOCKS            | NUMBER         | Size of the archived log (in blocks)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| BLOCK_SIZE        | NUMBER         | Redo log block size. This is the logical block size of the archived log, which is the same as the logical block size of the online log from which the archived log was copied. The online log logical block size is a platform-specific value that is not adjustable by the user.                                                                                                                                                                                                                                                                                                                                                                                |
| CREATOR           | VARCHAR2 (7)   | Creator of the archive log:<br>ARCH - Archiver process<br>FGRD - Foreground process<br>RMAN - Recovery Manager<br>SRMN - RMAN at standby<br>LGWR - Logwriter process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| REGISTRAR         | VARCHAR2 (7)   | Registrar of the entry:<br>RFS - Remote File Server process<br>ARCH - Archiver process<br>FGRD - Foreground process<br>RMAN - Recovery Manager<br>SRMN - RMAN at standby<br>LGWR - Logwriter process                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ARCHIVED          | VARCHAR2 (3)   | Indicates whether the online redo log was archived (YES) or whether RMAN only inspected the log and created a record for future application of redo logs during recovery (NO).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| APPLIED           | VARCHAR2 (3)   | Indicates whether the archivelog has been applied to its corresponding standby database (YES) or not (NO). The value is always NO for local destinations.<br><br>This column is meaningful at the standby site for the ARCHIVED_LOG entries with REGISTRAR='RFS' (which means this log is shipped from the primary to the standby database). If REGISTRAR='RFS' and APPLIED is NO, then the log has arrived at the standby but has not yet been applied. If REGISTRAR='RFS' and APPLIED is YES, the log has arrived and been applied at the standby database.<br><br>You can use this field to identify archivelogs that can be backed up and removed from disk. |

| Column                | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DELETED               | VARCHAR2 (3)  | Indicates whether an RMAN <code>DELETE</code> command has physically deleted the archived log file from disk, as well as logically removing it from the control file of the target database and from the recovery catalog (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                 |
| STATUS                | VARCHAR2 (1)  | Status of the archived log:<br>A - Available<br>D - Deleted<br>U - Unavailable<br>X - Expired                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| COMPLETION_TIME       | DATE          | Time when the archiving completed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DICTIONARY_BEGIN      | VARCHAR2 (3)  | Indicates whether the log contains the start of a LogMiner dictionary (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DICTIONARY_END        | VARCHAR2 (3)  | Indicates whether the log contains the end of a LogMiner dictionary (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| END_OF_REDO           | VARCHAR2 (3)  | Indicates whether the archived redo log contains the end of all redo information from the primary database () or not ()                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ARCHIVAL_THREAD#      | NUMBER        | Redo thread number of the instance that performed the archival operation. This column differs from the <code>THREAD#</code> column only when a closed thread is archived by another instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| IS_RECOVERY_DEST_FILE | VARCHAR2 (3)  | Indicates whether the file was created in the fast recovery area (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| COMPRESSED            | VARCHAR2 (3)  | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| FAL                   | VARCHAR2 (3)  | Indicates whether the archive log was generated as the result of a FAL request (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| END_OF_REDO_TYPE      | VARCHAR2 (10) | Possible values are as follows:<br>SWITCHOVER - Shows archived redo log files that are produced at the end of a switchover<br>TERMINAL - Shows archived redo log files produced after a failover<br>RESETLOGS - Shows online redo log files archived on the primary database after an <code>ALTER DATABASE OPEN RESETLOGS</code> statement is issued<br>ACTIVATION - Shows any log files archived on a physical standby database after an <code>ALTER DATABASE ACTIVATE STANDBY DATABASE</code> statement is issued<br>"empty string" - Any empty string implies that the log is just a normal archival and was not archived due to any of the other events |
| SOURCE_DBID           | NUMBER        | Database ID of the source database that generated this archived log                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID                | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                             |

## 8.246 V\$FS\_FAILOVER\_OBSERVERS

V\$FS\_FAILOVER\_OBSERVERS provides information about fast-start failover observers.

If you are querying on the primary database, this view returns three rows, each describing one observer. However, only a row having an non-empty value in column `NAME` corresponds to a started observer. If you are querying on a non-primary database, the behavior of this view is not defined.

| Column            | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME              | VARCHAR2 (513) | The fast-start failover observer name                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| REGISTERED        | VARCHAR2 (4)   | Indicates if this observer is registered (YES) or not (NO). Note that the observer is registered <i>only</i> if <code>HOST</code> is not NULL.                                                                                                                                                                                                                                                                                                                                              |
| HOST              | VARCHAR2 (513) | The name of the host where this observer is running                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ISMASTER          | VARCHAR2 (4)   | Indicates if this observer is the master observer (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TIME_SELECTED     | TIMESTAMP (9)  | Shows when this observer became master observer, if <code>ISMASTER</code> is YES; otherwise the following constant appears:<br>1990-01-01 00:00:00.00                                                                                                                                                                                                                                                                                                                                       |
| PINGING_PRIMARY   | VARCHAR2 (4)   | Possible values: <ul style="list-style-type: none"> <li>• YES: Observer is currently connected to the primary database</li> <li>• NO: Observer is not connected to the primary database</li> </ul> <b>Note:</b> This field is consistent throughout an Oracle Real Application Clusters (Oracle RAC) environment; that is, if the observer is connected to any instance of the primary database in the Oracle RAC environment, all instances will show a value of YES.                      |
| PINGING_TARGET    | VARCHAR2 (4)   | Possible values: <ul style="list-style-type: none"> <li>• YES: Observer is currently connected to the target standby database</li> <li>• NO: Observer is not connected to the target standby database</li> </ul> <b>Note:</b> This field is consistent throughout an Oracle Real Application Clusters (Oracle RAC) environment; that is, if the observer is connected to any instance of the target standby database in the Oracle RAC environment, all instances will show a value of YES. |
| LAST_PING_PRIMARY | NUMBER         | Amount of time (in seconds) since the observer last pinged the primary database                                                                                                                                                                                                                                                                                                                                                                                                             |
| LAST_PING_TARGET  | NUMBER         | Amount of time (in seconds) since the observer last pinged the target standby database                                                                                                                                                                                                                                                                                                                                                                                                      |
| LOG_FILE          | VARCHAR2 (513) | Full path to the observer log file                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| STATE_FILE        | VARCHAR2 (513) | Full path to the observer runtime data file                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CURRENT_TIME      | TIMESTAMP (9)  | Date and time at which this view was queried                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID            | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                       |

## 8.247 V\$FS\_FAILOVER\_STATS

V\$FS\_FAILOVER\_STATS displays statistics about fast-start failovers occurring on the system.

| Column               | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LAST_FAILOVER_TIME   | VARCHAR2 (20)  | Timestamp of the last fast-start failover                                                                                                                                                                                                                                                                                                                                                                                                         |
| LAST_FAILOVER_REASON | VARCHAR2 (255) | Reason for the last fast-start failover                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID               | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



### Note:

This view is deprecated in Oracle Database 23ai. Oracle recommends that you instead use the `V$DG_BROKER_ROLE_CHANGE` view. `V$FS_FAILOVER_STATS` displays one row with limited information about the most recent fast-start failover. The data is available in the primary database only, and is not persisted across database restarts. `V$DG_BROKER_ROLE_CHANGE` contains detailed information about the ten most recent role changes, including switchover, failover, and reinstate, across the Data Guard broker configuration, and provides richer information than `V$FS_FAILOVER_STATS`. See "`V$DG_BROKER_ROLE_CHANGE`" for more information.

## 8.248 V\$FS\_OBSERVER\_HISTOGRAM

V\$FS\_OBSERVER\_HISTOGRAM displays statistics that are based on the frequency of successful pings between the observer and primary database for different time intervals. The wait event in this histogram is the observer's wait until pings to the primary succeed.

The histogram displays only when there were ping failures between the observer and the primary database.

No rows are shown in this view for unregistered observers.

These statistics can be used to select an appropriate value for the `FastStartFailoverThreshold` configuration property for your environment.

| Column        | Datatype       | Description                                         |
|---------------|----------------|-----------------------------------------------------|
| OBSERVER_NAME | VARCHAR2 (513) | The Fast-Start Failover observer name               |
| OBSERVER_HOST | VARCHAR2 (513) | The name of the host where this observer is running |

| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WAIT_TIME        | NUMBER        | <p>The time interval between a pair of successful observer pings (ping-pairs) to this instance. Note that the values in this column are the upper bound of the inter-ping interval samples represented by a given histogram bucket. If <code>WAIT_TIME = number</code>, then this column represents inter-ping intervals <math>\leq</math> <code>number</code> that are not included in any smaller bucket.</p> <p>The value in this column is the time (in seconds) that a ping failure lasted.</p> |
| WAIT_COUNT       | NUMBER        | <p>The number of ping-pairs with an inter-ping interval that corresponds with this histogram bucket.</p> <p>If all pings have been successful so far, this column has a value of 0.</p>                                                                                                                                                                                                                                                                                                              |
| LAST_UPDATE_TIME | VARCHAR2 (20) | The last time this row was updated                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID           | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                               |



#### See Also:

*Oracle Data Guard Broker* for more information about the `FastStartFailoverThreshold` configuration property

### Example

Assume that the following shows the status of observer's pings to the primary:

```

Ping time Ping result

1:00:00 SUCCESS
1:00:03 FAIL
1:00:06 FAIL
1:00:09 SUCCESS => Wait time of 6 seconds
1:00:12 SUCCESS
1:00:15 FAIL
1:00:18 FAIL
1:00:21 SUCCESS => Wait time of 6 seconds
1:00:24 SUCCESS
1:00:27 FAIL
1:00:30 SUCCESS => Wait time of 3 seconds

```

These ping results will result in the histogram view below:

| WAIT_TIME | WAIT_COUNT | LAST_UPDATE_TIME |
|-----------|------------|------------------|
| 3         | 1          | 1:00:30          |
| 6         | 2          | 1:00:21          |
| 9         | 0          |                  |

12 0

...

In this case, the `FastStartFailoverThreshold` value should be set to larger than 6 because communication between the observer and the primary sometimes fails for 6 seconds.

## 8.249 V\$GC\_ELEMENT

`V$GC_ELEMENT` displays one entry for each global cache resource that is used by the buffer cache. The name of the global cache resource that corresponds to a lock element is {'BL', indx, class}. This is an Oracle Real Application Clusters view.

| Column          | Datatype    | Description                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GC_ELEMENT_ADDR | RAW (4   8) | Address of the lock element that contains the PCM lock that is covering the buffer. If more than one buffer has the same address, then these buffers are covered by the same PCM lock.                                                                                                                                                                                                                                            |
| INDX            | NUMBER      | Platform specific lock manager identifier                                                                                                                                                                                                                                                                                                                                                                                         |
| CLASS           | NUMBER      | Platform specific lock manager identifier                                                                                                                                                                                                                                                                                                                                                                                         |
| GC_ELEMENT_NAME | NUMBER      | Name of the lock that contains the PCM lock that is covering the buffer                                                                                                                                                                                                                                                                                                                                                           |
| MODE_HELD       | NUMBER      | Platform dependent value for lock mode held; often: 3 = share; 5 = exclusive                                                                                                                                                                                                                                                                                                                                                      |
| BLOCK_COUNT     | NUMBER      | Number of blocks covered by PCM lock                                                                                                                                                                                                                                                                                                                                                                                              |
| RELEASING       | NUMBER      | Nonzero if PCM lock is being downgraded                                                                                                                                                                                                                                                                                                                                                                                           |
| ACQUIRING       | NUMBER      | Nonzero if PCM lock is being upgraded                                                                                                                                                                                                                                                                                                                                                                                             |
| WRITING         | NUMBER      | If the GC_ELEMENT is being written, the write status                                                                                                                                                                                                                                                                                                                                                                              |
| RECOVERING      | NUMBER      | If the GC_ELEMENT is being recovered, the recovery status                                                                                                                                                                                                                                                                                                                                                                         |
| LOCAL           | NUMBER      | Zero if the GC_ELEMENT is local, one if it is global                                                                                                                                                                                                                                                                                                                                                                              |
| FLAGS           | NUMBER      | Process level flags for the lock element                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID          | NUMBER      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul> |

## 8.250 V\$GC\_ELEMENTS\_WITH\_COLLISIONS

`V$GC_ELEMENTS_WITH_COLLISIONS` is deprecated. The information that was provided in this view is now provided in the `V$INSTANCE_CACHE_TRANSFER` and `V$SEGMENT_STATISTICS` views.

| Column          | Datatype    | Description                                                                                                                                                                    |
|-----------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GC_ELEMENT_ADDR | RAW (4   8) | Address of the lock element that contains the PCM lock covering the buffer. If more than one buffer has the same address, then these buffers are covered by the same PCM lock. |



| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

- "V\$INSTANCE\_CACHE\_TRANSFER"
- "V\$SEGMENT\_STATISTICS"

## 8.251 V\$GCR\_ACTIONS

V\$GCR\_ACTIONS displays information about the current status of the actions defined to the GCR component that runs under the LMHB background process to detect and mitigate potential issues in the cluster instances.

| Column             | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACTION_ID          | NUMBER        | Action identification number as used internally to refer to the metric                                                                                                                                                                                                                                                                                                                                                                                                                 |
| ACTION_NAME        | VARCHAR2 (40) | Name of the action                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ENVIRONMENT        | NUMBER        | <p>Environment that the action should run in:</p> <ul style="list-style-type: none"> <li>0: Nowhere (do not run)</li> <li>1: Oracle ASM instance only</li> <li>2: Oracle Database instance only</li> <li>3: Oracle ASM and Oracle Database instance</li> <li>4: Standby instance</li> <li>5: Oracle ASM and Standby instance</li> <li>6: Oracle Database and Standby instance</li> <li>7: Oracle Database, Oracle ASM, and Standby instance</li> <li>15: All instance types</li> </ul> |
| FLAGS              | NUMBER        | Various flags describing the action. Used only by Oracle for diagnosis.                                                                                                                                                                                                                                                                                                                                                                                                                |
| ACTIVE             | VARCHAR2 (9)  | <p>Whether the action is active or not:</p> <ul style="list-style-type: none"> <li>ACTIVE: Action is active.</li> <li>INACTIVE: Action is disabled.</li> </ul>                                                                                                                                                                                                                                                                                                                         |
| STATUS_CHANGE_TIME | TIMESTAMP (6) | Time of last action change of status                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LAST_RAN_ITERATION | NUMBER        | Iteration of the last time the action ran                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| LAST_RAN_TIME      | TIMESTAMP (6) | Time of last run                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.252 V\$GCR\_LOG

V\$GCR\_LOG provides information on the last 30 significant events that have occurred in GCR in the recent past.

| Column      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INST_ID     | NUMBER        | Instance identifier                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ITERATION   | NUMBER        | GCR internal iteration count                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TIME        | TIMESTAMP (6) | Timestamp of record                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TYPE        | VARCHAR2 (14) | <p>Type of record:</p> <ul style="list-style-type: none"> <li>METRIC</li> <li>METRIC ENABLE</li> <li>METRIC DISABLE</li> <li>GLOBAL METRIC</li> <li>ACTION RAN</li> <li>RESET RAN</li> </ul>                                                                                                                                                                                                                                                            |
| DESCRIPTION | VARCHAR2 (40) | Description of function                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| RESULT      | VARCHAR2 (7)  | <p>Result:</p> <ul style="list-style-type: none"> <li>OK</li> <li>FAIL</li> </ul>                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID      | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data.</li> </ul> |

## 8.253 V\$GCR\_METRICS

V\$GCR\_METRICS displays information about the current status of the metrics defined to the GCR component that runs under the LMHB background process to detect and mitigate potential issues in the cluster instances.

| Column    | Datatype | Description                                                            |
|-----------|----------|------------------------------------------------------------------------|
| METRIC_ID | NUMBER   | Metric identification number as used internally to refer to the metric |

| Column              | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| METRIC_NAME         | VARCHAR2 (40) | Name of the metric                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ENVIRONMENT         | NUMBER        | Environment that the metric should run in: <ul style="list-style-type: none"> <li>0: Nowhere (do not run)</li> <li>1: Oracle ASM instance only</li> <li>2: Oracle Database instance only</li> <li>3: Oracle ASM and Oracle Database instance</li> <li>4: Standby instance</li> <li>5: Oracle ASM and Standby instance</li> <li>6: Oracle Database and Standby instance</li> <li>7: Oracle Database, Oracle ASM, and Standby instance</li> <li>15: All instance types</li> </ul> |
| FREQUENCY           | NUMBER        | How often the metric runs, in seconds                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SCOPE               | NUMBER        | The scope of sharing of the metric: <ul style="list-style-type: none"> <li>0: The metric does not have associated data</li> <li>1: Global - shared with all other instances in the cluster</li> <li>2: Local - used only locally (not shared)</li> <li>4: Node Global - shared with other instances in the cluster on the same node only</li> <li>8: DB Only - Shared with other instances of the same database only</li> </ul>                                                 |
| DATA_TYPE           | VARCHAR2 (7)  | The type of the data associated with this metric: <ul style="list-style-type: none"> <li>0: None</li> <li>1: Boolean</li> <li>2: Numeric</li> <li>3: Process</li> </ul>                                                                                                                                                                                                                                                                                                         |
| STATUS              | VARCHAR2 (9)  | Indicates the status of the metric: <ul style="list-style-type: none"> <li>ACTIVE: Indicates that the metric is active.</li> <li>INACTIVE: Indicates that the metric is turned off.</li> </ul>                                                                                                                                                                                                                                                                                  |
| STATUS_CHANGE_TIME  | TIMESTAMP (6) | Time of last metric change of status                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| LAST_RAN_ITERATION  | NUMBER        | Iteration of the last time the metric ran                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LAST_RAN_TIME       | TIMESTAMP (6) | Time of last run                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| LAST_PASS_ITERATION | NUMBER        | Iteration of last time the metric passed                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| LAST_PASS_TIME      | TIMESTAMP (6) | Time of last metric pass                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TOTAL_PASSES        | NUMBER        | Total number of times the metric passed since start of LMHB                                                                                                                                                                                                                                                                                                                                                                                                                     |
| LAST_FAIL_ITERATION | NUMBER        | Iteration of last time the metric failed                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| LAST_FAIL_TIME      | TIMESTAMP (6) | Time of last metric failure                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TOTAL_FAILS         | NUMBER        | Total number of times the metric has failed since start of LMHB                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID              | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                 |

## 8.254 V\$GCR\_STATUS

V\$GCR\_STATUS provides information on the current GCR status, what metrics ran and their result. It records the last 100 events.

| Column      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INST_ID     | NUMBER        | Instance identifier                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ITERATION   | NUMBER        | GCR internal iteration count                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TIME        | TIMESTAMP (6) | Timestamp of record                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TYPE        | VARCHAR2 (14) | Type of record: <ul style="list-style-type: none"> <li>• METRIC</li> <li>• GLOBAL METRIC</li> <li>• ACTION RAN</li> <li>• RESET RAN</li> </ul>                                                                                                                                                                                                                                                                                                         |
| DESCRIPTION | VARCHAR2 (40) | Description of function                                                                                                                                                                                                                                                                                                                                                                                                                                |
| RESULT      | VARCHAR2 (7)  | Result: <ul style="list-style-type: none"> <li>• OK</li> <li>• FAIL</li> </ul>                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data.</li> </ul> |

## 8.255 V\$GC SHVMASTER\_INFO

V\$GC SHVMASTER\_INFO describes the current and previous master instances and the number of re-masterings of Global Cache Service resources except those belonging to files mapped to a particular master.

| Column          | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HV_ID           | NUMBER   | PCM hash value ID                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CURRENT_MASTER  | NUMBER   | Master instance of this PCM hash value ID                                                                                                                                                                                                                                                                                                                                                                                                             |
| PREVIOUS_MASTER | NUMBER   | Previous master instance of this PCM hash value ID                                                                                                                                                                                                                                                                                                                                                                                                    |
| REMASTER_CNT    | NUMBER   | Number of times this has been remastered                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID          | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.256 V\$GCSPFMASTER\_INFO

V\$GCSPFMASTER\_INFO describes the current and previous master instances and the number of re-masterings of Global Cache Service resources belonging to files mapped to instances.

| Column              | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE_ID             | NUMBER        | File number                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DATA_OBJECT_ID      | NUMBER        | Data object ID                                                                                                                                                                                                                                                                                                                                                                                                                              |
| GC_MASTERING_POLICY | VARCHAR2 (11) | Data object type.<br>The possible values are <i>Affinity</i> or <i>Read mostly</i> .                                                                                                                                                                                                                                                                                                                                                        |
| CURRENT_MASTER      | NUMBER        | Master instance of this file                                                                                                                                                                                                                                                                                                                                                                                                                |
| PREVIOUS_MASTER     | NUMBER        | Previous master instance of this file                                                                                                                                                                                                                                                                                                                                                                                                       |
| REMASTER_CNT        | NUMBER        | Number of times this has been remastered                                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID              | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.257 V\$GES\_BLOCKING\_ENQUEUE

V\$GES\_BLOCKING\_ENQUEUE describes all locks currently known to lock manager that are being blocked or blocking others.

The output of this view is a subset of the output from V\$GES\_ENQUEUE. This is an Oracle Real Application Clusters view.



### See Also:

"V\$GES\_ENQUEUE" for a description of all locks known to the lock manager

| Column          | Datatype      | Description                                                           |
|-----------------|---------------|-----------------------------------------------------------------------|
| HANDLE          | RAW (4   8)   | Lock pointer                                                          |
| GRANT_LEVEL     | VARCHAR2 (9)  | Granted level of the lock                                             |
| REQUEST_LEVEL   | VARCHAR2 (9)  | Requested level of the lock                                           |
| RESOURCE_NAME1  | VARCHAR2 (30) | Resource name for the lock                                            |
| RESOURCE_NAME2  | VARCHAR2 (30) | Resource name for the lock                                            |
| PID             | NUMBER        | Process identifier which holds the lock                               |
| TRANSACTION_ID0 | NUMBER        | Lower 4 bytes of the transaction identifier where the lock belongs to |
| TRANSACTION_ID1 | NUMBER        | Upper 4 bytes of the transaction identifier where the lock belongs to |
| GROUP_ID        | NUMBER        | Group identifier for the lock                                         |

| Column                      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OPEN_OPT_DEADLOCK           | NUMBER        | 1 if DEADLOCK open option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                               |
| OPEN_OPT_PERSISTENT         | NUMBER        | 1 if PERSISTENT open option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                             |
| OPEN_OPT_PROCESS_OWNED      | NUMBER        | 1 if PROCESS_OWNED open option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                          |
| OPEN_OPT_NO_XID             | NUMBER        | 1 if NO_XID open option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                                 |
| CONVERT_OPT_GETVALUE        | NUMBER        | 1 if GETVALUE convert option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                            |
| CONVERT_OPT_PUTVALUE        | NUMBER        | 1 if PUTVALUE convert option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                            |
| CONVERT_OPT_NOVALUE         | NUMBER        | 1 if NOVALUE convert option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                             |
| CONVERT_OPT_DUBVALUE        | NUMBER        | 1 if DUBVALUE convert option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                            |
| CONVERT_OPT_NOQUEUE         | NUMBER        | 1 if NOQUEUE convert option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                             |
| CONVERT_OPT_EXPRESS         | NUMBER        | 1 if EXPRESS convert option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                             |
| CONVERT_OPT_NODEADLOCKWAIT  | NUMBER        | 1 if NODEADLOCKWAIT convert option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                      |
| CONVERT_OPT_NODEADLOCKBLOCK | NUMBER        | 1 if NODEADLOCKBLOCK convert option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                     |
| WHICH_QUEUE                 | NUMBER        | Which queue the lock is currently located. 0 for NULL queue; 1 for GRANTED queue; 2 for CONVERT queue.                                                                                                                                                                                                                                                                                                                                      |
| STATE                       | VARCHAR2 (64) | State of lock as owner sees it                                                                                                                                                                                                                                                                                                                                                                                                              |
| AST_EVENT0                  | NUMBER        | Last AST event                                                                                                                                                                                                                                                                                                                                                                                                                              |
| OWNER_NODE                  | NUMBER        | Node identifier                                                                                                                                                                                                                                                                                                                                                                                                                             |
| BLOCKED                     | NUMBER        | 1 if this lock request is blocked by others, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                    |
| BLOCKER                     | NUMBER        | 1 if this lock is blocking others, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID                      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.258 V\$GES\_CONVERT\_LOCAL

V\$GES\_CONVERT\_LOCAL displays statistics for local GES enqueue operations. This view records average convert times, count information, and timed statistics for global enqueue requests.

| Column  | Datatype | Description        |
|---------|----------|--------------------|
| INST_ID | NUMBER   | ID of the instance |

| Column               | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CONVERT_TYPE         | VARCHAR2 (16) | Conversion type: <ul style="list-style-type: none"> <li>• NULL -&gt; SS - NULL mode to subshared mode</li> <li>• NULL -&gt; SX - NULL mode to shared exclusive mode</li> <li>• NULL -&gt; S - NULL mode to shared mode</li> <li>• NULL -&gt; SSX - NULL mode to subshared exclusive mode</li> <li>• NULL -&gt; X - NULL mode to exclusive mode</li> <li>• SS -&gt; SX - Subshared mode to shared exclusive mode</li> <li>• SS -&gt; S - Subshared mode to shared mode</li> <li>• SS -&gt; SSX - Subshared mode to subshared exclusive mode</li> <li>• SS -&gt; X - Subshared mode to exclusive mode</li> <li>• SX -&gt; S - Shared exclusive mode to shared mode</li> <li>• SX -&gt; SSX - Shared exclusive mode to subshared exclusive mode</li> <li>• SX -&gt; X - Shared exclusive mode to exclusive mode</li> <li>• S -&gt; SX - Shared mode to shared exclusive mode</li> <li>• S -&gt; SSX - Shared mode to subshared exclusive mode</li> <li>• S -&gt; X - Shared mode to exclusive mode</li> <li>• SSX -&gt; X - Sub-shared exclusive mode to exclusive mode</li> </ul> |
| AVERAGE_CONVERT_TIME | NUMBER        | Average conversion time for each type of lock operation (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CONVERT_COUNT        | NUMBER        | Number of operations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID               | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## 8.259 V\$GES\_CONVERT\_REMOTE

V\$GES\_CONVERT\_REMOTE displays values for remote GES enqueue conversions. This view records average convert times, count information, and timed statistics for global enqueue requests.

| Column  | Datatype | Description        |
|---------|----------|--------------------|
| INST_ID | NUMBER   | ID of the instance |

| Column               | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CONVERT_TYPE         | VARCHAR2 (16) | Conversion type: <ul style="list-style-type: none"> <li>• NULL -&gt; SS - NULL mode to subshared mode</li> <li>• NULL -&gt; SX - NULL mode to shared exclusive mode</li> <li>• NULL -&gt; S - NULL mode to shared mode</li> <li>• NULL -&gt; SSX - NULL mode to subshared exclusive mode</li> <li>• NULL -&gt; X - NULL mode to exclusive mode</li> <li>• SS -&gt; SX - Subshared mode to shared exclusive mode</li> <li>• SS -&gt; S - Subshared mode to shared mode</li> <li>• SS -&gt; SSX - Subshared mode to subshared exclusive mode</li> <li>• SS -&gt; X - Subshared mode to exclusive mode</li> <li>• SX -&gt; S - Shared exclusive mode to shared mode</li> <li>• SX -&gt; SSX - Shared exclusive mode to subshared exclusive mode</li> <li>• SX -&gt; X - Shared exclusive mode to exclusive mode</li> <li>• S -&gt; SX - Shared mode to shared exclusive mode</li> <li>• S -&gt; SSX - Shared mode to subshared exclusive mode</li> <li>• S -&gt; X - Shared mode to exclusive mode</li> <li>• SSX -&gt; X - Sub-shared exclusive mode to exclusive mode</li> </ul> |
| AVERAGE_CONVERT_TIME | NUMBER        | Average conversion time for each type of lock operation (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CONVERT_COUNT        | NUMBER        | Number of operations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID               | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## 8.260 V\$GES\_ENQUEUE

V\$GES\_ENQUEUE describes all locks currently known to lock manager. This is an Oracle Real Application Clusters view.



### See Also:

"[V\\$GES\\_BLOCKING\\_ENQUEUE](#)" for a description of all such locks that are currently blocking or being blocked

| Column         | Datatype      | Description                 |
|----------------|---------------|-----------------------------|
| HANDLE         | RAW (4   8)   | Lock pointer                |
| GRANT_LEVEL    | VARCHAR2 (9)  | Granted level of the lock   |
| REQUEST_LEVEL  | VARCHAR2 (9)  | Requested level of the lock |
| RESOURCE_NAME1 | VARCHAR2 (30) | Resource name for the lock  |
| RESOURCE_NAME2 | VARCHAR2 (30) | Resource name for the lock  |



| Column                      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PID                         | NUMBER        | Process identifier which holds the lock                                                                                                                                                                                                                                                                                                                                                                                                         |
| TRANSACTION_ID0             | NUMBER        | Lower 4 bytes of the transaction identifier to which the lock belongs                                                                                                                                                                                                                                                                                                                                                                           |
| TRANSACTION_ID1             | NUMBER        | Upper 4 bytes of the transaction identifier to which the lock belongs                                                                                                                                                                                                                                                                                                                                                                           |
| GROUP_ID                    | NUMBER        | Group identifier for the lock                                                                                                                                                                                                                                                                                                                                                                                                                   |
| OPEN_OPT_DEADLOCK           | NUMBER        | 1 if DEADLOCK open option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                                   |
| OPEN_OPT_PERSISTENT         | NUMBER        | 1 if PERSISTENT open option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                                 |
| OPEN_OPT_PROCESS_OWNED      | NUMBER        | 1 if PROCESS_OWNED open option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                              |
| OPEN_OPT_NO_XID             | NUMBER        | 1 if NO_XID open option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                                     |
| CONVERT_OPT_GETVALUE        | NUMBER        | 1 if GETVALUE convert option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                                |
| CONVERT_OPT_PUTVALUE        | NUMBER        | 1 if PUTVALUE convert option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                                |
| CONVERT_OPT_NOVALUE         | NUMBER        | 1 if NOVALUE convert option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                                 |
| CONVERT_OPT_DUBVALUE        | NUMBER        | 1 if DUBVALUE convert option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                                |
| CONVERT_OPT_NOQUEUE         | NUMBER        | 1 if NOQUEUE convert option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                                 |
| CONVERT_OPT_EXPRESS         | NUMBER        | 1 if EXPRESS convert option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                                 |
| CONVERT_OPT_NODEADLOCKWAIT  | NUMBER        | 1 if NODEADLOCKWAIT convert option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                          |
| CONVERT_OPT_NODEADLOCKBLOCK | NUMBER        | 1 if NODEADLOCKBLOCK convert option is set, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                         |
| WHICH_QUEUE                 | NUMBER        | Which queue the lock is currently located. 0 for NULL queue; 1 for GRANTED queue; 2 for CONVERT queue.                                                                                                                                                                                                                                                                                                                                          |
| STATE                       | VARCHAR2 (64) | State of the lock as the owner sees it                                                                                                                                                                                                                                                                                                                                                                                                          |
| AST_EVENT0                  | NUMBER        | Last AST event                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| OWNER_NODE                  | NUMBER        | Node identifier                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| BLOCKED                     | NUMBER        | 1 if this lock request is blocked by others, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                        |
| BLOCKER                     | NUMBER        | 1 if this lock is blocking others, otherwise 0                                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID                      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.261 V\$GES\_LATCH

V\$GES\_LATCH is deprecated.



### See Also:

"V\$LATCH" for statistics about GES latch performance

## 8.262 V\$GES\_RESOURCE

V\$GES\_RESOURCE is an Oracle Real Application Clusters view. It displays information of all resources currently known to the lock manager.

| Column          | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RESP            | RAW (4   8)   | Resource pointer                                                                                                                                                                                                                                                                                                                                                                                                                                |
| RESOURCE_NAME   | VARCHAR2 (30) | Resource name in hexadecimal for the lock                                                                                                                                                                                                                                                                                                                                                                                                       |
| ON_CONVERT_Q    | NUMBER        | 1 if on convert queue, 0 otherwise                                                                                                                                                                                                                                                                                                                                                                                                              |
| ON_GRANT_Q      | NUMBER        | 1 if on granted queue, 0 otherwise                                                                                                                                                                                                                                                                                                                                                                                                              |
| PERSISTENT_RES  | NUMBER        | 1 if it is a persistent resource, 0 otherwise                                                                                                                                                                                                                                                                                                                                                                                                   |
| MASTER_NODE     | NUMBER        | Primary node ID                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| NEXT_CVT_LEVEL  | VARCHAR2 (9)  | Next lock level to convert on global convert queue                                                                                                                                                                                                                                                                                                                                                                                              |
| VALUE_BLK_STATE | VARCHAR2 (32) | State of the value block                                                                                                                                                                                                                                                                                                                                                                                                                        |
| VALUE_BLK       | VARCHAR2 (64) | First 64 bytes of the value block                                                                                                                                                                                                                                                                                                                                                                                                               |
| CACHE_LEVEL     | NUMBER        | Level at which the resource is cached (0, 1, or 2; 255 if not on cache)                                                                                                                                                                                                                                                                                                                                                                         |
| PDBSCOPE        | NUMBER        | Indicates whether an enqueue is PDB-scoped (1) or not (0)                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID          | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.263 V\$GES\_STATISTICS

V\$GES\_STATISTICS displays miscellaneous GES statistics.

| Column     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATISTIC# | NUMBER        | Statistic number                                                                                                                                                                                                                                                                                                                                                                                                                                |
| NAME       | VARCHAR2 (38) | Name of the statistic                                                                                                                                                                                                                                                                                                                                                                                                                           |
| VALUE      | NUMBER        | Value associated with the statistic                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID     | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.264 V\$GG\_APPLY\_COORDINATOR

V\$GG\_APPLY\_COORDINATOR displays information about each GoldenGate apply process coordinator.

The coordinator for an apply process gets transactions from the apply process reader and passes them to apply servers. An apply process coordinator is a subcomponent of an apply process used by Oracle GoldenGate Integrated Replicat.

| Column                   | Datatype       | Description                                                                                                                                                                                                                                                                                                           |
|--------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID                      | NUMBER         | Session ID of the coordinator's session                                                                                                                                                                                                                                                                               |
| SERIAL#                  | NUMBER         | Serial number of the coordinator's session                                                                                                                                                                                                                                                                            |
| STATE                    | VARCHAR2 (21)  | State of the coordinator: <ul style="list-style-type: none"> <li>INITIALIZING - Starting up</li> <li>IDLE - Performing no work</li> <li>APPLYING - Passing transactions to apply servers</li> <li>SHUTTING DOWN CLEANLY - Stopping without an error</li> <li>ABORTING - Stopping because of an apply error</li> </ul> |
| APPLY#                   | NUMBER         | Apply process number. An apply process coordinator is an Oracle background process, prefixed by <code>ap</code> .                                                                                                                                                                                                     |
| APPLY_NAME               | VARCHAR2 (128) | Name of the apply process                                                                                                                                                                                                                                                                                             |
| TOTAL_APPLIED            | NUMBER         | Total number of transactions applied by the apply process since the apply process was last started                                                                                                                                                                                                                    |
| TOTAL_WAIT_DEPS          | NUMBER         | Number of times since the apply process was last started that an apply server waited to apply a logical change record (LCR) in a transaction until another apply server applied a transaction because of a dependency between the transactions                                                                        |
| TOTAL_WAIT_COMMITS       | NUMBER         | Number of times since the apply process was last started that an apply server waited to commit a transaction until another apply server committed a transaction to serialize commits                                                                                                                                  |
| TOTAL_ADMIN              | NUMBER         | Number of administrative jobs issued since the apply process was last started                                                                                                                                                                                                                                         |
| TOTAL_ASSIGNED           | NUMBER         | Number of transactions assigned to apply servers since the apply process was last started                                                                                                                                                                                                                             |
| TOTAL_RECEIVED           | NUMBER         | Total number of transactions received by the coordinator process since the apply process was last started                                                                                                                                                                                                             |
| TOTAL_IGNORED            | NUMBER         | Number of transactions which were received by the coordinator but were ignored because they had been previously applied                                                                                                                                                                                               |
| TOTAL_ROLLBACKS          | NUMBER         | Number of transactions which were rolled back due to unexpected contention                                                                                                                                                                                                                                            |
| TOTAL_ERRORS             | NUMBER         | Number of transactions applied by the apply process that resulted in an apply error since the apply process was last started                                                                                                                                                                                          |
| UNASSIGNED_COMPLETE_TXNS | NUMBER         | Total number of complete transactions that the coordinator has not assigned to any apply servers                                                                                                                                                                                                                      |
| LWM_TIME                 | DATE           | Time when the message with the lowest message number was recorded. The creation time of the message with the lowest message number was also recorded at this time.                                                                                                                                                    |

| Column                   | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LWM_MESSAGE_NUMBER       | NUMBER   | Number of the message corresponding to the low watermark. That is, messages with a commit message number less than or equal to this message number have definitely been applied, but some messages with a higher commit message number also may have been applied.                                                                                                                                                                              |
| LWM_MESSAGE_CREATE_TIME  | DATE     | For captured messages, creation time at the source database of the message corresponding to the low watermark. For user-enqueued messages, time when the message corresponding to the low watermark was enqueued into the queue at the local database.                                                                                                                                                                                          |
| HWM_TIME                 | DATE     | Time when the message with the highest message number was recorded. The creation time of the message with the highest message number was also recorded at this time.                                                                                                                                                                                                                                                                            |
| HWM_MESSAGE_NUMBER       | NUMBER   | Number of the message corresponding to the high watermark. That is, no messages with a commit message number greater than this message number have been applied.                                                                                                                                                                                                                                                                                |
| HWM_MESSAGE_CREATE_TIME  | DATE     | For captured messages, creation time at the source database of the message corresponding to the high watermark. For user-enqueued messages, time when the message corresponding to the high watermark was enqueued into the queue at the local database.                                                                                                                                                                                        |
| STARTUP_TIME             | DATE     | Time when the apply process was last started                                                                                                                                                                                                                                                                                                                                                                                                    |
| ELAPSED_SCHEDULE_TIME    | NUMBER   | Time elapsed (in hundredths of a second) scheduling messages since the apply process was last started                                                                                                                                                                                                                                                                                                                                           |
| ELAPSED_IDLE_TIME        | NUMBER   | Elapsed idle time                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LWM_POSITION             | RAW (64) | Position of the low-watermark LCR                                                                                                                                                                                                                                                                                                                                                                                                               |
| HWM_POSITION             | RAW (64) | Position of the high-watermark LCR                                                                                                                                                                                                                                                                                                                                                                                                              |
| PROCESSED_MESSAGE_NUMBER | NUMBER   | Message number currently processed by the apply coordinator                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID                   | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| ACTIVE_SERVER_COUNT      | NUMBER   | Active server count                                                                                                                                                                                                                                                                                                                                                                                                                             |

**Note:**

The `ELAPSED_SCHEDULE_TIME` column is only populated if the `TIMED_STATISTICS` initialization parameter is set to `true`, or if the `STATISTICS_LEVEL` initialization parameter is set to `TYPICAL` or `ALL`.

**See Also:**

- ["TIMED\\_STATISTICS"](#)
- ["STATISTICS\\_LEVEL"](#)

## 8.265 V\$GG\_APPLY\_READER

V\$GG\_APPLY\_READER displays information about each GoldenGate apply reader.

The apply reader is a process which reads (dequeues) messages from the queue, computes message dependencies, and builds transactions. It passes the transactions on to the coordinator in commit order for assignment to the apply servers. An apply reader is a subcomponent of an apply process used by Oracle GoldenGate Integrated Replicat.

| Column                       | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID                          | NUMBER         | Session ID of the reader's session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SERIAL#                      | NUMBER         | Serial number of the reader's session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| APPLY#                       | NUMBER         | Apply process number. An apply process is an Oracle background process, prefixed by <code>ap</code> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| APPLY_NAME                   | VARCHAR2 (128) | Name of the apply process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| STATE                        | VARCHAR2 (36)  | Shows the state of the apply reader and the hash server. The possible values include: <ul style="list-style-type: none"> <li>INITIALIZING - Starting up</li> <li>IDLE - Performing no work</li> <li>DEQUEUE MESSAGES - Dequeuing messages from the queue</li> <li>SCHEDULE MESSAGES - Computing dependencies between messages and assembling messages into transactions</li> <li>SPILLING - Spilling unapplied messages from memory to hard disk</li> <li>PAUSED - WAITING FOR DDL TO COMPLETE - Waiting for a data definition language (DDL) logical change record (LCR) to be applied</li> </ul> The state of the apply reader is displayed first, followed by the state of the hash server. A semicolon separates the apply reader state from the hash server state. |
| TOTAL_MESSAGES_DEQUEUED      | NUMBER         | Total number of messages dequeued since the apply process was last started                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TOTAL_MESSAGES_SPILLED       | NUMBER         | Number of messages spilled by the reader since the apply process was last started                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| DEQUEUE_TIME                 | DATE           | Time when the last message was received                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DEQUEUED_MESSAGE_CREATE_TIME | DATE           | For captured messages, creation time at the source database of the last message received. For user-enqueued messages, time when the message was enqueued into the queue at the local database.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SGA_USED                     | NUMBER         | Amount (in bytes) of SGA memory used by the apply process since it was last started                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ELAPSED_DEQUEUE_TIME         | NUMBER         | Time elapsed (in hundredths of a second) dequeuing messages since the apply process was last started                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ELAPSED_SCHEDULE_TIME        | NUMBER         | Time elapsed (in hundredths of a second) scheduling messages since the apply process was last started. Scheduling includes computing dependencies between messages and assembling messages into transactions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ELAPSED_SPILL_TIME           | NUMBER         | Elapsed time (in hundredths of a second) spent spilling messages since the apply process was last started                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SPILL_LWM_SCN                | NUMBER         | Spill low-watermark SCN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Column                | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROXY_SID             | NUMBER         | When the apply process uses combined capture and apply, the session ID of the propagation receiver that is responsible for direct communication between capture and apply. If the apply process does not use combined capture and apply, then this column is 0.                                                                                                                                                                                 |
| PROXY_SERIAL          | NUMBER         | When the apply process uses combined capture and apply, the serial number of the propagation receiver that is responsible for direct communication between capture and apply. If the apply process does not use combined capture and apply, then this column is 0.                                                                                                                                                                              |
| PROXY_SPID            | VARCHAR2 (12)  | When the apply process uses combined capture and apply, the process identification number of the propagation receiver that is responsible for direct communication between capture and apply. If the apply process does not use combined capture and apply, then this column is 0.                                                                                                                                                              |
| BYTES_RECEIVED        | NUMBER         | When the apply process uses combined capture and apply, the number of bytes received by the apply process from the capture process since the apply process last started. If the apply process does not use combined capture and apply, then this column is not populated.                                                                                                                                                                       |
| DEQUEUED_POSITION     | RAW (64)       | Dequeued position. This column is populated only for an apply process that is functioning as a GoldenGate inbound server.                                                                                                                                                                                                                                                                                                                       |
| SPILL_LWM_POSITION    | RAW (64)       | Spill low-watermark position. This column is populated only for an apply process that is functioning as a GoldenGate inbound server.                                                                                                                                                                                                                                                                                                            |
| OLDEST_TRANSACTION_ID | VARCHAR2 (128) | Oldest transaction ID                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TOTAL_LCRS_WITH_DEP   | NUMBER         | Total number of LCRs with row-level dependencies since the apply process last started                                                                                                                                                                                                                                                                                                                                                           |
| TOTAL_LCRS_WITH_WMDEP | NUMBER         | Total number of LCRs with watermark dependencies since the apply process last started. A watermark dependency occurs when an apply process must wait until the apply process's low watermark reaches a particular threshold.                                                                                                                                                                                                                    |
| TOTAL_IN_MEMORY_LCRS  | NUMBER         | Total number of LCRs currently in memory                                                                                                                                                                                                                                                                                                                                                                                                        |
| SGA_ALLOCATED         | NUMBER         | The total amount of shared memory (in bytes) allocated from the GoldenGate pool for the apply process since the apply process last started                                                                                                                                                                                                                                                                                                      |
| CON_ID                | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### Note:

The `ELAPSED_SCHEDULE_TIME` column is only populated if the `TIMED_STATISTICS` initialization parameter is set to `true`, or if the `STATISTICS_LEVEL` initialization parameter is set to `TYPICAL` or `ALL`.

**See Also:**

- "TIMED\_STATISTICS"
- "STATISTICS\_LEVEL"

## 8.266 V\$GG\_APPLY\_RECEIVER

V\$GG\_APPLY\_RECEIVER displays information about the message receiver of the Replicat process.

The values are reset to zero when the database (or instance in an Oracle Real Application Clusters (Oracle RAC) environment) restarts and when the Replicat process is stopped.

| Column                     | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID                        | NUMBER         | Session ID of the apply receiver                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SERIAL#                    | NUMBER         | Serial number of the apply receiver                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| APPLY_NAME                 | VARCHAR2 (128) | Name of the apply process                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| STARTUP_TIME               | DATE           | Startup time of the apply process                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SOURCE_DATABASE_NAME       | VARCHAR2 (128) | Name of the source database                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ACKNOWLEDGEMENT            | NUMBER         | acknowledgment of the messages received by the receiver                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| LAST_RECEIVED_MSG          | NUMBER         | Last received message                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TOTAL_MESSAGES_RECEIVED    | NUMBER         | Total number of messages received                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TOTAL_AVAILABLE_MESSAGES   | NUMBER         | Number of available messages                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| STATE                      | VARCHAR2 (46)  | State of the apply receiver: <ul style="list-style-type: none"> <li>• Initializing</li> <li>• Sending unapplied txns</li> <li>• Waiting for message from client</li> <li>• Receiving LCRs</li> <li>• Evaluating rules</li> <li>• Enqueueing LCRS</li> <li>• Waiting for memory</li> <li>• Waiting for apply to read</li> <li>• Waiting for message from Replicat</li> <li>• Waiting for Replicat flush request to complete</li> <li>• Waiting for Replicat commit to complete</li> </ul> |
| LAST_RECEIVED_MSG_POSITION | VARCHAR2 (64)  | Last received message position                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ACKNOWLEDGEMENT_POSITION   | VARCHAR2 (64)  | acknowledgment position of the messages received by the receiver. Corresponds to ACKNOWLEDGEMENT, except the value is in position rather than SCN.                                                                                                                                                                                                                                                                                                                                       |
| CON_ID                     | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                    |

| Column             | Datatype      | Description                                                              |
|--------------------|---------------|--------------------------------------------------------------------------|
| OS_PROCESS_ID      | VARCHAR2 (12) | The OS process ID of the apply receiver process                          |
| CURRENT_POSITION   | VARCHAR2 (81) | The trail position of the current record processed by the apply receiver |
| TOTAL_TRANSACTIONS | NUMBER        | The total number of transactions processed by the apply receiver         |
| TOTAL_COMMITS      | NUMBER        | The total number of commits executed by the apply receiver               |
| TOTAL_ERRORS       | NUMBER        | The total number of errors encountered by the apply receiver             |

## 8.267 V\$GG\_APPLY\_SERVER

V\$GG\_APPLY\_SERVER displays information about each GoldenGate apply server and its activities.

An apply server receives messages from the apply coordinator for an apply process. For each message received, an apply server either applies the message or sends the message to the appropriate apply handler. An apply server is a subcomponent of an apply process used by Oracle GoldenGate Integrated Replicat.

| Column     | Datatype       | Description                                                                                           |
|------------|----------------|-------------------------------------------------------------------------------------------------------|
| SID        | NUMBER         | Session ID of the apply server's session                                                              |
| SERIAL#    | NUMBER         | Serial number of the apply server's session                                                           |
| APPLY#     | NUMBER         | Apply process number. An apply process is an Oracle background process, prefixed by <code>ap</code> . |
| APPLY_NAME | VARCHAR2 (128) | Name of the apply process                                                                             |
| SERVER_ID  | NUMBER         | Parallel execution server number of the apply server                                                  |



| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATE            | VARCHAR2 (20) | <p>State of the apply server:</p> <ul style="list-style-type: none"> <li>INITIALIZING - Starting up</li> <li>IDLE - Performing no work</li> <li>RECORD LOW-WATERMARK - Performing an administrative job that maintains information about the apply progress, which is used in the ALL_APPLY_PROGRESS and DBA_APPLY_PROGRESS data dictionary views</li> <li>ADD PARTITION - Performing an administrative job that adds a partition that is used for recording information about in-progress transactions</li> <li>DROP PARTITION - Performing an administrative job that purges rows that were used to record information about in-progress transactions</li> <li>EXECUTE TRANSACTION - Applying a transaction</li> <li>WAIT COMMIT - Waiting to commit a transaction until all other transactions with a lower commit SCN are applied. This state is possible only if the COMMIT_SERIALIZATION apply process parameter is set to a value other than DEPENDENT_TRANSACTIONS and the PARALLELISM apply process parameter is set to a value greater than 1.</li> <li>WAIT DEPENDENCY - Waiting to apply a logical change record (LCR) in a transaction until another transaction, on which it has a dependency, is applied. This state is possible only if the PARALLELISM apply process parameter is set to a value greater than 1.</li> <li>ROLLBACK TRANSACTION - Rolling back a transaction</li> <li>TRANSACTION CLEANUP - Cleaning up an applied transaction, which includes removing LCRs from the apply process's queue</li> <li>WAIT FOR CLIENT - Waiting for an XStream client application to request more LCRs</li> <li>WAIT FOR NEXT CHUNK - Waiting for the next set of LCRs for a large transaction</li> </ul> |
| XIDUSN           | NUMBER        | Transaction ID undo segment number of the transaction currently being applied                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| XIDSLT           | NUMBER        | Transaction ID slot number of the transaction currently being applied                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| XIDSQN           | NUMBER        | Transaction ID sequence number of the transaction currently being applied                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMMITSCN        | NUMBER        | Commit system change number (SCN) of the transaction currently being applied                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| DEP_XIDUSN       | NUMBER        | Transaction ID undo segment number of a transaction on which the transaction being applied by this apply server depends                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DEP_XIDSLT       | NUMBER        | Transaction ID slot number of a transaction on which the transaction being applied by this apply server depends                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DEP_XIDSQN       | NUMBER        | Transaction ID sequence number of a transaction on which the transaction being applied by this apply server depends                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| DEP_COMMITSCN    | NUMBER        | Commit system change number (SCN) of the transaction on which this apply server depends                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| MESSAGE_SEQUENCE | NUMBER        | Number of the current message being applied by the apply server. This value is reset to 1 at the beginning of each transaction.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TOTAL_ASSIGNED   | NUMBER        | Total number of transactions assigned to the apply server since the apply process was last started                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Column                 | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TOTAL_ADMIN            | NUMBER         | Total number of administrative jobs done by the apply server since the apply process was last started. See the <code>STATE</code> information in this view for the types of administrative jobs.                                                                                                                                                                                                                                                      |
| TOTAL_ROLLBACKS        | NUMBER         | Number of transactions assigned to this server which were rolled back                                                                                                                                                                                                                                                                                                                                                                                 |
| TOTAL_MESSAGES_APPLIED | NUMBER         | Total number of messages applied by this apply server since the apply process was last started                                                                                                                                                                                                                                                                                                                                                        |
| APPLY_TIME             | DATE           | Time the last message was applied                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ELAPSED_APPLY_TIME     | NUMBER         | Time elapsed (in hundredths of a second) applying messages since the apply process was last started                                                                                                                                                                                                                                                                                                                                                   |
| COMMIT_POSITION        | RAW (64)       | Commit position of the transaction. This column is populated only for an apply process that is functioning as a GoldenGate Integrated Replicat.                                                                                                                                                                                                                                                                                                       |
| DEP_COMMIT_POSITION    | RAW (64)       | Commit position of the transaction the worker depends on. This column is populated only for an apply process that is functioning as a GoldenGate inbound server.                                                                                                                                                                                                                                                                                      |
| LAST_APPLY_POSITION    | RAW (64)       | For inbound servers, the position of the last message applied; for outbound servers, the position of the last message sent to the XStream client application. This column is populated only for an apply process that is functioning as a GoldenGate outbound server or inbound server.                                                                                                                                                               |
| TRANSACTION_ID         | VARCHAR2 (128) | Transaction ID that the worker is applying. This column is populated only for an apply process that is functioning as a GoldenGate inbound server.                                                                                                                                                                                                                                                                                                    |
| DEP_TRANSACTION_ID     | VARCHAR2 (128) | Transaction ID of the transaction the worker depends on. This column is populated only for an apply process that is functioning as a GoldenGate inbound server.                                                                                                                                                                                                                                                                                       |
| CON_ID                 | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| TOTAL_LCRS_RETRIED     | NUMBER         | Total number of LCRs retried by this server                                                                                                                                                                                                                                                                                                                                                                                                           |
| LCR_RETRY_ITERATION    | NUMBER         | Retry iteration for this transaction by this server                                                                                                                                                                                                                                                                                                                                                                                                   |
| TOTAL_TXNS_RETRIED     | NUMBER         | Total transactions retried by this server                                                                                                                                                                                                                                                                                                                                                                                                             |
| TXN_RETRY_ITERATION    | NUMBER         | Retry iteration for this transaction by this server                                                                                                                                                                                                                                                                                                                                                                                                   |
| TOTAL_TXNS_RECORDED    | NUMBER         | Total transactions recorded in error queue by this server                                                                                                                                                                                                                                                                                                                                                                                             |

**Note:**

The `ELAPSED_SCHEDULE_TIME` column is only populated if the `TIMED_STATISTICS` initialization parameter is set to `true`, or if the `STATISTICS_LEVEL` initialization parameter is set to `TYPICAL` or `ALL`.

**See Also:**

- "TIMED\_STATISTICS"
- "STATISTICS\_LEVEL"

## 8.268 V\$GLOBAL\_BLOCKED\_LOCKS

V\$GLOBAL\_BLOCKED\_LOCKS displays global blocked locks.

| Column  | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADDR    | RAW (4   8)  | Address of lock state object                                                                                                                                                                                                                                                                                                                                                                                                                      |
| KADDR   | RAW (4   8)  | Address of lock                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SID     | NUMBER       | Identifier of session holding the lock (number)                                                                                                                                                                                                                                                                                                                                                                                                   |
| TYPE    | VARCHAR2 (2) | Resource type (char)                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ID1     | NUMBER       | Resource identifier #1 (number)                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ID2     | NUMBER       | Resource identifier #2 (number)                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LMODE   | NUMBER       | Lock mode held (number)                                                                                                                                                                                                                                                                                                                                                                                                                           |
| REQUEST | NUMBER       | Lock mode requested (number)                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CTIME   | NUMBER       | Time since current mode was granted                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID  | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.269 V\$GLOBAL\_TRANSACTION

V\$GLOBAL\_TRANSACTION displays information on the currently active global transactions.

| Column       | Datatype | Description                                                                  |
|--------------|----------|------------------------------------------------------------------------------|
| FORMATID     | NUMBER   | Format identifier of the global transaction                                  |
| GLOBALID     | RAW (64) | Global transaction identifier of the global transaction                      |
| BRANCHID     | RAW (64) | Branch qualifier of the global transaction                                   |
| BRANCHES     | NUMBER   | Total number of branches in the global transaction                           |
| REFCOUNT     | NUMBER   | Number of siblings for the global transaction (must be the same as branches) |
| PREPARECOUNT | NUMBER   | Number of branches of the global transaction that have prepared              |

| Column   | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATE    | VARCHAR2 (38) | <p>State of the branch of the global transaction:</p> <ul style="list-style-type: none"> <li>• ACTIVE</li> <li>• COLLECTING</li> <li>• FINALIZED</li> <li>• FAILED</li> <li>• RECOVERING</li> <li>• UNASSOCIATED</li> <li>• FORGOTTEN</li> <li>• READY FOR RECOVERY</li> <li>• NO-READONLY FAILED</li> <li>• SIBLING INFO WRITTEN</li> <li>• [ORACLE COORDINATED]ACTIVE</li> <li>• [ORACLE COORDINATED]COLLECTING</li> <li>• [ORACLE COORDINATED]FINALIZED</li> <li>• [ORACLE COORDINATED]FAILED</li> <li>• [ORACLE COORDINATED]RECOVERING</li> <li>• [ORACLE COORDINATED]UNASSOCIATED</li> <li>• [ORACLE COORDINATED]FORGOTTEN</li> <li>• [ORACLE COORDINATED]READY FOR RECOVERY</li> <li>• [ORACLE COORDINATED]NO-READONLY FAILED</li> <li>• [MULTINODE]ACTIVE</li> <li>• [MULTINODE]COLLECTING</li> <li>• [MULTINODE]FINALIZED</li> <li>• [MULTINODE]FAILED</li> <li>• [MULTINODE]RECOVERING</li> <li>• [MULTINODE]UNASSOCIATED</li> <li>• [MULTINODE]FORGOTTEN</li> <li>• [MULTINODE]READY FOR RECOVERY</li> <li>• [MULTINODE]NO-READONLY FAILED</li> <li>• [MULTINODE]SIBLING INFO WRITTEN</li> <li>• COMBINATION</li> </ul> |
| FLAGS    | NUMBER        | The numeric representation of the state                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| COUPLING | VARCHAR2 (15) | Indicates whether the branches are free (FREE), loosely coupled (LOOSELY COUPLED), or tightly coupled (TIGHTLY COUPLED)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID   | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## 8.270 V\$GOLDENGATE\_CAPABILITIES

V\$GOLDENGATE\_CAPABILITIES displays information about the usage of various Oracle GoldenGate features, as well as database features used by Oracle GoldenGate.

| Column    | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME      | VARCHAR2 (22) | Feature name. Possible values: <ul style="list-style-type: none"><li>AUTOCDR</li><li>DBENCRYPTION</li><li>DDLTRIGGEROPTIMIZATION</li><li>DELETECASCADEHINT</li><li>GGSESSION</li><li>PROCREPLICATION</li><li>SUPPLEMENTALLOG</li><li>TRANSIENTDUPLICATE</li><li>TRIGGERSUPPRESSION</li></ul>                                                                                                                                                |
| COUNT     | NUMBER        | Number of times the feature has been used since instance startup                                                                                                                                                                                                                                                                                                                                                                            |
| LAST_USED | DATE          | Date on which the feature was last used                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID    | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.271 V\$GOLDENGATE\_CAPTURE

V\$GOLDENGATE\_CAPTURE displays information about each capture process that sends LCRs to an Oracle GoldenGate outbound server.

| Column       | Datatype       | Description                                                                                     |
|--------------|----------------|-------------------------------------------------------------------------------------------------|
| SID          | NUMBER         | Session identifier of the capture process                                                       |
| SERIAL#      | NUMBER         | Session serial number of the capture process session                                            |
| CAPTURE#     | NUMBER         | Capture process number. A capture process is an Oracle background process prefixed by <i>cp</i> |
| CAPTURE_NAME | VARCHAR2 (128) | Name of the capture process                                                                     |
| LOGMINER_ID  | NUMBER         | Session ID of the Oracle LogMiner session associated with the capture process                   |
| STARTUP_TIME | DATE           | Time when the capture process was last started                                                  |

| Column                      | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATE                       | VARCHAR2 (589) | <p>State of the capture process and state of the network. The two states are separated by a semicolon. The possible values are:</p> <ul style="list-style-type: none"> <li>INITIALIZING - Starting up.</li> <li>WAITING FOR DICTIONARY REDO - Waiting for redo log files containing the dictionary build related to the first SCN to be added to the capture process session. A capture process cannot begin to scan the redo log files until all of the log files containing the dictionary build have been added.</li> <li>DICTIONARY INITIALIZATION - Processing a dictionary build.</li> <li>MINING (PROCESSED SCN = <i>scn_value</i>) - Mining a dictionary build at the SCN <i>scn_value</i>.</li> <li>LOADING (step <i>X</i> of <i>Y</i>) - Processing information from a dictionary build and currently at step <i>X</i> in a process that involves <i>Y</i> steps, where <i>X</i> and <i>Y</i> are numbers.</li> <li>CAPTURING CHANGES - Scanning the redo log for changes that satisfy the capture process rule sets.</li> <li>WAITING FOR REDO - Waiting for new redo log files to be added to the capture process session. The capture process has finished processing all of the redo log files added to its session. This state is possible if there is no activity at a source database. For a downstream capture process, this state is possible if the capture process is waiting for new log files to be added to its session.</li> <li>EVALUATING RULE - Evaluating a change against a capture process rule set.</li> <li>CREATING LCR - Converting a change into an LCR.</li> <li>ENQUEUEING MESSAGE - Enqueueing an LCR that satisfies the capture process rule sets into the capture process queue.</li> <li>PAUSED FOR FLOW CONTROL - Unable to enqueue LCRs either because of low memory or because propagations and outbound servers are consuming messages slower than the capture process is creating them. This state indicates flow control that is used to reduce spilling of captured LCRs when propagation or apply has fallen behind or is unavailable.</li> <li>WAITING FOR THE BUFFERED QUEUE TO SHRINK - Waiting for the buffered queue to change to a smaller size. The buffered queue shrinks when there is a memory limitation or when an administrator reduces its size.</li> <li>WAITING FOR <i>n</i> SUBSCRIBER(S) INITIALIZING - Waiting for outbound servers that receive LCRs from the capture process to start, where <i>n</i> is the number of apply processes.</li> <li>WAITING FOR TRANSACTION - Waiting for LogMiner to provide more transactions.</li> <li>WAITING FOR INACTIVE DEQUEUEUS - Waiting for the capture process's queue subscribers to start. The capture process stops enqueueing LCRs if there are no active subscribers to the queue.</li> <li>SUSPENDED FOR AUTO SPLIT/MERGE - Waiting for a merge operation to complete.</li> <li>SHUTTING DOWN - Stopping.</li> <li>ABORTING - Terminating.</li> </ul> |
| TOTAL_PREFILTER_DISCARDED   | NUMBER         | Total number of prefiltered messages discarded                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TOTAL_PREFILTER_KEPT        | NUMBER         | Total number of prefiltered messages kept                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TOTAL_PREFILTER_EVALUATIONS | NUMBER         | Total number of prefilter evaluations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Column                        | Datatype      | Description                                                                                                                                                                                                                                                                                                          |
|-------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TOTAL_MESSAGES_CAPTURED       | NUMBER        | Total number of redo entries passed by LogMiner to the capture process for detailed rule evaluation since the capture process last started. A capture process converts a redo entry into a message and performs detailed rule evaluation on the message when capture process prefiltering cannot discard the change. |
| CAPTURE_TIME                  | DATE          | Time when the most recent message was captured                                                                                                                                                                                                                                                                       |
| CAPTURE_MESSAGE_NUMBER        | NUMBER        | Number of the most recently captured message                                                                                                                                                                                                                                                                         |
| CAPTURE_MESSAGE_CREATE_TIME   | DATE          | Creation time of the most recently captured message                                                                                                                                                                                                                                                                  |
| TOTAL_MESSAGES_CREATED        | NUMBER        | Count associated with ELAPSED_LCR_TIME to calculate rate                                                                                                                                                                                                                                                             |
| TOTAL_FULL_EVALUATIONS        | NUMBER        | Count associated with ELAPSED_RULE_TIME to calculate rate                                                                                                                                                                                                                                                            |
| TOTAL_MESSAGES_ENQUEUED       | NUMBER        | Total number of messages enqueued since the capture process was last started                                                                                                                                                                                                                                         |
| ENQUEUE_TIME                  | DATE          | Time when the last message was enqueued                                                                                                                                                                                                                                                                              |
| ENQUEUE_MESSAGE_NUMBER        | NUMBER        | Number of the last enqueued message                                                                                                                                                                                                                                                                                  |
| ENQUEUE_MESSAGE_CREATE_TIME   | DATE          | Creation time of the last enqueued message                                                                                                                                                                                                                                                                           |
| AVAILABLE_MESSAGE_NUMBER      | NUMBER        | For local capture, the last redo SCN flushed to the log files. For downstream capture, the last SCN added to LogMiner through the archived redo log files.                                                                                                                                                           |
| AVAILABLE_MESSAGE_CREATE_TIME | DATE          | For local capture, the time the SCN was written to the log file. For downstream capture, the time the most recent archived redo log file (containing the most recent SCN) was added to LogMiner.                                                                                                                     |
| ELAPSED_CAPTURE_TIME          | NUMBER        | Elapsed time (in hundredths of a second) scanning for changes in the redo log since the capture process was last started                                                                                                                                                                                             |
| ELAPSED_RULE_TIME             | NUMBER        | Elapsed time (in hundredths of a second) evaluating rules since the capture process was last started                                                                                                                                                                                                                 |
| ELAPSED_ENQUEUE_TIME          | NUMBER        | Elapsed time (in hundredths of a second) enqueueing messages since the capture process was last started                                                                                                                                                                                                              |
| ELAPSED_LCR_TIME              | NUMBER        | Elapsed time (in hundredths of a second) creating LCRs since the capture process was last started                                                                                                                                                                                                                    |
| ELAPSED_REDO_WAIT_TIME        | NUMBER        | Elapsed time (in hundredths of a second) spent by the capture process in the WAITING FOR REDO state                                                                                                                                                                                                                  |
| ELAPSED_PAUSE_TIME            | NUMBER        | Elapsed flow control pause time (in hundredths of a second)                                                                                                                                                                                                                                                          |
| STATE_CHANGED_TIME            | DATE          | Time at which the state of the capture process changed                                                                                                                                                                                                                                                               |
| SGA_USED                      | NUMBER        | The total amount of shared memory used (in bytes) by the capture process                                                                                                                                                                                                                                             |
| SGA_ALLOCATED                 | NUMBER        | The total amount of shared memory (in bytes) allocated from the Streams pool for the capture process                                                                                                                                                                                                                 |
| BYTES_OF_REDO_MINED           | VARCHAR2 (64) | The total amount of redo data mined (in bytes) since the capture process last started                                                                                                                                                                                                                                |
| SESSION_RESTART_SCN           | VARCHAR2 (64) | The SCN from which the capture process started mining redo data when it was last started                                                                                                                                                                                                                             |

| Column                        | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID                        | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| SPID                          | VARCHAR2 (12)  | Operating system process identifier of the capture process                                                                                                                                                                                                                                                                                                                                                                                      |
| EXTRACT_NAME                  | VARCHAR2 (128) | Name of the extract process                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SERVER_SID                    | NUMBER         | Session ID of the capture server                                                                                                                                                                                                                                                                                                                                                                                                                |
| SERVER_SERIAL#                | NUMBER         | Session serial number of the capture server                                                                                                                                                                                                                                                                                                                                                                                                     |
| SERVER_SPID                   | VARCHAR2 (12)  | Operating system process identifier of the capture server                                                                                                                                                                                                                                                                                                                                                                                       |
| TOTAL_MESSAGES_SENT           | NUMBER         | Total number of LCRs sent by the capture process to the GoldenGate extract process since the last time the extract attached to the capture                                                                                                                                                                                                                                                                                                      |
| SEND_TIME                     | DATE           | Time the last LCR was sent by the capture process to the extract process                                                                                                                                                                                                                                                                                                                                                                        |
| LAST_SENT_MESSAGE_NUMBER      | NUMBER         | Message number of the last LCR sent by the capture process to the extract process                                                                                                                                                                                                                                                                                                                                                               |
| LAST_SENT_MESSAGE_CREATE_TIME | DATE           | Creation time at the source database of the last LCR sent by the capture process to the extract process                                                                                                                                                                                                                                                                                                                                         |
| ELAPSED_SEND_TIME             | NUMBER         | Time elapsed (in hundredths of a second) sending LCRs to the extract process since the last time the extract process attached to the capture process                                                                                                                                                                                                                                                                                            |
| BYTES_SENT                    | NUMBER         | Total number of bytes sent by the capture process to the extract process since the last time the extract process attached to the capture process                                                                                                                                                                                                                                                                                                |

## 8.272 V\$GOLDENGATE\_MESSAGE\_TRACKING

V\$GOLDENGATE\_MESSAGE\_TRACKING displays information about LCRs tracked through the stream that are processed by Oracle GoldenGate components.

You can track an LCR through a stream using one of the following methods:

- Set the `message_tracking_frequency` apply process parameter to 1 or another relatively low value via the Oracle GoldenGate `DBOPTIONS INTEGRATEDPARAMS` parameter.
- Use the `DBMS_XSTREAM_ADM.SET_MESSAGE_TRACKING` procedure to specify a tracking label that becomes part of each LCR generated by the current session.

When the `actions` parameter in the `DBMS_XSTREAM_ADM.SET_MESSAGE_TRACKING` procedure is set to `DBMS_XSTREAM_ADM.ACTION_MEMORY`, information about the LCRs is tracked in memory, and this view is populated with information about the LCRs. Currently, `DBMS_XSTREAM_ADM.ACTION_MEMORY` is the only valid setting for the `actions` parameter in the procedure.

| Column         | Datatype       | Description                   |
|----------------|----------------|-------------------------------|
| TRACKING_LABEL | VARCHAR2 (128) | User-specified tracking label |



| Column                | Datatype                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TAG                   | RAW (128)                    | First 128 bytes of the tag of the LCR                                                                                                                                                                                                                                                                                                                                                                                                           |
| COMPONENT_NAME        | VARCHAR2 (128)               | Name of the component that processed the LCR                                                                                                                                                                                                                                                                                                                                                                                                    |
| COMPONENT_TYPE        | VARCHAR2 (128)               | Type of the component that processed the LCR                                                                                                                                                                                                                                                                                                                                                                                                    |
| ACTION                | VARCHAR2 (50)                | Action performed on the LCR                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ACTION_DETAILS        | VARCHAR2 (312)               | Details of the action                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TIMESTAMP             | TIMESTAMP (9) WITH TIME ZONE | Time when the action was performed                                                                                                                                                                                                                                                                                                                                                                                                              |
| MESSAGE_CREATION_TIME | DATE                         | Time when the message was created                                                                                                                                                                                                                                                                                                                                                                                                               |
| MESSAGE_NUMBER        | NUMBER                       | SCN of the message                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TRACKING_ID           | RAW (16)                     | Globally unique OID of the LCR                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SOURCE_DATABASE_NAME  | VARCHAR2 (128)               | Name of the source database                                                                                                                                                                                                                                                                                                                                                                                                                     |
| OBJECT_OWNER          | VARCHAR2 (128)               | Owner of the object                                                                                                                                                                                                                                                                                                                                                                                                                             |
| OBJECT_NAME           | VARCHAR2 (128)               | Name of the object                                                                                                                                                                                                                                                                                                                                                                                                                              |
| XID                   | VARCHAR2 (128)               | Transaction ID                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| COMMAND_TYPE          | VARCHAR2 (128)               | Command type of the LCR                                                                                                                                                                                                                                                                                                                                                                                                                         |
| MESSAGE_POSITION      | RAW (64)                     | Position of the message                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID                | NUMBER                       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

*Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_XSTREAM_ADM.SET_MESSAGE_TRACKING` procedure

## 8.273 V\$GOLDENGATE\_PROCEDURE\_STATS

V\$GOLDENGATE\_PROCEDURE\_STATS displays procedural replication statistics processed by each Oracle GoldenGate apply server.

| Column          | Datatype       | Description                               |
|-----------------|----------------|-------------------------------------------|
| APPLY_NAME      | VARCHAR2 (128) | Name of the apply process                 |
| SERVER_ID       | NUMBER         | Parallel apply server worker ID           |
| PROCEDURE_OWNER | VARCHAR2 (128) | Owner of the replicated procedure         |
| PACKAGE_NAME    | VARCHAR2 (128) | Replicated procedure package              |
| PROCEDURE_NAME  | VARCHAR2 (128) | Replicated procedure name                 |
| LAST_UPDATE     | DATE           | Time of the last update of the statistics |

| Column           | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TOTAL_EXECUTIONS | NUMBER   | Number of executions of the procedure by this apply server                                                                                                                                                                                                                                                                                                                                                                                      |
| CON_ID           | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.274 V\$GOLDENGATE\_TABLE\_STATS

V\$GOLDENGATE\_TABLE\_STATS displays table statistics for all the tables used by each Oracle GoldenGate apply server.

| Column                  | Datatype       | Description                                                                                              |
|-------------------------|----------------|----------------------------------------------------------------------------------------------------------|
| APPLY_NAME              | VARCHAR2 (128) | Name of the apply process                                                                                |
| SERVER_ID               | NUMBER         | Parallel apply server worker ID                                                                          |
| SOURCE_TABLE_OWNER      | VARCHAR2 (128) | Source owner of the captured or replicated table                                                         |
| SOURCE_TABLE_NAME       | VARCHAR2 (128) | Source name of the captured or replicated table                                                          |
| DESTINATION_TABLE_OWNER | VARCHAR2 (128) | Target owner of the captured or replicated table                                                         |
| DESTINATION_TABLE_NAME  | VARCHAR2 (30)  | Target name of the captured or replicated table                                                          |
| LAST_UPDATE             | DATE           | Time of the last update of the statistics                                                                |
| TOTAL_INSERTS           | NUMBER         | Number of insert operations on this table processed by this apply server                                 |
| TOTAL_UPDATES           | NUMBER         | Number of update operations on this table processed by this apply server                                 |
| TOTAL_DELETES           | NUMBER         | Number of delete operations on this table processed by this apply server                                 |
| INSERT_COLLISIONS       | NUMBER         | Number of insert collisions on this table encountered by this apply server                               |
| UPDATE_COLLISIONS       | NUMBER         | Number of update collisions on this table encountered by this apply server                               |
| DELETE_COLLISIONS       | NUMBER         | Number of delete collisions on this table encountered by this apply server                               |
| REPERERROR_RECORDS      | NUMBER         | Number of change records that resulted in an error that were recorded on this table by this apply server |
| REPERERROR_IGNORES      | NUMBER         | Number of change records that resulted in an error that were ignored on this table by this apply server  |
| WAIT_DEPENDENCIES       | NUMBER         | Number of waits for this table due to dependency                                                         |

| Column                     | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID                     | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| CDR_INSERT_ROW_EXISTS      | NUMBER   | Number of conflicts where an insert gets an ORA-00001 error                                                                                                                                                                                                                                                                                                                                                                                     |
| CDR_UPDATE_ROW_EXISTS      | NUMBER   | Number of conflicts where an update gets an ORA-26786 error                                                                                                                                                                                                                                                                                                                                                                                     |
| CDR_UPDATE_ROW_MISSING     | NUMBER   | Number of conflicts where an update gets an ORA-26787 error                                                                                                                                                                                                                                                                                                                                                                                     |
| CDR_DELETE_ROW_EXISTS      | NUMBER   | Number of conflicts where a delete gets an ORA-26786 error                                                                                                                                                                                                                                                                                                                                                                                      |
| CDR_DELETE_ROW_MISSING     | NUMBER   | Number of conflicts where a delete gets an ORA-26787 error                                                                                                                                                                                                                                                                                                                                                                                      |
| CDR_SUCCESSFUL_RESOLUTIONS | NUMBER   | Number of successfully resolved conflicts                                                                                                                                                                                                                                                                                                                                                                                                       |
| CDR_FAILED_RESOLUTIONS     | NUMBER   | Number of conflicts that could not be resolved due to an error during resolution                                                                                                                                                                                                                                                                                                                                                                |
| LOB_OPERATIONS             | NUMBER   | The number of LOB updates (LOB writes, LOB trims, and LOB erases) applied by the inbound server.                                                                                                                                                                                                                                                                                                                                                |

## 8.275 V\$GOLDENGATE\_TRANSACTION

V\$GOLDENGATE\_TRANSACTION displays information about transactions that are being processed by Oracle GoldenGate capture processes, outbound servers, and inbound servers.

This view can identify long running transactions and display how many LCRs are being processed in each transaction. This view only contains information about captured LCRs. It does not contain information about user-enqueued LCRs or user messages.

This view only shows information about LCRs that are being processed because they satisfied the rule sets for the component at the time of the query. For capture processes, this view only shows information about changes in transactions that the capture process has converted into LCRs. It does not show information about all the active transactions present in the redo log.

For outbound servers, this view only shows information about LCRs that the outbound server has dequeued. It does not show information about LCRs in the outbound server's queue. For outbound servers, information about a transaction remains in the view until the transaction is sent to the Oracle GoldenGate client application.

For inbound servers, information about a transaction remains in the view until the transaction commits or until the entire transaction is rolled back.

| Column         | Datatype       | Description                                                                                                                                                                                                                                                                                    |
|----------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPONENT_NAME | VARCHAR2 (138) | Name of the component                                                                                                                                                                                                                                                                          |
| COMPONENT_TYPE | VARCHAR2 (20)  | Type of component <ul style="list-style-type: none"> <li>CAPTURE - Capture process</li> <li>APPLY - Apply reader subcomponent in an outbound server or inbound server</li> <li>PROPAGATION_SENDER - Propagation sender that sends LCRs from a capture process to an outbound server</li> </ul> |

| Column                   | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| XIDUSN                   | NUMBER   | Transaction ID undo segment number of the transaction                                                                                                                                                                                                                                                                                                                                                                   |
| XIDSLT                   | NUMBER   | Transaction ID slot number of the transaction                                                                                                                                                                                                                                                                                                                                                                           |
| XIDSQN                   | NUMBER   | Transaction ID sequence number of the transaction                                                                                                                                                                                                                                                                                                                                                                       |
| BATCH_XIDUSN             | NUMBER   | <p>Transaction ID undo segment number of the batch parent transaction.</p> <p>When using BATCHSQL mode in Oracle GoldenGate Integrated Replicat the BATCH_XID columns identify the parent transaction of the batch the current transaction belongs to. The parent transaction is the first transaction of each batch.</p> <p>This column is populated only if COMPONENT_TYPE is APPLY and BATCHSQL mode is enabled.</p> |
| BATCH_XIDSLT             | NUMBER   | <p>Transaction ID slot number of the batch parent transaction.</p> <p>When using BATCHSQL mode in Oracle GoldenGate Integrated Replicat the BATCH_XID columns identify the parent transaction of the batch the current transaction belongs to. The parent transaction is the first transaction of each batch.</p> <p>This column is populated only if COMPONENT_TYPE is APPLY and BATCHSQL mode is enabled.</p>         |
| BATCH_XIDSQN             | NUMBER   | <p>Transaction ID sequence number of the batch parent transaction.</p> <p>When using BATCHSQL mode in Oracle GoldenGate Integrated Replicat the BATCH_XID columns identify the parent transaction of the batch the current transaction belongs to. The parent transaction is the first transaction of each batch.</p> <p>This column is populated only if COMPONENT_TYPE is APPLY and BATCHSQL mode is enabled.</p>     |
| CUMULATIVE_MESSAGE_COUNT | NUMBER   | Number of LCRs processed in the transaction. If a component is restarted while the transaction is being processed, then this column shows the number of LCRs processed in the transaction since the component was started.                                                                                                                                                                                              |
| TOTAL_MESSAGE_COUNT      | NUMBER   | Total number of LCRs processed in the transaction by an outbound server or inbound server. This column does not pertain to capture processes.                                                                                                                                                                                                                                                                           |
| FIRST_MESSAGE_TIME       | DATE     | Time stamp of the first LCR processed in the transaction. If a capture process is restarted while the transaction is being processed, then this column shows the time stamp of the first LCR processed after the capture process was started.                                                                                                                                                                           |
| FIRST_MESSAGE_NUMBER     | NUMBER   | SCN of the first message in the transaction. If a capture process is restarted while the transaction is being processed, then this column shows the SCN of the first message processed after the capture process was started.                                                                                                                                                                                           |
| LAST_MESSAGE_TIME        | DATE     | Time stamp of the last LCR processed in the transaction                                                                                                                                                                                                                                                                                                                                                                 |
| LAST_MESSAGE_NUMBER      | NUMBER   | SCN of the most recent message encountered for the transaction                                                                                                                                                                                                                                                                                                                                                          |
| FIRST_MESSAGE_POSITION   | RAW (64) | <p>Position of the first message seen by an XStream inbound server</p> <p>This column is populated only for an apply process that is functioning as an Oracle GoldenGate inbound server.</p>                                                                                                                                                                                                                            |
| LAST_MESSAGE_POSITION    | RAW (64) | <p>Position of the last message seen by an Oracle GoldenGate inbound server</p> <p>This column is populated only for an apply process that is functioning as an Oracle GoldenGate inbound server.</p>                                                                                                                                                                                                                   |

| Column         | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TRANSACTION_ID | VARCHAR2 (128) | Transaction ID for an Oracle GoldenGate inbound server<br>This column is populated only for an apply process that is functioning as an Oracle GoldenGate inbound server.                                                                                                                                                                                                                                                                        |
| CON_ID         | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.276 V\$HANG\_INFO

V\$HANG\_INFO displays information about hangs found on the cluster.

A hang can be an open wait chain or closed wait chain (cycle or deadlock). A wait chain is a series of sessions that are blocking one another. Each row represents a hang and describes how severe the hang is. This view also includes the victim or final blocker of the hang.

| Column              | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HANG_ID             | NUMBER        | A number identifying the hang                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| HANG_CHAIN_SESSIONS | NUMBER        | Indicates how many sessions are in the main wait chain of the hang                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TOTAL_HUNG_SESSIONS | NUMBER        | Indicates how many total sessions are affected by the hang, including the main wait chain and any wait chains branching off of the main wait chain                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| HANG_TYPE           | VARCHAR2 (18) | Is set to <code>Hang</code> if this is an open wait chain or <code>Deadlock</code> if this is a cycle or closed wait chain                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| HANG_STATUS         | VARCHAR2 (20) | Status of the hang. Possible values: <ul style="list-style-type: none"> <li><code>Invalid</code> - The hang is about to be removed because its hung status has become in doubt</li> <li><code>Pending Resolution</code> - The hang or deadlock has been marked for resolution and will be resolved shortly</li> <li><code>Reconfiguration</code> - A reconfiguration occurred and the hang or deadlock must be re-detected and verified before any action can be taken toward resolution</li> <li><code>Requires Verification</code> - The hang is about to be verified to confirm if its sessions are still hung</li> <li><code>Resolved</code> - The hang or deadlock was resolved by terminating the final blocker (or root) or, if necessary, by terminating the instance</li> <li><code>Self-Resolved</code> - The hang was detected but resolved on its own without Blocker Resolver intervention</li> <li><code>Unresolvable</code> - The hang was determined to be a special case that is not resolvable</li> <li><code>Valid</code> - The hang or deadlock was detected but not yet verified</li> <li><code>Verified Hung</code> - The hang has been verified and a decision will be made soon on whether the hang will be resolved or ignored</li> <li><code>Victim Selected</code> - A victim has been selected. If the hang is marked for resolution, the victim will be terminated.</li> </ul> |
| HANG_CREATE_TIME    | VARCHAR2 (20) | Date and time that the hang was detected                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Column               | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HANG_RESOLVE_TIME    | VARCHAR2 (20) | Time that the hang may be automatically resolved                                                                                                                                                                                                                                                                                                                                                                                  |
| IGNORED_HANG         | VARCHAR2 (1)  | Y - Hang was ignored and will not be automatically resolved at this time<br>N - The hang has not yet been verified                                                                                                                                                                                                                                                                                                                |
| RESOLUTION_ATTEMPTED | VARCHAR2 (1)  | Y - An attempt was made to resolve the hang<br>N - No attempt was made to resolve the hang                                                                                                                                                                                                                                                                                                                                        |
| GLOBAL_HANG          | VARCHAR2 (1)  | Y - The hang spans multiple nodes in the cluster<br>N - All of the sessions in the hang reside on a single instance                                                                                                                                                                                                                                                                                                               |
| ESCALATED_HANG       | VARCHAR2 (1)  | Y - An attempt was made to resolve the hang but was unsuccessful, and the hang is becoming more severe. Another resolution attempt will be made.<br>N - The first resolution attempt was successful and it was not necessary to escalate the hang to a higher resolution level.                                                                                                                                                   |
| RESOLUTION_STATUS    | VARCHAR2 (45) | Contains the reason why the hang was resolved or ignored                                                                                                                                                                                                                                                                                                                                                                          |
| VICTIM_INSTANCE      | NUMBER        | Instance number of the instance on which the victim or final blocker session resides                                                                                                                                                                                                                                                                                                                                              |
| VICTIM_SESSION_ID    | NUMBER        | Victim or final blocker's Oracle session ID                                                                                                                                                                                                                                                                                                                                                                                       |
| VICTIM_SERIAL#       | NUMBER        | Victim or final blocker's Oracle session serial number                                                                                                                                                                                                                                                                                                                                                                            |
| VICTIM_OSPID         | VARCHAR2 (24) | Victim or final blocker's operating system process ID                                                                                                                                                                                                                                                                                                                                                                             |
| FATAL_BACKGROUND     | VARCHAR2 (1)  | Y - Victim or final blocker is a critical background process<br>N - Victim or final blocker is not a critical background process                                                                                                                                                                                                                                                                                                  |
| PNAME                | VARCHAR2 (5)  | Name of the victim or final blocker process                                                                                                                                                                                                                                                                                                                                                                                       |
| VICTIM_PDB_ID        | NUMBER        | Victim or final blocker's container ID or PDB ID                                                                                                                                                                                                                                                                                                                                                                                  |
| WAIT_EVENT_TEXT      | VARCHAR2 (64) | Resource or event for which the victim or final blocker is waiting; set to not in a wait if the session is not waiting on a resource                                                                                                                                                                                                                                                                                              |
| VICTIM_QOS_PC_RANK   | VARCHAR2 (12) | Oracle Database Quality of Service (QoS) Management Performance Class rank of the victim or final blocker of the hang.                                                                                                                                                                                                                                                                                                            |
| VICTIM_QOS_PC_ITT    | NUMBER        | Oracle Database QoS Management Performance Class In-Trouble Threshold of the victim or final blocker of the hang                                                                                                                                                                                                                                                                                                                  |
| VICTIM_QOS_PC_RTT    | NUMBER        | Oracle Database QoS Management Performance Class Root Termination allowed Threshold of the victim or final blocker of the hang                                                                                                                                                                                                                                                                                                    |
| VICTIM_QOS_PC_KEY    | NUMBER        | Oracle Database QoS Management Performance Class Key of the victim or final blocker of the hang                                                                                                                                                                                                                                                                                                                                   |
| CON_ID               | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**

- "V\$HANG\_SESSION\_INFO"
- "V\$HANG\_STATISTICS"
- "DBA\_BLOCKER\_RESOLVER\_PARAMETERS"

## 8.277 V\$HANG\_SESSION\_INFO

V\$HANG\_SESSION\_INFO displays information about sessions involved in hangs described by V\$HANG\_INFO.

Each row with the same HANG\_ID describes a session that is in the hang wait chain described by the row with the same HANG\_ID in V\$HANG\_INFO. This session is blocked by the victim or final blocker of that hang.

| Column           | Datatype      | Description                                                                                                                                                             |
|------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HANG_ID          | NUMBER        | A number identifying the hang including this session. This column can be used to join V\$HANG_INFO with V\$HANG_SESSION_INFO.                                           |
| INSTANCE         | NUMBER        | Instance number of the instance on which this session resides                                                                                                           |
| SID              | NUMBER        | Oracle session ID of this session                                                                                                                                       |
| SERIAL#          | NUMBER        | Oracle session serial number of this session                                                                                                                            |
| OSPID            | VARCHAR2 (24) | Operating system process ID of this session                                                                                                                             |
| FATAL_BACKGROUND | VARCHAR2 (1)  | Y - Session is a critical background process<br>N - Session is not a critical background process                                                                        |
| ROOT             | VARCHAR2 (1)  | Y - This session is the victim or final blocker of the hang<br>N - This session is not the victim or final blocker of the hang                                          |
| PNAME            | VARCHAR2 (5)  | Name of the victim or final blocker process                                                                                                                             |
| PDB_ID           | NUMBER        | Oracle session's container ID or PDB ID                                                                                                                                 |
| WAIT_EVENT_TEXT  | VARCHAR2 (64) | Resource or event for which this session is waiting; set to not in a wait if the session is not waiting on a resource                                                   |
| WAIT_TIME        | NUMBER        | Time spent in wait for this session (in seconds). If the value of WAIT_EVENT_TEXT is not in a wait, then this column returns the number of seconds since the last wait. |
| QOS_PC_RANK      | VARCHAR2 (12) | Session's Oracle Database Quality of Service (QoS) Management Performance Class rank                                                                                    |
| QOS_PC_ITT       | NUMBER        | Session's Oracle Database Quality of Service (QoS) Management Performance Class In-Trouble Threshold                                                                    |
| QOS_PC_RTT       | NUMBER        | Session's Oracle Database Quality of Service (QoS) Management Performance Class Root Termination allowed Threshold                                                      |
| QOS_PC_KEY       | NUMBER        | Session's Oracle Database Quality of Service (QoS) Management Performance Class Key                                                                                     |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**

- ["V\\$HANG\\_INFO"](#)
- ["V\\$HANG\\_STATISTICS"](#)
- ["DBA\\_BLOCKER\\_RESOLVER\\_PARAMETERS"](#)

## 8.278 V\$HANG\_STATISTICS

V\$HANG\_STATISTICS displays statistics about hangs found on the cluster.

| Column     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATISTIC# | NUMBER        | Statistic number                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| NAME       | VARCHAR2 (45) | Name of the statistic                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| VALUE      | NUMBER        | Value associated with the statistic                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID     | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**

- ["V\\$HANG\\_INFO"](#)
- ["V\\$HANG\\_SESSION\\_INFO"](#)
- ["DBA\\_BLOCKER\\_RESOLVER\\_PARAMETERS"](#)

## 8.279 V\$HEAT\_MAP\_SEGMENT

V\$HEAT\_MAP\_SEGMENT displays real-time segment access information.



| Column               | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_NAME          | VARCHAR2 (128) | Name of the object                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SUBOBJECT_NAME       | VARCHAR2 (128) | Name of the subobject                                                                                                                                                                                                                                                                                                                                                                                                                           |
| OBJ#                 | NUMBER         | Object number                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| DATAOBJ#             | NUMBER         | Data object number                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TS#                  | NUMBER         | ID of the tablespace containing the segment whose heat map is tracked                                                                                                                                                                                                                                                                                                                                                                           |
| TRACK_TIME           | DATE           | Timestamp of current activity tracking                                                                                                                                                                                                                                                                                                                                                                                                          |
| SEGMENT_WRITE        | VARCHAR2 (3)   | Indicates whether the segment has write access: (YES or NO)                                                                                                                                                                                                                                                                                                                                                                                     |
| SEGMENT_READ         | VARCHAR2 (3)   | Indicates whether the segment has read access: (YES or NO)                                                                                                                                                                                                                                                                                                                                                                                      |
| FULL_SCAN            | VARCHAR2 (3)   | Indicates whether the segment has full table scan: (YES or NO)                                                                                                                                                                                                                                                                                                                                                                                  |
| LOOKUP_SCAN          | VARCHAR2 (3)   | Indicates whether the segment has lookup scan: (YES or NO)                                                                                                                                                                                                                                                                                                                                                                                      |
| N_SEGMENT_WRITE      | NUMBER         | Number of segment writes                                                                                                                                                                                                                                                                                                                                                                                                                        |
| N_FULL_SCAN          | NUMBER         | Number of table scans                                                                                                                                                                                                                                                                                                                                                                                                                           |
| N_LOOKUP_SCAN        | NUMBER         | Number of lookup scans                                                                                                                                                                                                                                                                                                                                                                                                                          |
| N_FASTFULLINDEX_SCAN | NUMBER         | Number of fast full index scans                                                                                                                                                                                                                                                                                                                                                                                                                 |
| N_RANGEINDEX_SCAN    | NUMBER         | Number of range index scans                                                                                                                                                                                                                                                                                                                                                                                                                     |
| N_DML_SCAN           | NUMBER         | Number of scans originating from DMLs                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID               | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"ALL\_HEAT\_MAP\_SEGMENT"

## 8.280 V\$HM\_CHECK

V\$HM\_CHECK displays information about all the checks registered with Health Monitor. Each check is uniquely identified by a name or an ID.

| Column   | Datatype        | Description                                                                                                 |
|----------|-----------------|-------------------------------------------------------------------------------------------------------------|
| ID       | NUMBER          | Health check ID                                                                                             |
| NAME     | VARCHAR2 (64)   | Health check name                                                                                           |
| NAME_NLS | VARCHAR2 (1024) | Internationalized names of the health checks                                                                |
| CLSID    | NUMBER          | Class ID to which this check belongs                                                                        |
| CLS_NAME | VARCHAR2 (15)   | Class name of the check: <ul style="list-style-type: none"> <li>GENERIC</li> <li>PERSISTENT_DATA</li> </ul> |

| Column          | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FLAGS           | NUMBER          | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                       |
| INTERNAL_CHECK  | VARCHAR2 (1)    | Internal check                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| OFFLINE_CAPABLE | VARCHAR2 (1)    | Ability to run when database is not open yet (Y or N)                                                                                                                                                                                                                                                                                                                                                                                           |
| DESCRIPTION     | VARCHAR2 (1024) | Description of what the check does                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID          | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.281 V\$HM\_CHECK\_PARAM

V\$HM\_CHECK\_PARAM displays information about the input parameters of all Health Monitor checks.

| Column        | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ID            | NUMBER          | Parameter ID                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NAME          | VARCHAR2 (64)   | Parameter name                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CHECK_ID      | NUMBER          | ID of the check to which this parameter belongs                                                                                                                                                                                                                                                                                                                                                                                                 |
| TYPE          | VARCHAR2 (20)   | Data type of the input parameter: <ul style="list-style-type: none"> <li>DBKH_PARAM_UB4</li> <li>DBKH_PARAM_UB8</li> <li>DBKH_PARAM_TEXT</li> <li>DBKH_PARAM_DATE</li> <li>DBKH_PARAM_UB4_LIST</li> <li>DBKH_PARAM_UB8_LIST</li> <li>DBKH_PARAM_TEXT_LIST</li> <li>DBKH_PARAM_DATE_LIST</li> </ul>                                                                                                                                              |
| DEFAULT_VALUE | VARCHAR2 (64)   | Default value for this parameter                                                                                                                                                                                                                                                                                                                                                                                                                |
| FLAGS         | NUMBER          | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                       |
| DESCRIPTION   | VARCHAR2 (1024) | Description of the parameter                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID        | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.282 V\$HM\_FINDING

V\$HM\_FINDING displays information about all the findings of various Health Monitor runs.

| Column             | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FINDING_ID         | NUMBER          | Unique ID to represent the finding                                                                                                                                                                                                                                                                                                                                                                                                                    |
| RUN_ID             | NUMBER          | ID of the run that created this finding                                                                                                                                                                                                                                                                                                                                                                                                               |
| NAME               | VARCHAR2 (32)   | Name of the finding                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PARENT_ID          | NUMBER          | Parent finding ID for this finding                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CHILD_COUNT        | NUMBER          | Number of active (open) child findings, if this finding is a parent finding type                                                                                                                                                                                                                                                                                                                                                                      |
| CLASS_NAME         | VARCHAR2 (32)   | Name of the class to which this finding belongs                                                                                                                                                                                                                                                                                                                                                                                                       |
| TIME_DETECTED      | TIMESTAMP (6)   | Time this finding was detected                                                                                                                                                                                                                                                                                                                                                                                                                        |
| MODIFIED           | TIMESTAMP (6)   | Time that this finding was last modified                                                                                                                                                                                                                                                                                                                                                                                                              |
| PRIORITY           | VARCHAR2 (8)    | Priority of the finding: <ul style="list-style-type: none"> <li>• LOW,</li> <li>• HIGH</li> <li>• CRITICAL</li> </ul>                                                                                                                                                                                                                                                                                                                                 |
| STATUS             | VARCHAR2 (12)   | Status of the finding: <ul style="list-style-type: none"> <li>• OPEN</li> <li>• CLOSED</li> </ul>                                                                                                                                                                                                                                                                                                                                                     |
| TYPE               | VARCHAR2 (13)   | Type of the finding: <ul style="list-style-type: none"> <li>• INFORMATIONAL</li> <li>• FAILURE</li> </ul>                                                                                                                                                                                                                                                                                                                                             |
| DESCRIPTION        | VARCHAR2 (1024) | Description of the finding                                                                                                                                                                                                                                                                                                                                                                                                                            |
| DAMAGE_DESCRIPTION | VARCHAR2 (1024) | Possible damage description of the finding                                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID             | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.283 V\$HM\_INFO

V\$HM\_INFO displays information about Health Monitor runs, findings, and recommendations.

The information for a run/finding/recommendation is organized as a name, value pair.

If the type of information is `RUN`, then the data represents the input parameters for that run. If the type of information is `FINDING` or `RECOMMENDATION`, then the data represents the information about that particular finding/recommendation.

| Column | Datatype      | Description                                                                                                                                         |
|--------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| ID     | NUMBER        | Unique identifier of the information                                                                                                                |
| TYPE   | VARCHAR2 (14) | Type of the information: <ul style="list-style-type: none"> <li>• RUN</li> <li>• RUN-RESUME</li> <li>• FINDING</li> <li>• RECOMMENDATION</li> </ul> |

| Column | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME   | VARCHAR2 (32)  | Information parameter name                                                                                                                                                                                                                                                                                                                                                                                                                      |
| VALUE  | VARCHAR2 (513) | Information parameter value                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.284 V\$HM\_RECOMMENDATION

V\$HM\_RECOMMENDATION displays information about all the recommendations made to various Health Monitor findings.

| Column            | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RECOMMENDATION_ID | NUMBER          | Unique ID to represent the recommendation                                                                                                                                                                                                                                                                                                                                                                                                       |
| FDG_ID            | NUMBER          | Unique ID to represent either the finding ID or the finding set ID for which the recommendation was made                                                                                                                                                                                                                                                                                                                                        |
| RUN_ID            | NUMBER          | ID of the run that may have generated the recommendation<br>If the ID is 0, then the recommendations were generated by RMAN.                                                                                                                                                                                                                                                                                                                    |
| NAME              | VARCHAR2 (32)   | Name of the recommendation                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TYPE              | VARCHAR2 (7)    | Type of the recommendation: <ul style="list-style-type: none"> <li>MANUAL</li> <li>REPAIR</li> </ul>                                                                                                                                                                                                                                                                                                                                            |
| RANK              | NUMBER          | Rank of the recommendation                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TIME_DETECTED     | TIMESTAMP (6)   | Time that the recommendation was made                                                                                                                                                                                                                                                                                                                                                                                                           |
| EXECUTED          | TIMESTAMP (6)   | Time that the recommendation (repair) was implemented                                                                                                                                                                                                                                                                                                                                                                                           |
| STATUS            | VARCHAR2 (7)    | Status of the recommendation (repair) execution: <ul style="list-style-type: none"> <li>NOT RUN</li> <li>RUNNING</li> <li>SUCCESS</li> <li>FAILED</li> </ul>                                                                                                                                                                                                                                                                                    |
| DESCRIPTION       | VARCHAR2 (1024) | Description of the recommendation                                                                                                                                                                                                                                                                                                                                                                                                               |
| REPAIR_SCRIPT     | VARCHAR2 (512)  | Location of the repair script file                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID            | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.285 V\$HM\_RUN

V\$HM\_RUN displays information about all Health Monitor checks and their status.

| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RUN_ID           | NUMBER        | Unique ID to represent the run                                                                                                                                                                                                                                                                                                                                                                                                                  |
| NAME             | VARCHAR2 (32) | Unique name used to identify the run                                                                                                                                                                                                                                                                                                                                                                                                            |
| CHECK_NAME       | VARCHAR2 (32) | Name of the check                                                                                                                                                                                                                                                                                                                                                                                                                               |
| RUN_MODE         | VARCHAR2 (8)  | Mode of the run: <ul style="list-style-type: none"> <li>MANUAL</li> <li>REACTIVE</li> <li>AUTO</li> </ul>                                                                                                                                                                                                                                                                                                                                       |
| TIMEOUT          | NUMBER        | Number of seconds allowed for this run to complete before it is terminated                                                                                                                                                                                                                                                                                                                                                                      |
| START_TIME       | TIMESTAMP (6) | Start time of the run                                                                                                                                                                                                                                                                                                                                                                                                                           |
| LAST_RESUME_TIME | TIMESTAMP (6) | Last resumed time for the run                                                                                                                                                                                                                                                                                                                                                                                                                   |
| END_TIME         | TIMESTAMP (6) | End time of the run                                                                                                                                                                                                                                                                                                                                                                                                                             |
| MODIFIED_TIME    | TIMESTAMP (6) | Last modified time of the run record                                                                                                                                                                                                                                                                                                                                                                                                            |
| STATUS           | VARCHAR2 (11) | Status of the run: <ul style="list-style-type: none"> <li>INITIAL</li> <li>EXECUTING</li> <li>INTERRUPTED</li> <li>TIMEDOUT</li> <li>CANCELLED</li> <li>COMPLETED</li> <li>ERROR</li> </ul>                                                                                                                                                                                                                                                     |
| SRC_INCIDENT     | NUMBER        | Source incident ID that activated this run                                                                                                                                                                                                                                                                                                                                                                                                      |
| NUM_INCIDENT     | NUMBER        | Number of incidents created by this run                                                                                                                                                                                                                                                                                                                                                                                                         |
| ERROR_NUMBER     | NUMBER        | Error number if the run failed to complete because of an error                                                                                                                                                                                                                                                                                                                                                                                  |
| PROBLEM_ID       | NUMBER        | Problem ID of the source incident ID that may have activated this Run                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID           | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.286 V\$HS\_AGENT

V\$HS\_AGENT displays the set of HS agents currently running on a given host. There is one row per agent process.

| Column       | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AGENT_ID     | NUMBER         | Oracle Net session identifier used for connections to the agent (the identifier used in the LISTENER.ORA file)                                                                                                                                                                                                                                                                                                                                  |
| MACHINE      | VARCHAR2 (64)  | Operating system machine name                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PROCESS      | VARCHAR2 (9)   | Operating system process identifier of the agent                                                                                                                                                                                                                                                                                                                                                                                                |
| PROGRAM      | VARCHAR2 (48)  | Program name of the agent                                                                                                                                                                                                                                                                                                                                                                                                                       |
| OSUSER       | VARCHAR2 (128) | Operating system user                                                                                                                                                                                                                                                                                                                                                                                                                           |
| STARTTIME    | DATE           | Starting time                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| AGENT_TYPE   | NUMBER         | Type of the agent                                                                                                                                                                                                                                                                                                                                                                                                                               |
| FDS_CLASS_ID | NUMBER         | ID of the Foreign Data Store class                                                                                                                                                                                                                                                                                                                                                                                                              |
| FDS_INST_ID  | NUMBER         | Instance name of the Foreign Data Store                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID       | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.287 V\$HS\_PARAMETER

V\$HS\_PARAMETER describes the initialization parameters in use by the server and agent.

| Column        | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HS_SESSION_ID | NUMBER         | Unique HS session identifier (maps to the HS_SESSION_ID column of V\$HS_SESSION)                                                                                                                                                                                                                                                                                                                                                                |
| PARAMETER     | VARCHAR2 (128) | Name of the parameter                                                                                                                                                                                                                                                                                                                                                                                                                           |
| VALUE         | VARCHAR2 (64)  | Value of the parameter                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SOURCE        | VARCHAR2 (1)   | Indicates whether the parameter was defined in the agent (A) or server (S)                                                                                                                                                                                                                                                                                                                                                                      |
| ENV           | VARCHAR2 (1)   | Indicates whether the parameter was set as an environment variable in the agent (T) or elsewhere (F)                                                                                                                                                                                                                                                                                                                                            |
| CON_ID        | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 8.288 V\$HS\_SESSION

V\$HS\_SESSION describes the current HS session.

| Column        | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HS_SESSION_ID | NUMBER         | Unique HS session identifier                                                                                                                                                                                                                                                                                                                                                                                                                |
| AGENT_ID      | NUMBER         | Oracle Net session identifier used for connections to the agent (maps to the AGENT_ID column of V\$HS_AGENT)                                                                                                                                                                                                                                                                                                                                |
| SID           | NUMBER         | User session identifier (maps to the SID column of V\$SESSION)                                                                                                                                                                                                                                                                                                                                                                              |
| DB_LINK       | VARCHAR2 (128) | Server database link name used to access the agent; blank if no database link is used (for example, when using external procedures)                                                                                                                                                                                                                                                                                                         |
| DB_LINK_OWNER | NUMBER         | Owner of the database link in DB_LINK                                                                                                                                                                                                                                                                                                                                                                                                       |
| STARTTIME     | DATE           | Time the connection was initiated                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID        | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 8.289 V\$HVMASTER\_INFO

V\$HVMASTER\_INFO describes the current and previous master instances and the number of re-masterings of Global Enqueue Service resources.

| Column          | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HV_ID           | NUMBER   | Hash value ID                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CURRENT_MASTER  | NUMBER   | Master instance of this hash value ID                                                                                                                                                                                                                                                                                                                                                                                                       |
| PREVIOUS_MASTER | NUMBER   | Previous master instance of this hash value ID                                                                                                                                                                                                                                                                                                                                                                                              |
| REMASTER_CNT    | NUMBER   | Number of times this has been remastered                                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID          | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

# 9

## Dynamic Performance (V\$) Views: V\$IM\_COLUMN\_LEVEL to V\$RULE\_SET\_AGGREGATE\_STATS

This chapter contains the dynamic performance views `V$IM_COLUMN_LEVEL` to `V$RULE_SET_AGGREGATE_STATS`.

### 9.1 V\$IM\_COLUMN\_LEVEL

`V$IM_COLUMN_LEVEL` presents the selective column compression levels that are defined using the `inmemory_memcompress` clause of the `inmemory_column_clause` of the `CREATE TABLE` statement.

This view returns no rows for a table which has no associated selective column compression levels.

| Column               | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INST_ID              | NUMBER        | Instance ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| OWNER                | VARCHAR2 (31) | Username of the table owner                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| OBJ_NUM              | NUMBER        | Table object number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TABLE_NAME           | VARCHAR2 (31) | Table name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SEGMENT_COLUMN_ID    | NUMBER        | Segment column number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| COLUMN_NAME          | VARCHAR2 (31) | Column name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| INMEMORY_COMPRESSION | VARCHAR2 (26) | Column compression level. Possible values: <ul style="list-style-type: none"><li>• <b>DEFAULT</b>: This value appears for physical columns of a table that do not have a selective column clause. It also appears when a virtual column has been explicitly enabled for in-memory storage using <code>ALTER TABLE <i>table-name</i> INMEMORY (VC)</code>.</li><li>• <b>UNSPECIFIED</b>: This value appears for virtual columns of a table that do not have a selective column clause.</li></ul> If the <code>INMEMORY_VIRTUAL_COLUMNS</code> initialization parameter is set to <code>MANUAL</code> , a virtual column with a <code>DEFAULT INMEMORY_COMPRESSION</code> clause will be materialized while a virtual column with an <code>UNSPECIFIED</code> value will not be. |
| CON_ID               | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• <b>0</b>: This value is used for rows containing data that pertain to the entire multitenant container database (CDB). This value is also used for rows in non-CDBs.</li><li>• <b>1</b>: This value is used for rows containing data that pertain to only the root</li><li>• <b>n</b>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul>                                                                                                                                                                                                                                                                               |



**Note:**

The SYS\_IME hidden virtual columns automatically added by the In-Memory Expression (IME) infrastructure will not be shown in this view.

**See Also:**

- "INMEMORY Clause DEFAULT"
- "V\$IM\_SEGMENTS"
- "V\$IM\_USER\_SEGMENTS"
- *Oracle Database In-Memory Guide* for an introduction to the IM column store
- *Oracle Database SQL Language Reference* for more information about the `inmemory_column_clause` of the SQL `CREATE TABLE` statement

## 9.2 V\$IM\_SEGMENTS

V\$IM\_SEGMENTS presents information about all the in-memory segments in the database.

Only segments that have an in-memory representation are displayed. If a segment is marked for the In-Memory Column Store (IM column store) but is not populated, no corresponding row for that segment is displayed in this view.

| Column              | Datatype       | Description                                                                                                                                                                                                                                                                                                                   |
|---------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER               | VARCHAR2 (128) | User name of the segment owner                                                                                                                                                                                                                                                                                                |
| SEGMENT_NAME        | VARCHAR2 (128) | Name of the segment, if any                                                                                                                                                                                                                                                                                                   |
| PARTITION_NAME      | VARCHAR2 (128) | Object partition name (set to NULL for non-partitioned objects)                                                                                                                                                                                                                                                               |
| SEGMENT_TYPE        | VARCHAR2 (18)  | Type of segment: <ul style="list-style-type: none"> <li>• TABLE</li> <li>• TABLE PARTITION</li> <li>• TABLE SUBPARTION</li> </ul>                                                                                                                                                                                             |
| TABLESPACE_NAME     | VARCHAR2 (30)  | Name of the tablespace containing the segment                                                                                                                                                                                                                                                                                 |
| INMEMORY_SIZE       | NUMBER         | Size of the in-memory version of the segment, in bytes                                                                                                                                                                                                                                                                        |
| BYTES               | NUMBER         | Number of on-disk data bytes for the segment that could be represented in memory (no space metadata blocks)                                                                                                                                                                                                                   |
| BYTES_NOT_POPULATED | NUMBER         | Size of the portion of the on-disk segment that is not populated in memory, in bytes.                                                                                                                                                                                                                                         |
| POPULATE_STATUS     | VARCHAR2 (13)  | Status of segment population: <ul style="list-style-type: none"> <li>• STARTED: A populate task for the segment has started</li> <li>• COMPLETED: There are no populate tasks pending for the segment</li> <li>• OUT OF MEMORY: A populate task for the segment failed due to lack of space in the IM column store</li> </ul> |

| Column                | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INMEMORY_PRIORITY     | VARCHAR2 (8)   | <p>Indicates the priority for IM column store population:</p> <ul style="list-style-type: none"> <li>• LOW</li> <li>• MEDIUM</li> <li>• HIGH</li> <li>• CRITICAL</li> <li>• NONE</li> </ul>                                                                                                                                                                                                                                                                                                   |
| INMEMORY_DISTRIBUTE   | VARCHAR2 (15)  | <p>Indicates how the IM column store is distributed in an Oracle Real Application Clusters (Oracle RAC) environment:</p> <ul style="list-style-type: none"> <li>• AUTO</li> <li>• BY ROWID RANGE</li> <li>• BY PARTITION</li> <li>• BY SUBPARTITION</li> </ul>                                                                                                                                                                                                                                |
| INMEMORY_DUPLICATE    | VARCHAR2 (13)  | <p>Indicates the duplicate setting for the IM column store in an Oracle RAC environment:</p> <ul style="list-style-type: none"> <li>• NO DUPLICATE</li> <li>• DUPLICATE</li> <li>• DUPLICATE ALL</li> </ul>                                                                                                                                                                                                                                                                                   |
| INMEMORY_COMPRESSION  | VARCHAR2 (17)  | <p>Compression level for the IM column store:</p> <ul style="list-style-type: none"> <li>• NO MEMCOMPRESS</li> <li>• FOR DML</li> <li>• FOR QUERY [ LOW   HIGH ]</li> <li>• FOR CAPACITY [ LOW   HIGH ]</li> <li>• AUTO</li> </ul>                                                                                                                                                                                                                                                            |
| INMEMORY_SERVICE      | VARCHAR2 (12)  | <p>Specifies how the IM-enabled table is populated on various instances:</p> <ul style="list-style-type: none"> <li>• DEFAULT: Pre-Oracle Database 12c Release 2 (12.2.0.1) behavior</li> <li>• NONE: Do not populate on any instance</li> <li>• ALL: Populate on all instances</li> <li>• USER_DEFINED: Populate only on the instances on which the user-specified service is active. The service name corresponding to this is stored in the INMEMORY_SERVICE_NAME column.</li> </ul>       |
| INMEMORY_SERVICE_NAME | VARCHAR2 (129) | <p>Specifies the service name on which the IM-enabled table should be populated. This column has a value only when the corresponding INMEMORY_SERVICE column has a value of USER_DEFINED.</p>                                                                                                                                                                                                                                                                                                 |
| IS_EXTERNAL           | VARCHAR2 (5)   | <p>Indicates whether the IM segment is for an external table. Possible values:</p> <ul style="list-style-type: none"> <li>• TRUE: The IM segment is for an external table.</li> <li>• FALSE: The IM segment is not for an external table.</li> </ul>                                                                                                                                                                                                                                          |
| CON_ID                | NUMBER         | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire multitenant container database (CDB). This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**

- "INMEMORY\_CLAUSE\_DEFAULT"
- "V\$IM\_COLUMN\_LEVEL"
- "V\$IM\_USER\_SEGMENTS"
- *Oracle Database In-Memory Guide* for an introduction to the IM column store

## 9.3 V\$IM\_USER\_SEGMENTS

V\$IM\_USER\_SEGMENTS presents information about the in-memory segments for the current user in the database.

Only segments that have an in-memory representation are displayed. If a segment is marked for the In-Memory Column Store (IM column store) but is not populated, no corresponding row for that segment is displayed in this view.

| Column              | Datatype       | Description                                                                                                                                                                                                                                                                                                                   |
|---------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SEGMENT_NAME        | VARCHAR2 (128) | Name of the segment, if any                                                                                                                                                                                                                                                                                                   |
| PARTITION_NAME      | VARCHAR2 (128) | Object partition name (set to NULL for non-partitioned objects)                                                                                                                                                                                                                                                               |
| SEGMENT_TYPE        | VARCHAR2 (18)  | Type of segment: <ul style="list-style-type: none"> <li>• TABLE</li> <li>• TABLE PARTITION</li> <li>• TABLE SUBPARTION</li> </ul>                                                                                                                                                                                             |
| TABLESPACE_NAME     | VARCHAR2 (30)  | Name of the tablespace containing the segment                                                                                                                                                                                                                                                                                 |
| INMEMORY_SIZE       | NUMBER         | Size of the in-memory version of the segment, in bytes                                                                                                                                                                                                                                                                        |
| BYTES               | NUMBER         | Total size of the on-disk segment, in bytes                                                                                                                                                                                                                                                                                   |
| BYTES_NOT_POPULATED | NUMBER         | Size of the portion of the on-disk segment that is not populated in memory, in bytes                                                                                                                                                                                                                                          |
| POPULATE_STATUS     | VARCHAR2 (13)  | Status of segment population: <ul style="list-style-type: none"> <li>• STARTED: A populate task for the segment has started</li> <li>• COMPLETED: There are no populate tasks pending for the segment</li> <li>• OUT OF MEMORY: A populate task for the segment failed due to lack of space in the IM column store</li> </ul> |
| INMEMORY_PRIORITY   | VARCHAR2 (8)   | Indicates the priority for IM column store population: <ul style="list-style-type: none"> <li>• LOW</li> <li>• MEDIUM</li> <li>• HIGH</li> <li>• CRITICAL</li> <li>• NONE</li> </ul>                                                                                                                                          |
| INMEMORY_DISTRIBUTE | VARCHAR2 (15)  | Indicates how the IM column store is distributed in an Oracle Real Application Clusters (Oracle RAC) environment: <ul style="list-style-type: none"> <li>• AUTO</li> <li>• BY ROWID RANGE</li> <li>• BY PARTITION</li> <li>• BY SUBPARTITION</li> </ul>                                                                       |

| Column                | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INMEMORY_DUPLICATE    | VARCHAR2 (13)  | Indicates the duplicate setting for the IM column store in an Oracle RAC environment: <ul style="list-style-type: none"> <li>• NO DUPLICATE</li> <li>• DUPLICATE</li> <li>• DUPLICATE ALL</li> </ul>                                                                                                                                                                                                                                                                                   |
| INMEMORY_COMPRESSION  | VARCHAR2 (17)  | Compression level for the IM column store: <ul style="list-style-type: none"> <li>• NO MEMCOMPRESS</li> <li>• FOR DML</li> <li>• FOR QUERY [ LOW   HIGH ]</li> <li>• FOR CAPACITY [ LOW   HIGH ]</li> <li>• AUTO</li> </ul>                                                                                                                                                                                                                                                            |
| INMEMORY_SERVICE      | VARCHAR2 (12)  | Specifies how the IM-enabled table is populated on various instances: <ul style="list-style-type: none"> <li>• DEFAULT: Pre-Oracle Database 12c Release 2 (12.2.0.1) behavior</li> <li>• NONE: Do not populate on any instance</li> <li>• ALL: Populate on all instances</li> <li>• USER_DEFINED: Populate only on the instances on which the user-specified service is active. The service name corresponding to this is stored in the INMEMORY_SERVICE_NAME column.</li> </ul>       |
| INMEMORY_SERVICE_NAME | VARCHAR2 (129) | Specifies the service name on which the IM-enabled table should be populated. This column has a value only when the corresponding INMEMORY_SERVICE column has a value of USER_DEFINED.                                                                                                                                                                                                                                                                                                 |
| CON_ID                | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire multitenant container database (CDB). This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

- "INMEMORY\_CLAUSE\_DEFAULT"
- "V\$IM\_COLUMN\_LEVEL"
- "V\$IM\_SEGMENTS"
- *Oracle Database In-Memory Guide* for an introduction to the IM column store

## 9.4 V\$INDEX\_USAGE\_INFO

V\$INDEX\_USAGE\_INFO keeps track of index usage since the last flush. A flush occurs every 15 minutes. After each flush, ACTIVE\_ELEM\_COUNT is reset to 0 and LAST\_FLUSH\_TIME is updated to the current time.

| Column                      | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INDEX_STATS_ENABLED         | NUMBER         | Indicates whether the index usage statistics are enabled. Possible values: <ul style="list-style-type: none"> <li>0: Index statistics are disabled</li> <li>1: Index statistics are enabled</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| INDEX_STATS_COLLECTION_TYPE | NUMBER         | Indicates the type of collection used for the index usage statistics. Possible values: <ul style="list-style-type: none"> <li>0: Indicates the ALL collection type. With this type of collection, the statistics are collected for each execution that has index access. Selecting this statistics collection type may have some impact on performance.</li> <li>1: Indicates the SAMPLED collection type. With this type of collection, the statistics are collected based on sampling (only a few of the executions are considered when collecting the statistics). This is the default statistics collection type.</li> </ul> Index statistics collected with the SAMPLED collection type are less accurate than index statistics collected with the ALL collection type. |
| ACTIVE_ELEM_COUNT           | NUMBER         | The number of active indexes since the last flush                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| ALLOC_ELEM_COUNT            | NUMBER         | The number of index entries allocated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| MAX_ELEM_COUNT              | NUMBER         | The maximum number of active indexes that can be tracked                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| FLUSH_COUNT                 | NUMBER         | Number of successful flushes since the database started                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TOTAL_FLUSH_DURATION        | NUMBER         | Cumulative elapsed time taken to complete the index usage statistics flush since the database start                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| LAST_FLUSH_TIME             | TIMESTAMP (3)  | The time of the last flush                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| STATUS_MSG                  | VARCHAR2 (256) | Status messages, if any. Flush errors are reported here.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID                      | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This row is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                |



**See Also:**

["DBA\\_INDEX\\_USAGE"](#)

## 9.5 V\$INDEXED\_FIXED\_COLUMN

V\$INDEXED\_FIXED\_COLUMN displays the columns in dynamic performance tables that are indexed (X\$ tables).

The X\$ tables can change without notice. Use this view only to write queries against fixed views (V\$ views) more efficiently.

| Column          | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABLE_NAME      | VARCHAR2 (128) | Name of the dynamic performance table that is indexed                                                                                                                                                                                                                                                                                                                                                                                                                        |
| INDEX_NUMBER    | NUMBER         | Number that distinguishes to which index a column belongs                                                                                                                                                                                                                                                                                                                                                                                                                    |
| COLUMN_NAME     | VARCHAR2 (128) | Name of the column that is being indexed                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| COLUMN_POSITION | NUMBER         | Position of the column in the index key (this is mostly relevant for multicolumn indexes)                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID          | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire multitenant container database (CDB). This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.6 V\$INMEMORY\_AREA

V\$INMEMORY\_AREA contains information on the space allocation inside the In-Memory Area.

The In-Memory Area is sub-divided into three pools:

- 1MB POOL - stores the actual column formatted data populated into memory
- 64K POOL - stores metadata about the objects that are populated into the In-Memory Column Store (IM column store)
- IM POOL METADATA - contains information about In-Memory Compression Unit (IMCU) to data block mappings

The amount of available memory in each pool is visible in the V\$INMEMORY\_AREA view. The relative size of the three pools is determined by internal heuristics. The majority of the In-Memory Area memory is allocated to the 1MB POOL

| Column          | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POOL            | VARCHAR2 (26) | Name of the pools in the In-Memory Area                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ALLOC_BYTES     | NUMBER        | Total amount of memory allocated to this pool                                                                                                                                                                                                                                                                                                                                                                                                                                |
| USED_BYTES      | NUMBER        | Amount of memory currently used in this pool                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| POPULATE_STATUS | VARCHAR2 (26) | Shows the status of the IM column store, for example, whether it is currently being populated or if it is done                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID          | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire multitenant container database (CDB). This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

- "INMEMORY\_CLAUSE\_DEFAULT"
- "V\$IM\_COLUMN\_LEVEL"
- "V\$IM\_SEGMENTS"
- "V\$IM\_USER\_SEGMENTS"
- *Oracle Database In-Memory Guide* for an introduction to the IM column store

## 9.7 V\$INMEMORY\_FASTSTART\_AREA

V\$INMEMORY\_FASTSTART\_AREA provides information about the In-Memory FastStart (IM FastStart) area.

| Column               | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID               | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire multitenant container database (CDB). This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                       |
| TABLESPACE_NAME      | VARCHAR2 (128) | IM FastStart tablespace name. When IM FastStart is not enabled, the value of TABLESPACE_NAME is INVALID_TABLESPACE and the value of STATUS is DISABLE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| STATUS               | VARCHAR2 (10)  | IM FastStart status. Possible values include: <ul style="list-style-type: none"> <li>• ENABLE: An IM FastStart tablespace has been specified and the content of the IM column is being periodically checkpointed to disk.</li> <li>• ENABLING: An IM FastStart tablespace has been specified and the database is creating the IM FastStart area.</li> <li>• DISABLE: An IM FastStart tablespace has not been specified. This is the default.</li> <li>• MIGRATING: A user has requested the IM FastStart area be migrated from one tablespace to another.</li> <li>• DISABLING: A user has requested IM FastStart to be disabled.</li> </ul> |
| ALLOCATED_SIZE       | NUMBER         | The allocated size of an IM FastStart tablespace in bytes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| USED_SIZE            | NUMBER         | The currently used size of an IM FastStart area (in bytes) within the tablespace.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| LAST_CHECKPOINT_TIME | TIMESTAMP (6)  | The time when the last IMCU was checkpointed to the IM FastStart area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| LAST_POPULATE_TIME   | TIMESTAMP (6)  | The time of the last population from the IM FastStart area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| NUM_DEFERRED_WRITES  | NUMBER         | The number of pending deferred writes to the IM FastStart area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

## 9.8 V\$INMEMORY\_SIZE\_ADVICE

V\$INMEMORY\_SIZE\_ADVICE estimates usage and performance statistics for different simulated sizes of the In-Memory Column Store (IM Column Store).

| Column                    | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IM_POOL_SIZE_FOR_ESTIMATE | NUMBER   | Simulated size of the IM Column Store (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                        |
| SIZE_FACTOR               | NUMBER   | Size factor with respect to the current IM Column Store size                                                                                                                                                                                                                                                                                                                                                                                |
| ESTD_IM_USED_SIZE         | NUMBER   | Estimated amount of space the IM Column Store would use for this simulation (in megabytes)                                                                                                                                                                                                                                                                                                                                                  |
| ESTD_IM_SCAN_TIME         | NUMBER   | Estimated in-memory scan time for this simulation (in seconds)                                                                                                                                                                                                                                                                                                                                                                              |
| ESTD_TOTAL_DB_TIME        | NUMBER   | Estimated total database time for this simulation (in seconds)<br>This value estimates the cumulative time spent by the database on processing user requests. It includes the wait time and CPU time of all non-idle user sessions.                                                                                                                                                                                                         |
| CON_ID                    | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



### Note:

This view is available starting with Oracle Database 23ai.

## 9.9 V\$INSTANCE

V\$INSTANCE displays the state of the current instance.

| Column          | Datatype      | Description                                                                                                                                                     |
|-----------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INSTANCE_NUMBER | NUMBER        | Instance number used for instance registration (corresponds to the <code>INSTANCE_NUMBER</code> initialization parameter)<br><b>See Also:</b> "INSTANCE_NUMBER" |
| INSTANCE_NAME   | VARCHAR2 (16) | Name of the instance                                                                                                                                            |
| HOST_NAME       | VARCHAR2 (64) | Name of the host machine                                                                                                                                        |
| VERSION         | VARCHAR2 (17) | Database version                                                                                                                                                |
| VERSION_LEGACY  | VARCHAR2 (17) | The legacy database version used before Oracle Database 18c. This column displays the same value as the <code>VERSION</code> column                             |
| VERSION_FULL    | VARCHAR2 (17) | The version string with the new Oracle Database version scheme introduced in Oracle Database 18c.                                                               |



| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                             |
|------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STARTUP_TIME     | DATE          | Time when the instance was started                                                                                                                                                                                                                                                                      |
| STATUS           | VARCHAR2 (12) | Status of the instance: <ul style="list-style-type: none"> <li>STARTED - After STARTUP NOMOUNT</li> <li>MOUNTED - After STARTUP MOUNT or ALTER DATABASE CLOSE</li> <li>OPEN - After STARTUP or ALTER DATABASE OPEN</li> <li>OPEN MIGRATE - After ALTER DATABASE OPEN { UPGRADE   DOWNGRADE }</li> </ul> |
| PARALLEL         | VARCHAR2 (3)  | Indicates whether the instance is mounted in cluster database mode (YES) or not (NO)                                                                                                                                                                                                                    |
| THREAD#          | NUMBER        | Redo thread opened by the instance                                                                                                                                                                                                                                                                      |
| ARCHIVER         | VARCHAR2 (7)  | Automatic archiving status: <ul style="list-style-type: none"> <li>STOPPED</li> <li>STARTED</li> <li>FAILED - Archiver failed to archive a log last time but will try again within 5 minutes</li> </ul>                                                                                                 |
| LOG_SWITCH_WAIT  | VARCHAR2 (15) | Event that log switching is waiting for: <ul style="list-style-type: none"> <li>ARCHIVE LOG</li> <li>CLEAR LOG</li> <li>CHECKPOINT</li> <li>NULL - ALTER SYSTEM SWITCH LOGFILE is hung but there is room in the current online redo log</li> </ul>                                                      |
| LOGINS           | VARCHAR2 (10) | Indicates whether the instance is in unrestricted mode, allowing logins by all users (ALLOWED, or in restricted mode, allowing logins by database administrators only (RESTRICTED)                                                                                                                      |
| SHUTDOWN_PENDING | VARCHAR2 (3)  | Indicates whether a shutdown is pending (YES) or not (NO)                                                                                                                                                                                                                                               |
| DATABASE_STATUS  | VARCHAR2 (17) | Status of the database: <ul style="list-style-type: none"> <li>ACTIVE</li> <li>SUSPENDED</li> <li>INSTANCE RECOVERY</li> </ul>                                                                                                                                                                          |
| INSTANCE_ROLE    | VARCHAR2 (18) | Indicates whether the instance is an active instance (PRIMARY_INSTANCE) or an inactive secondary instance (SECONDARY_INSTANCE), or UNKNOWN if the instance has been started but not mounted                                                                                                             |

| Column        | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACTIVE_STATE  | VARCHAR2 (9)  | <p>Quiesce state of the instance:</p> <ul style="list-style-type: none"> <li>NORMAL - Database is in a normal state.</li> <li>QUIESCING - ALTER SYSTEM QUIESCE RESTRICTED has been issued: no new user transactions, queries, or PL/SQL statements are processed in this instance. User transactions, queries, or PL/SQL statements issued before the ALTER SYSTEM QUIESCE RESTRICTED statement are unaffected. DBA transactions, queries, or PL/SQL statements are also unaffected.</li> <li>QUIESCED - ALTER SYSTEM QUIESCE RESTRICTED has been issued: no user transactions, queries, or PL/SQL statements are processed. DBA transactions, queries, or PL/SQL statements are unaffected. User transactions, queries, or PL/SQL statements issued after the ALTER SYSTEM QUIESCE RESTRICTED statement are not processed.</li> </ul> <p>A single ALTER SYSTEM QUIESCE RESTRICTED statement quiesces all instances in an Oracle RAC environment. After this statement has been issued, some instances may enter into a quiesced state before other instances; the system is quiesced when all instances enter the quiesced state.</p> |
| BLOCKED       | VARCHAR2 (3)  | Indicates whether all services are blocked (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID        | NUMBER        | <p>The ID of the container to which the data pertains:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| INSTANCE_MODE | VARCHAR2 (11) | <p>The instance mode of the current instance:</p> <ul style="list-style-type: none"> <li>REGULAR: A regular Oracle RAC instance. This value is also always used for any non-Oracle RAC instance.</li> <li>READ MOSTLY: An Oracle RAC instance that performs very few database writes</li> <li>READ ONLY: A read-only Oracle RAC instance</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| EDITION       | VARCHAR2 (7)  | <p>The edition of the database:</p> <ul style="list-style-type: none"> <li>PO: Personal Edition</li> <li>FREE: Oracle Database Free</li> <li>SE2: Standard Edition or Standard Edition 2</li> <li>EE: Enterprise Edition</li> <li>HP: Enterprise Edition - High Performance</li> <li>XP: Enterprise Edition - Extreme Performance</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| FAMILY        | VARCHAR2 (80) | For internal use only.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DATABASE_TYPE | VARCHAR2 (15) | <p>Database type:</p> <ul style="list-style-type: none"> <li>RAC: If the database is a regular Oracle RAC database which may have multiple instances.</li> <li>RACONENODE: If the database is Oracle RAC, but allows only one instance to run at any time - the RAC One Node mode.</li> <li>SINGLE: If the database is running as a single instance.</li> <li>UNKNOWN: If the database's type can't be determined. This might happen when the database is registered as a DB resource with CRS but the CRS service has failed to return valid database type information. Typically, this indicates that either the CRS service is down or it is in a faulty state.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## 9.10 V\$INSTANCE\_CACHE\_TRANSFER

V\$INSTANCE\_CACHE\_TRANSFER displays statistics for the cache blocks transferred among instances.

Oracle keeps multiple versions of data buffered in the buffer cache. The current buffer (or block), CURRENT\_BLOCK, is the most up-to-date copy, containing all recent modifications. A consistent read buffer (or block), CR\_BLOCK, contains the version of the data at a particular time prior to the current buffer. It is read-consistent (that is, all the data shown in that buffer are consistent for the start time of a query).

Therefore, for the same data block there can be multiple copies in the buffer cache: one current copy, and one or more consistent read copies with data consistent as of different snapshot times.

| Column             | Datatype      | Description                                                                                                                                                   |
|--------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INSTANCE           | NUMBER        | Instance from which the blocks are transferred                                                                                                                |
| CLASS              | VARCHAR2 (18) | Class of the cache block                                                                                                                                      |
| LOST               | NUMBER        | The number of blocks that were sent by a particular instance but that never arrived in this instance                                                          |
| LOST_TIME          | NUMBER        | The time waited for blocks that were sent by a particular instance but that never arrived in this instance                                                    |
| CR_BLOCK           | NUMBER        | CR Block transfers not affected by remote processing delays                                                                                                   |
| CR_BLOCK_TIME      | NUMBER        | Total time waited for CR blocks from a particular instance (includes the other times)                                                                         |
| CR_2HOP            | NUMBER        | The count of CR blocks which were received by this instance from a particular instance after a 2-way round-trip                                               |
| CR_2HOP_TIME       | NUMBER        | The time waited for CR blocks which were received by this instance from a particular instance after a 2-way round-trip                                        |
| CR_3HOP            | NUMBER        | The count of CR blocks which were received by this instance from a particular instance after a 3-way round-trip                                               |
| CR_3HOP_TIME       | NUMBER        | The time waited for CR blocks which were received by this instance from a particular instance after a 3-way round-trip                                        |
| CR_RDMA            | NUMBER        | The count of CR Blocks which were directly read from a remote instance via RDMA                                                                               |
| CR_RDMA_TIME       | NUMBER        | Total time waited to directly read CR blocks from a remote instance via RDMA (in centiseconds)                                                                |
| CR_BUSY            | NUMBER        | CR Block transfers affected by remote contention                                                                                                              |
| CR_BUSY_TIME       | NUMBER        | The time waited for CR blocks which were received by this instance from a particular instance and which were delayed by a log flushed on the sending instance |
| CR_CONGESTED       | NUMBER        | CR Block transfers affected by remote system load                                                                                                             |
| CR_CONGESTED_TIME  | NUMBER        | The time waited for CR blocks which were received by this instance from a particular instance and which were delayed because LMS was busy                     |
| CURRENT_BLOCK      | NUMBER        | Current block transfers not affected by remote processing delays                                                                                              |
| CURRENT_BLOCK_TIME | NUMBER        | Total time waited for current blocks from a particular instance (includes the other times)                                                                    |

| Column                 | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CURRENT_2HOP           | NUMBER   | The count of current blocks which were received by this instance from a particular instance after a 2-way round-trip                                                                                                                                                                                                                                                                                                                                               |
| CURRENT_2HOP_TIME      | NUMBER   | The time waited for current blocks which were received by this instance from a particular instance after a 2-way round-trip                                                                                                                                                                                                                                                                                                                                        |
| CURRENT_3HOP           | NUMBER   | The count of current blocks which were received by this instance from a particular instance after a 3-way round-trip                                                                                                                                                                                                                                                                                                                                               |
| CURRENT_3HOP_TIME      | NUMBER   | The time waited for current blocks which were received by this instance from a particular instance after a 3-way round-trip                                                                                                                                                                                                                                                                                                                                        |
| CURRENT_RDMA           | NUMBER   | The count of current blocks which were directly read from a remote instance via RDMA                                                                                                                                                                                                                                                                                                                                                                               |
| CURRENT_RDMA_TIME      | NUMBER   | Total time waited to directly read current blocks from a remote instance via RDMA (in centiseconds)                                                                                                                                                                                                                                                                                                                                                                |
| CURRENT_BUSY           | NUMBER   | Current block transfers affected by remote contention                                                                                                                                                                                                                                                                                                                                                                                                              |
| CURRENT_BUSY_TIME      | NUMBER   | The time waited for current blocks which were received by this instance from a particular instance and which were delayed by a log flushed on the sending instance                                                                                                                                                                                                                                                                                                 |
| CURRENT_CONGESTED      | NUMBER   | Current block transfers affected by remote system load                                                                                                                                                                                                                                                                                                                                                                                                             |
| CURRENT_CONGESTED_TIME | NUMBER   | The time waited for current blocks which were received by this instance from a particular instance and which were delayed because LMS was busy                                                                                                                                                                                                                                                                                                                     |
| CON_ID                 | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><math>n</math>: Where <math>n</math> is the applicable container ID for the rows containing data</li> </ul> |

## 9.11 V\$INSTANCE\_PING

V\$INSTANCE\_PING provides information about measured latency of the interconnect for all instances in an Oracle Real Application Clusters (Oracle RAC) environment.

In an Oracle RAC environment, every few seconds the PING process of each instance checks the response of the interconnect to all instances of the same database.

It sends two messages. One message is 500 bytes in size (referred to in the column descriptions as 500B), and the other is 8 kilobytes in size (referred to in column descriptions as 8K).

For each message sent to each instance, the amount of time it took to get a response back is measured (in microseconds). The view records the latest measurements as well as cumulative data since instance startup.

| Column   | Datatype | Description                                                                                                                                                                                                                        |
|----------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INSTANCE | NUMBER   | The instance communicated with. In the V\$ view for each instance, there is one row for that instance, and in the GV\$ view for each instance, there is also one row for that instance, so there are $n^2$ rows for $n$ instances. |

| Column                 | Datatype | Description                                                                                                                                                                                                                                                                    |
|------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CURRENT_500B           | NUMBER   | The latest response time for the 500B message (in microseconds)                                                                                                                                                                                                                |
| AVERAGE_500B           | NUMBER   | The average response time for the 500B messages since instance startup (in microseconds). Note that AVERAGE_500B should be the same as WAIT_TIME_500B/COUNT_500B.                                                                                                              |
| MAX_500B               | NUMBER   | The maximal response time for the 500B messages since instance startup (in microseconds)                                                                                                                                                                                       |
| COUNT_500B             | NUMBER   | The number of measurements for the 500B messages since instance startup                                                                                                                                                                                                        |
| WAIT_TIME_500B         | NUMBER   | The sum of all response times for the 500B messages since instance startup (in microseconds)                                                                                                                                                                                   |
| WAIT_TIME_SQUARED_500B | NUMBER   | The sum of the response time squared for 500B messages since instance startup. The unit is in microseconds squared and divided by 1000.                                                                                                                                        |
| CURRENT_8K             | NUMBER   | The latest response time for the 8K message (in microseconds)                                                                                                                                                                                                                  |
| AVERAGE_8K             | NUMBER   | The average response time for the 8K messages since instance startup (in microseconds). Note that AVERAGE_8K should be the same as WAIT_TIME_8K/COUNT_8K.                                                                                                                      |
| MAX_8K                 | NUMBER   | The maximal response time for the 8K messages since instance startup (in microseconds)                                                                                                                                                                                         |
| COUNT_8K               | NUMBER   | The number of measurements for the 8K messages since instance startup                                                                                                                                                                                                          |
| WAIT_TIME_8K           | NUMBER   | The sum of all response times for the 8K messages since instance startup (in microseconds)                                                                                                                                                                                     |
| WAIT_TIME_SQUARED_8K   | NUMBER   | The sum of the response time squared for 8K messages since instance startup. The unit is in microseconds squared and divided by 16.                                                                                                                                            |
| CON_ID                 | NUMBER   | The ID of the container to which the data pertains. For this view, the possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> </ul> |

## 9.12 V\$INSTANCE\_RECOVERY

V\$INSTANCE\_RECOVERY monitors the mechanisms available to users to limit recovery I/O. Those mechanisms are:

- Set the LOG\_CHECKPOINT\_TIMEOUT initialization parameter
- Set the LOG\_CHECKPOINT\_INTERVAL initialization parameter
- Set the FAST\_START\_MTTR\_TARGET initialization parameter
- Set the size of the smallest redo log

| Column                 | Datatype | Description                                                                                                                                                                                                       |
|------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RECOVERY_ESTIMATED_IOS | NUMBER   | Number of dirty buffers in the buffer cache.                                                                                                                                                                      |
| ACTUAL_REDO_BLKs       | NUMBER   | Current actual number of redo blocks required for recovery                                                                                                                                                        |
| TARGET_REDO_BLKs       | NUMBER   | Current target number of redo blocks that must be processed for recovery. This value is the minimum value of the following 3 columns, and identifies which of the 3 user-defined limits determines checkpointing. |

| Column                             | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LOG_FILE_SIZE_REDO_BLK             | NUMBER   | Maximum number of redo blocks required to guarantee that a log switch does not occur before the checkpoint completes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LOG_CHKPT_TIMEOUT_REDO_B<br>LK     | NUMBER   | Number of redo blocks that need to be processed during recovery to satisfy the LOG_CHECKPOINT_TIMEOUT parameter. The value displayed is not meaningful unless that parameter has been set.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| LOG_CHKPT_INTERVAL_REDO_<br>BLK    | NUMBER   | Number of redo blocks that need to be processed during recovery to satisfy the LOG_CHECKPOINT_INTERVAL parameter. The value displayed is not meaningful unless that parameter has been set.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| FAST_START_IO_TARGET_RE<br>O_BLK   | NUMBER   | This column is obsolete and maintained for backward compatibility. The value of this column is always null.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TARGET_MTTR                        | NUMBER   | Effective MTTR (mean time to recover) target value in seconds. The TARGET_MTTR value is calculated based on the value of the FAST_START_MTTR_TARGET parameter (the TARGET_MTTR value is used internally), and is usually an approximation of the parameter's value. However, if the FAST_START_MTTR_TARGET parameter value is very small (for example, one second), or very large (for example, 3600 seconds), the calculation will produce a target value dictated by system limitations. In such cases, the TARGET_MTTR value will be the shortest calculated time, or the longest calculated time that recovery is expected to take. |
| ESTIMATED_MTTR                     | NUMBER   | Current estimated mean time to recover (MTTR) based on the number of dirty buffers and log blocks. Basically, this value tells you how long you could expect recovery to take based on the work your system is doing right now.                                                                                                                                                                                                                                                                                                                                                                                                         |
| CKPT_BLOCK_WRITES                  | NUMBER   | Number of blocks written by checkpoint writes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| OPTIMAL_LOGFILE_SIZE               | NUMBER   | Redo log file size (in megabytes) that is considered optimal based on the current setting of FAST_START_MTTR_TARGET. It is recommended that the user configure all online redo logs to be at least this value. Note that redo log files must be at least 4 megabytes in size; otherwise an error is generated.                                                                                                                                                                                                                                                                                                                          |
| ESTD_CLUSTER_AVAILABLE_T<br>IME    | NUMBER   | Estimated time (in seconds) that the cluster would become partially available should this instance fail. This column is only meaningful in an Oracle Real Application Clusters (Oracle RAC) environment. In a non-Oracle RAC environment, the value of this column is null.                                                                                                                                                                                                                                                                                                                                                             |
| WRITES_MTTR                        | NUMBER   | Number of writes driven by the FAST_START_MTTR_TARGET initialization parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| WRITES_LOGFILE_SIZE                | NUMBER   | Number of writes driven by the smallest redo log file size                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| WRITES_LOG_CHECKPOINT_SE<br>TTINGS | NUMBER   | Number of writes driven by the LOG_CHECKPOINT_INTERVAL or LOG_CHECKPOINT_TIMEOUT initialization parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| WRITES_OTHER_SETTINGS              | NUMBER   | Number of writes driven by other reasons (such as the deprecated FAST_START_IO_TARGET initialization parameter)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| WRITES_AUTOTUNE                    | NUMBER   | Number of writes due to auto-tune checkpointing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| WRITES_FULL_THREAD_CKPT            | NUMBER   | Number of writes due to full thread checkpoints                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID                             | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                       |

## 9.13 V\$IO\_CALIBRATION\_STATUS

V\$IO\_CALIBRATION\_STATUS displays the status of I/O calibration in the instance.

| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS           | VARCHAR2 (13) | Calibration status: <ul style="list-style-type: none"> <li>IN PROGRESS - Calibration in Progress (Results from a previous calibration run are displayed, if available)</li> <li>READY Results are ready and available from an earlier run</li> <li>NOT AVAILABLE Calibration results are not available</li> </ul>                                                                                                                               |
| CALIBRATION_TIME | TIMESTAMP (3) | End time of the last calibration run                                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID           | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.14 V\$IO\_OUTLIER

V\$IO\_OUTLIER contains entries corresponding to I/Os that have taken a long time (more than 500 ms) to complete. Use this view to see if there any occasional delays in serving disk I/O requests by the storage subsystem.

| Column        | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FUNCTION_NAME | VARCHAR2 (18)  | I/O function name of the delayed I/O                                                                                                                                                                                                                                                                                                                                                                                                            |
| IO_SIZE       | NUMBER         | Size of the I/O in bytes                                                                                                                                                                                                                                                                                                                                                                                                                        |
| WAIT_EVENT    | VARCHAR2 (64)  | Wait event name that was used to track the I/O                                                                                                                                                                                                                                                                                                                                                                                                  |
| FILE_NAME     | VARCHAR2 (513) | Name of the file to which the I/O was targeted                                                                                                                                                                                                                                                                                                                                                                                                  |
| IO_LATENCY    | NUMBER         | Time taken to complete the I/O (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                                |
| DISK1_NAME    | VARCHAR2 (255) | For Oracle ASM, the name of the first disk to which the I/O was issued                                                                                                                                                                                                                                                                                                                                                                          |
| DISK1_LATENCY | NUMBER         | Latency seen on the first disk (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                                |
| DISK2_NAME    | VARCHAR2 (255) | For Oracle ASM, the name of the second disk to which the I/O was issued                                                                                                                                                                                                                                                                                                                                                                         |
| DISK2_LATENCY | NUMBER         | Latency seen on the second disk (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                               |
| DISK3_NAME    | VARCHAR2 (255) | For Oracle ASM, the name of the third disk to which the I/O was issued                                                                                                                                                                                                                                                                                                                                                                          |
| DISK3_LATENCY | NUMBER         | Latency seen on the third disk (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID        | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**

- "V\$KERNEL\_IO\_OUTLIER"
- "V\$LGWRIO\_OUTLIER"

## 9.15 V\$IOFUNKMETRIC

V\$IOFUNKMETRIC displays I/O statistics information by database function for the most recent time interval period.

| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BEGIN_TIME       | DATE          | Begin time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                            |
| END_TIME         | DATE          | End time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                              |
| INTSIZE_CSEC     | NUMBER        | Interval size (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                             |
| FUNCTION_ID      | NUMBER        | Function ID                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| FUNCTION_NAME    | VARCHAR2 (18) | Function name                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SMALL_READ_MBPS  | NUMBER        | Single block megabytes read per second                                                                                                                                                                                                                                                                                                                                                                                                                |
| SMALL_WRITE_MBPS | NUMBER        | Single block megabytes written per second                                                                                                                                                                                                                                                                                                                                                                                                             |
| LARGE_READ_MBPS  | NUMBER        | Multiblock megabytes read per second                                                                                                                                                                                                                                                                                                                                                                                                                  |
| LARGE_WRITE_MBPS | NUMBER        | Multiblock megabytes written per second                                                                                                                                                                                                                                                                                                                                                                                                               |
| SMALL_READ_IOPS  | NUMBER        | Single block read requests per second                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SMALL_WRITE_IOPS | NUMBER        | Single block write requests per second                                                                                                                                                                                                                                                                                                                                                                                                                |
| LARGE_READ_IOPS  | NUMBER        | Multiblock read requests per second                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LARGE_WRITE_IOPS | NUMBER        | Multiblock write requests per second                                                                                                                                                                                                                                                                                                                                                                                                                  |
| AVG_WAIT_TIME    | NUMBER        | Average wait time (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID           | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.16 V\$IOFUNKMETRIC\_HISTORY

V\$IOFUNKMETRIC\_HISTORY displays a recent history of the I/O statistics information by database function for the most recent time interval period.

The columns for V\$IOFUNKMETRIC\_HISTORY are the same as those for V\$IOFUNKMETRIC.



**See Also:**`"V$IOFUNCMETRIC"`

## 9.17 V\$IOS\_CLIENT

V\$IOS\_CLIENT provides more information about IO Server clients.

| Column        | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CLIENT_ID     | NUMBER        | The unique ID for this client instance                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CLUSTER_ID    | VARCHAR2 (33) | The GUID of the cluster where the client instance is running                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CLUSTER_NAME  | VARCHAR2 (16) | When the query is executed on an Oracle IO Server (IOS) instance, this column shows the name of the cluster where the client (database) instance is running.<br><br>When the query is executed on a database instance, this column shows the name of the cluster where the IOS instance that the database is connected to is running.                                                                                                                                            |
| NODE          | NUMBER        | Number of the node within the cluster where the client instance is running                                                                                                                                                                                                                                                                                                                                                                                                       |
| INSTANCE_NAME | VARCHAR2 (64) | Instance name of the database client instance                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DB_NAME       | VARCHAR2 (64) | Database name of the database client instance                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID        | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire multitenant container database (CDB). This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

In an Oracle Database instance, this view returns 0 rows when queried from a PDB.

## 9.18 V\$IOSTAT\_CONSUMER\_GROUP

V\$IOSTAT\_CONSUMER\_GROUP displays disk I/O statistics for consumer groups.

If the resource manager is enabled, then I/O statistics for all consumer groups that are part of the currently enabled resource plan are captured.

| Column               | Datatype | Description                           |
|----------------------|----------|---------------------------------------|
| CONSUMER_GROUP_ID    | NUMBER   | Consumer group ID                     |
| SMALL_READ_MEGABYTES | NUMBER   | Number of single block megabytes read |

| Column                | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SMALL_WRITE_MEGABYTES | NUMBER   | Number of single block megabytes written                                                                                                                                                                                                                                                                                                                                                                                                        |
| LARGE_READ_MEGABYTES  | NUMBER   | Number of multiblock megabytes read                                                                                                                                                                                                                                                                                                                                                                                                             |
| LARGE_WRITE_MEGABYTES | NUMBER   | Number of multiblock megabytes written                                                                                                                                                                                                                                                                                                                                                                                                          |
| SMALL_READ_REQS       | NUMBER   | Number of single block read requests                                                                                                                                                                                                                                                                                                                                                                                                            |
| SMALL_WRITE_REQS      | NUMBER   | Number of single block write requests                                                                                                                                                                                                                                                                                                                                                                                                           |
| LARGE_READ_REQS       | NUMBER   | Number of multiblock read requests                                                                                                                                                                                                                                                                                                                                                                                                              |
| LARGE_WRITE_REQS      | NUMBER   | Number of multiblock write requests                                                                                                                                                                                                                                                                                                                                                                                                             |
| NUMBER_OF_WAITS       | NUMBER   | Number of I/O waits by consumer group                                                                                                                                                                                                                                                                                                                                                                                                           |
| WAIT_TIME             | NUMBER   | Total wait time (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID                | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.19 V\$IOSTAT\_FILE

V\$IOSTAT\_FILE displays information about disk I/O statistics of database files (including data files, temp files, and other types of database files).

I/O statistics for Data files and Temp files are provided for each file. All other file types (for example, control files, log files, archive logs, and so on) have their statistics consolidated into one entry in the view.

| Column                  | Datatype      | Description                                                                                                                                       |
|-------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE_NO                 | NUMBER        | File identification number                                                                                                                        |
| FILETYPE_ID             | NUMBER        | Type of file (for example, log file, data file, and so on)                                                                                        |
| FILETYPE_NAME           | VARCHAR2 (28) | Name of the file, in the case of a data file or temp file. For all other files, a corresponding string to be displayed (for example, ARCHIVELOG). |
| SMALL_READ_MEGABYTES    | NUMBER        | Number of single block megabytes read                                                                                                             |
| SMALL_WRITE_MEGABYTES   | NUMBER        | Number of single block megabytes written                                                                                                          |
| LARGE_READ_MEGABYTES    | NUMBER        | Number of multiblock megabytes read                                                                                                               |
| LARGE_WRITE_MEGABYTES   | NUMBER        | Number of multiblock megabytes written                                                                                                            |
| SMALL_READ_REQS         | NUMBER        | Number of single block read requests                                                                                                              |
| SMALL_WRITE_REQS        | NUMBER        | Number of single block write requests                                                                                                             |
| SMALL_SYNC_READ_REQS    | NUMBER        | Number of synchronous single block read requests                                                                                                  |
| LARGE_READ_REQS         | NUMBER        | Number of multiblock read requests                                                                                                                |
| LARGE_WRITE_REQS        | NUMBER        | Number of multiblock write requests                                                                                                               |
| SMALL_READ_SERVICETIME  | NUMBER        | Total service time (in milliseconds) for single block read requests                                                                               |
| SMALL_WRITE_SERVICETIME | NUMBER        | Total service time (in milliseconds) for single block write requests                                                                              |
| SMALL_SYNC_READ_LATENCY | NUMBER        | Latency for single block synchronous reads (in milliseconds)                                                                                      |

| Column                  | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LARGE_READ_SERVICETIME  | NUMBER        | Total service time (in milliseconds) for multiblock read requests                                                                                                                                                                                                                                                                                                                                                                               |
| LARGE_WRITE_SERVICETIME | NUMBER        | Total service time (in milliseconds) for multiblock write requests                                                                                                                                                                                                                                                                                                                                                                              |
| ASYNCH_IO               | VARCHAR2 (9)  | Indicates whether asynchronous I/O is available for the file (ASYNC_ON) or not (ASYNC_OFF)                                                                                                                                                                                                                                                                                                                                                      |
| ACCESS_METHOD           | VARCHAR2 (11) | I/O library used to access the file. Possible values include: <ul style="list-style-type: none"> <li>OS_LIB - Operating system calls are used to access the file</li> <li>ODM_LIB - Oracle Disk Manager library is used to access the file</li> <li>ASM_MANAGED - The file is managed and accessed through ASM</li> <li>DNFS_LIB - The file is accessed through Direct NFS library</li> </ul>                                                   |
| RETRIES_ON_ERROR        | NUMBER        | Number of read retries on error                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID                  | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.20 V\$IOSTAT\_FUNCTION

V\$IOSTAT\_FUNCTION displays disk I/O statistics for database functions (such as the LGWR and DBWR).

| Column                | Datatype      | Description                                                                                                                                                                                                                                                                                                                 |
|-----------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FUNCTION_ID           | NUMBER        | Function ID                                                                                                                                                                                                                                                                                                                 |
| FUNCTION_NAME         | VARCHAR2 (18) | Function name: <ul style="list-style-type: none"> <li>RMAN</li> <li>DBWR</li> <li>LGWR</li> <li>ARCH</li> <li>XDB</li> <li>Streams AQ</li> <li>Data Pump</li> <li>Recovery</li> <li>Buffer Cache Reads</li> <li>Direct Reads</li> <li>Direct Writes</li> <li>Smart Scan</li> <li>Archive Manager</li> <li>Others</li> </ul> |
| SMALL_READ_MEGABYTES  | NUMBER        | Number of megabytes read via single block read requests                                                                                                                                                                                                                                                                     |
| SMALL_WRITE_MEGABYTES | NUMBER        | Number of megabytes written via single block write requests                                                                                                                                                                                                                                                                 |
| LARGE_READ_MEGABYTES  | NUMBER        | Number of megabytes read via multiblock read requests                                                                                                                                                                                                                                                                       |
| LARGE_WRITE_MEGABYTES | NUMBER        | Number of megabytes written via multiblock write requests                                                                                                                                                                                                                                                                   |
| SMALL_READ_REQS       | NUMBER        | Number of single block read requests                                                                                                                                                                                                                                                                                        |

| Column           | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SMALL_WRITE_REQS | NUMBER   | Number of single block write requests                                                                                                                                                                                                                                                                                                                                                                                                             |
| LARGE_READ_REQS  | NUMBER   | Number of multiblock read requests                                                                                                                                                                                                                                                                                                                                                                                                                |
| LARGE_WRITE_REQS | NUMBER   | Number of multiblock write requests                                                                                                                                                                                                                                                                                                                                                                                                               |
| NUMBER_OF_WAITS  | NUMBER   | Number of synchronous I/O waits by functionality                                                                                                                                                                                                                                                                                                                                                                                                  |
| WAIT_TIME        | NUMBER   | Total synchronous I/O wait time (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID           | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.21 V\$IOSTAT\_FUNCTION\_DETAIL

V\$IOSTAT\_FUNCTION\_DETAIL displays disk I/O statistics for database functions (such as the LGWR and DBWR), broken down by file type.

| Column        | Datatype      | Description                                                                                                                                                                                                                                                                                                                              |
|---------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FUNCTION_ID   | NUMBER        | Function ID                                                                                                                                                                                                                                                                                                                              |
| FUNCTION_NAME | VARCHAR2 (18) | Function name: <ul style="list-style-type: none"><li>• RMAN</li><li>• DBWR</li><li>• LGWR</li><li>• ARCH</li><li>• XDB</li><li>• Streams AQ</li><li>• Data Pump</li><li>• Recovery</li><li>• Buffer Cache Reads</li><li>• Direct Reads</li><li>• Direct Writes</li><li>• Smart Scan</li><li>• Archive Manager</li><li>• Others</li></ul> |
| FILETYPE_ID   | NUMBER        | File type ID                                                                                                                                                                                                                                                                                                                             |

| Column                | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILETYPE_NAME         | VARCHAR2 (28) | <b>File type name:</b> <ul style="list-style-type: none"> <li>Control File</li> <li>Data File</li> <li>Log File</li> <li>Archive Log</li> <li>Temp File</li> <li>Data File Backup</li> <li>Data File Incremental Backup</li> <li>Archive Log Backup</li> <li>Data File Copy</li> <li>Flashback Log</li> <li>Data Pump Dump File</li> <li>Other</li> </ul>                                                                                       |
| SMALL_READ_MEGABYTES  | NUMBER        | Number of megabytes read via single block read requests                                                                                                                                                                                                                                                                                                                                                                                         |
| SMALL_WRITE_MEGABYTES | NUMBER        | Number of megabytes written via single block write requests                                                                                                                                                                                                                                                                                                                                                                                     |
| LARGE_READ_MEGABYTES  | NUMBER        | Number of megabytes read via multiblock read requests                                                                                                                                                                                                                                                                                                                                                                                           |
| LARGE_WRITE_MEGABYTES | NUMBER        | Number of megabytes written via multiblock write requests                                                                                                                                                                                                                                                                                                                                                                                       |
| SMALL_READ_REQS       | NUMBER        | Number of single block read requests                                                                                                                                                                                                                                                                                                                                                                                                            |
| SMALL_WRITE_REQS      | NUMBER        | Number of single block write requests                                                                                                                                                                                                                                                                                                                                                                                                           |
| LARGE_READ_REQS       | NUMBER        | Number of multiblock read requests                                                                                                                                                                                                                                                                                                                                                                                                              |
| LARGE_WRITE_REQS      | NUMBER        | Number of multiblock write requests                                                                                                                                                                                                                                                                                                                                                                                                             |
| NUMBER_OF_WAITS       | NUMBER        | Number of synchronous I/O waits by functionality                                                                                                                                                                                                                                                                                                                                                                                                |
| WAIT_TIME             | NUMBER        | Total synchronous I/O wait time (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID                | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.22 V\$IOSTAT\_NETWORK

V\$IOSTAT\_NETWORK displays information about network I/O statistics that were caused by accessing files on a remote database instance.

| Column         | Datatype      | Description                                                                   |
|----------------|---------------|-------------------------------------------------------------------------------|
| CLIENT         | VARCHAR2 (32) | Database client name initiating the network I/O (for example, RMAN or PL/SQL) |
| READS#         | NUMBER        | Number of read operations issued                                              |
| WRITES#        | NUMBER        | Number of write operations issued                                             |
| KBYTES_READ    | NUMBER        | Total number of kilobytes read                                                |
| KBYTES_WRITTEN | NUMBER        | Total number of kilobytes written                                             |
| READ_LATENCY   | NUMBER        | Total read wait time (in milliseconds)                                        |

| Column        | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WRITE_LATENCY | NUMBER   | Total write wait time (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID        | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.23 V\$IP\_ACL

V\$IP\_ACL provides information about access control to database services from network hosts.

| Column       | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SERVICE_NAME | VARCHAR2 (512) | The database service name                                                                                                                                                                                                                                                                                                                                                                                                                      |
| HOST         | VARCHAR2 (64)  | The host being granted access to the SERVICE_NAME. The host can be a hostname, dotted-decimal IPv4 or heximal IPv6 address. Wildcard "*" for IPv4 and Classless Inter-Domain Routing (CIDR) format is allowed.                                                                                                                                                                                                                                 |
| CON_ID       | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs</li> <li>1: This value is used for rows containing data that pertain only to the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.24 V\$JAVA\_LIBRARY\_CACHE\_MEMORY

V\$JAVA\_LIBRARY\_CACHE\_MEMORY displays information about memory allocated to library cache memory objects in different namespaces for Java objects.

A memory object is an internal grouping of memory for efficient management. A library cache object may consist of one or more memory objects.

| Column                     | Datatype      | Description                                                              |
|----------------------------|---------------|--------------------------------------------------------------------------|
| LC_NAMESPACE               | VARCHAR2 (15) | Library cache namespace                                                  |
| LC_INUSE_MEMORY_OBJECTS    | NUMBER        | Number of library cache memory objects currently in use in the Java pool |
| LC_INUSE_MEMORY_SIZE       | NUMBER        | Total size of library cache in-use memory objects (in megabytes)         |
| LC_FREEABLE_MEMORY_OBJECTS | NUMBER        | Number of freeable library cache memory objects in the Java pool         |
| LC_FREEABLE_MEMORY_SIZE    | NUMBER        | Size of library cache freeable memory objects (in megabytes)             |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.25 V\$JAVA\_POOL\_ADVICE

V\$JAVA\_POOL\_ADVICE displays information about estimated parse time in the Java pool for different pool sizes.

The sizes range from 10% of the current Java pool size or the amount of pinned Java library cache memory (whichever is higher) to 200% of the current Java pool size, in equal intervals. The value of the interval depends on the current size of the Java pool.

Parse time saved refers to the amount of time saved by keeping library cache memory objects in the Java pool, as opposed to having to reload these objects.

| Column                      | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JAVA_POOL_SIZE_FOR_ESTIMATE | NUMBER   | Java pool size for the estimate (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                                         |
| JAVA_POOL_SIZE_FACTOR       | NUMBER   | Size factor with respect to the current Java pool size                                                                                                                                                                                                                                                                                                                                                                                                 |
| ESTD_LC_SIZE                | NUMBER   | Estimated memory in use by the library cache (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                            |
| ESTD_LC_MEMORY_OBJECTS      | NUMBER   | Estimated number of library cache memory objects in the Java pool of the specified size                                                                                                                                                                                                                                                                                                                                                                |
| ESTD_LC_TIME_SAVED          | NUMBER   | Estimated elapsed parse time saved (in seconds), owing to library cache memory objects being found in a Java pool of the specified size. This is the time that would have been spent in reloading the required objects in the Java pool had they been aged out due to insufficient amount of available free memory.                                                                                                                                    |
| ESTD_LC_TIME_SAVED_FACTOR   | NUMBER   | Estimated parse time saved factor with respect to the current Java pool size                                                                                                                                                                                                                                                                                                                                                                           |
| ESTD_LC_LOAD_TIME           | NUMBER   | Estimated elapsed time (in seconds) for parsing in a Java pool of the specified size                                                                                                                                                                                                                                                                                                                                                                   |
| ESTD_LC_LOAD_TIME_FACTOR    | NUMBER   | Estimated load time factor with respect to the current Java pool size                                                                                                                                                                                                                                                                                                                                                                                  |
| ESTD_LC_MEMORY_OBJECT_HITS  | NUMBER   | Estimated number of times a library cache memory object was found in a Java pool of the specified size                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID                      | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.26 V\$KERNEL\_IO\_OUTLIER

V\$KERNEL\_IO\_OUTLIER contains entries corresponding to I/Os that have taken a long time (more than 500 ms) to complete.

Use this view to see the individual kernel components of I/Os for which there are any occasional delays in serving disk I/O requests by the storage subsystem.



### Note:

Although this view exists on all platforms in Oracle Database 12c, it is only populated on the Solaris platform.

| Column               | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TIMESTAMP            | NUMBER         | Number of seconds elapsed since 00:00 UTC, January 1, 1970                                                                                                                                                                                                                                                                                                                                                                                  |
| IO_SIZE              | NUMBER         | Size of the I/O, in KB.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| IO_OFFSET            | NUMBER         | Offset into the device of the I/O                                                                                                                                                                                                                                                                                                                                                                                                           |
| DEVICE_NAME          | VARCHAR2 (513) | Name of the device to which the I/O was targeted                                                                                                                                                                                                                                                                                                                                                                                            |
| PROCESS_NAME         | VARCHAR2 (64)  | Name of the process that issued the I/O                                                                                                                                                                                                                                                                                                                                                                                                     |
| TOTAL_LATENCY        | NUMBER         | Total time the I/O spent in the kernel (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                    |
| SETUP_LATENCY        | NUMBER         | Time spent during initial I/O setup before sending to SCSI target device driver (in milliseconds)                                                                                                                                                                                                                                                                                                                                           |
| QUEUE_TO_HBA_LATENCY | NUMBER         | Time spent in the SCSI target device driver before being sent to the Host Bus Adaptor (in milliseconds)                                                                                                                                                                                                                                                                                                                                     |
| TRANSFER_LATENCY     | NUMBER         | Time spent in the Host Bus Adaptor and physically transferring the I/O to the storage device (in milliseconds)                                                                                                                                                                                                                                                                                                                              |
| CLEANUP_LATENCY      | NUMBER         | Time spent freeing resources used by the completed I/O (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                    |
| PID                  | NUMBER         | Process ID that issued the I/O                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID               | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



### See Also:

- ["V\\$IO\\_OUTLIER"](#)
- ["V\\$LGWRIO\\_OUTLIER"](#)



## 9.27 V\$KEY\_VECTOR

V\$KEY\_VECTOR provides debugging information related to the data structures used by in-memory aggregation for current and recent queries using key vectors.

| Column         | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SESSION_ID     | NUMBER        | Session ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID         | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                  |
| TRANSLATE_ID   | NUMBER        | Translation vector ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SQL_ID         | VARCHAR2 (13) | SQL ID that uses the translation vector                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SQL_EXEC_START | DATE          | Time when the execution of the SQL started                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SQL_EXEC_ID    | NUMBER        | SQL execution identifier                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| PROCESS        | VARCHAR2 (64) | Operating system client process ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| STATE          | VARCHAR2 (9)  | <p>State of the in-memory aggregation operation:</p> <ul style="list-style-type: none"> <li>BYPASS<br/>Refers to key vectors that are currently in use by queries that have undergone the vector transform.</li> <li>BYPASSED<br/>This is a historical entry for key vectors whose queries have already finished.</li> <li>FINISHED<br/>This is a historical entry for key vectors whose queries have already finished.</li> <li>RUNNING<br/>Refers to key vectors that are currently in use by queries that have undergone the vector transform.</li> </ul> <p>One query will probably have multiple key vectors if it has gone through the vector transform.</p> <p>Also, if the query is operating in parallel, there may be multiple entries per PX server.</p> <p>The PROCESS column can be joined to V\$SESSION to differentiate these cases.</p> |
| TYPE           | VARCHAR2 (9)  | <p>Type of translation vector created:</p> <ul style="list-style-type: none"> <li>DOUBLEIND</li> <li>PAGED</li> <li>SIMPLE</li> <li>INDIRECT</li> <li>HASH</li> <li>OFFSET</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Column               | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WIDTH                | NUMBER         | Width (number of bits) of DOUBLEIND, SIMPLE, INDIRECT, or OFFSET vector translation array: <ul style="list-style-type: none"> <li>• 1</li> <li>• 4</li> <li>• 8</li> <li>• 16</li> <li>• 32</li> </ul>                                                                                                                                                                                                                                                      |
| KEY_DATA_TYPE        | VARCHAR2 (13)  | The internal join column key data type of either DOUBLEIND, SIMPLE, INDIRECT, or OFFSET translation vectors: <ul style="list-style-type: none"> <li>• BINARY</li> <li>• BINARY_FLOAT</li> <li>• NUMBER</li> <li>• PACKED_BINARY</li> <li>• PACKED_DATE</li> <li>• PACKED_NUMBER</li> </ul> Also, a value of NULL is displayed for HASH translation vectors with non-numeric data types and for HASH translation vectors with more than one join key column. |
| JOIN_COLUMN_COUNT    | NUMBER         | Number of join columns. PAGED and HASHED are the only types which can have greater than one join column.                                                                                                                                                                                                                                                                                                                                                    |
| JOIN_KEY_COUNT       | NUMBER         | Number of join key values used to build translation vector                                                                                                                                                                                                                                                                                                                                                                                                  |
| DUP_JOIN_KEY_COUNT   | NUMBER         | Indicates the number of key values in the key vector that have more than one parent value                                                                                                                                                                                                                                                                                                                                                                   |
| MIN_JOIN_KEY         | NUMBER         | Min join key value in translation vector                                                                                                                                                                                                                                                                                                                                                                                                                    |
| MAX_JOIN_KEY         | NUMBER         | Max join key value in translation vector                                                                                                                                                                                                                                                                                                                                                                                                                    |
| GROUP_KEY_COUNT      | NUMBER         | Max dense grouping key value. This value is computed while the data that creates the translation vector is processed.                                                                                                                                                                                                                                                                                                                                       |
| FILTERED             | NUMBER         | Number of rows filtered by translation vector                                                                                                                                                                                                                                                                                                                                                                                                               |
| PROBED               | NUMBER         | Number of rows that probed the translation vector in key vector use row source                                                                                                                                                                                                                                                                                                                                                                              |
| ACTIVE               | NUMBER         | Number of active translation vectors used as filters across all workers                                                                                                                                                                                                                                                                                                                                                                                     |
| DISABLED             | NUMBER         | Number of translation vector filters across all workers that were disabled                                                                                                                                                                                                                                                                                                                                                                                  |
| MEMORY_ALLOCATED     | NUMBER         | Amount of memory allocated for the key vector                                                                                                                                                                                                                                                                                                                                                                                                               |
| JOIN_STRUCTURE_SIZE  | NUMBER         | Amount of memory used out of the allocated space                                                                                                                                                                                                                                                                                                                                                                                                            |
| FACT_OWNER           | VARCHAR2 (128) | The owner of the fact table. Null when the fact table is null.                                                                                                                                                                                                                                                                                                                                                                                              |
| FACT_NAME            | VARCHAR2 (128) | The table that contains measure data. May be null if more than one fact table is used in the query.                                                                                                                                                                                                                                                                                                                                                         |
| DIMENSION_OWNER      | VARCHAR2 (128) | When a single table is used to construct the key vector, the table owner will appear in this column. If multiple tables are joined to serve as the dimension (more of a snowflake than a star schema shape, for one example), then this column will be null.                                                                                                                                                                                                |
| DIMENSION_NAME       | VARCHAR2 (128) | The table that contains attribute data and is joined to the fact table. May be null if two or more tables are used (for example, snowflake style dimension tables).                                                                                                                                                                                                                                                                                         |
| CREATION_DURATION    | NUMBER         | Records the total time in seconds that it took to create the key vector                                                                                                                                                                                                                                                                                                                                                                                     |
| PAYLOAD_COLUMN_COUNT | NUMBER         | The number of columns being carried from the dimension table to the fact table scan for processing without joinback                                                                                                                                                                                                                                                                                                                                         |

| Column          | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OFFLOADED       | VARCHAR2 (10) | Indicates whether and how the key vector has been sent to an Exadata cell. Possible values: <ul style="list-style-type: none"> <li>NO: The key vector has not been sent to an Exadata cell.</li> <li>YES: The key vector was fully sent to an Exadata cell.</li> <li>COMPRESSED: The key vector was fully sent to an Exadata cell and was compressed.</li> <li>EFILTER: The key vector could not be sent to an Exadata cell due to the size of another constraint. Instead, a bloom filter-like data structure was sent to aid filtration.</li> </ul> |
| COMPRESSED_SIZE | NUMBER        | If the value of OFFLOADED is COMPRESSED, then this column displays the compressed size of metadata transmitted to the Exadata cell (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                         |
| EFILTER_SIZE    | NUMBER        | If the value of OFFLOADED is EFILTER, then this column displays the size of the data structure sent to the Exadata cell (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                    |



### See Also:

*Oracle Database SQL Tuning Guide* for more information about in-memory aggregation

## 9.28 V\$LATCH

V\$LATCH displays aggregate latch statistics for both parent and child latches, grouped by latch name.

Individual parent and child latch statistics are broken down in the views V\$LATCH\_PARENT and V\$LATCH\_CHILDREN.

| Column           | Datatype      | Description                                                                                                                                                                          |
|------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADDR             | RAW (4   8)   | Address of the latch object                                                                                                                                                          |
| LATCH#           | NUMBER        | Latch number                                                                                                                                                                         |
| LEVEL#           | NUMBER        | Latch level                                                                                                                                                                          |
| NAME             | VARCHAR2 (64) | Latch name                                                                                                                                                                           |
| HASH             | NUMBER        | Latch hash                                                                                                                                                                           |
| GETS             | NUMBER        | Number of times the latch was requested in willing-to-wait mode                                                                                                                      |
| MISSES           | NUMBER        | Number of times the latch was requested in willing-to-wait mode and the requester had to wait                                                                                        |
| SLEEPS           | NUMBER        | Number of times a willing-to-wait latch request resulted in a session sleeping while waiting for the latch                                                                           |
| IMMEDIATE_GETS   | NUMBER        | Number of times a latch was requested in no-wait mode                                                                                                                                |
| IMMEDIATE_MISSES | NUMBER        | Number of times a no-wait latch request did not succeed (that is, missed)                                                                                                            |
| WAITERS_WOKEN    | NUMBER        | This column has been deprecated and is present only for compatibility with previous releases of Oracle. No data is accumulated for this column; it will always have a value of zero. |

| Column                                             | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Waits_Holding_Latch                                | NUMBER   | This column has been deprecated and is present only for compatibility with previous releases of Oracle. No data is accumulated for this column; it will always have a value of zero.                                                                                                                                                                                                                                              |
| Spin_Gets                                          | NUMBER   | Willing-to-wait latch requests which missed the first try but succeeded while spinning                                                                                                                                                                                                                                                                                                                                            |
| SLEEP[1   2   3   4   5   6   7   8   9   10   11] | NUMBER   | These columns have been deprecated and are present only for compatibility with previous releases of Oracle. No data is accumulated for these columns; they will always have a value of zero. As a substitute for these columns you can query the appropriate rows of the V\$EVENT_HISTOGRAM view where the EVENT column has a value of latch free or latch: %.                                                                    |
| Wait_Time                                          | NUMBER   | Elapsed time spent waiting for the latch (in microseconds)                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID                                             | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

- "V\$LATCH\_CHILDREN"
- "V\$LATCH\_PARENT"

## 9.29 V\$LATCH\_CHILDREN

V\$LATCH\_CHILDREN displays statistics about child latches.

This view includes all columns of V\$LATCH plus the CHILD# column. Note that child latches have the same parent if their LATCH# columns match each other.

| Column | Datatype      | Description                                                                                                |
|--------|---------------|------------------------------------------------------------------------------------------------------------|
| ADDR   | RAW (4   8)   | Address of the latch object                                                                                |
| LATCH# | NUMBER        | Latch number of the parent latch                                                                           |
| CHILD# | NUMBER        | Child latch number (unique only to each parent latch)                                                      |
| LEVEL# | NUMBER        | Latch level                                                                                                |
| NAME   | VARCHAR2 (64) | Latch name                                                                                                 |
| HASH   | NUMBER        | Latch hash                                                                                                 |
| GETS   | NUMBER        | Number of times the latch was requested in willing-to-wait mode                                            |
| MISSES | NUMBER        | Number of times the latch was requested in willing-to-wait mode and the requester had to wait              |
| SLEEPS | NUMBER        | Number of times a willing-to-wait latch request resulted in a session sleeping while waiting for the latch |

| Column                                             | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IMMEDIATE_GETS                                     | NUMBER   | Number of times a latch was requested in no-wait mode                                                                                                                                                                                                                                                                                                                                                                                           |
| IMMEDIATE_MISSES                                   | NUMBER   | Number of times a no-wait latch request did not succeed (that is, missed)                                                                                                                                                                                                                                                                                                                                                                       |
| WAITERS_WOKEN                                      | NUMBER   | This column has been deprecated and is present only for compatibility with previous releases of Oracle. No data is accumulated for this column; it will always have a value of zero.                                                                                                                                                                                                                                                            |
| WAITS_HOLDING_LATCH                                | NUMBER   | This column has been deprecated and is present only for compatibility with previous releases of Oracle. No data is accumulated for this column; it will always have a value of zero.                                                                                                                                                                                                                                                            |
| SPIN_GETS                                          | NUMBER   | Willing-to-wait latch requests which missed the first try but succeeded while spinning                                                                                                                                                                                                                                                                                                                                                          |
| SLEEP[1   2   3   4   5   6   7   8   9   10   11] | NUMBER   | These columns have been deprecated and are present only for compatibility with previous releases of Oracle. No data is accumulated for these columns; they will always have a value of zero. As a substitute for these columns you can query the appropriate rows of the <code>V\$EVENT_HISTOGRAM</code> view where the <code>EVENT</code> column has a value of <code>latch free</code> or <code>latch: %</code> .                             |
| WAIT_TIME                                          | NUMBER   | Elapsed time spent waiting for the latch (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                      |
| CON_ID                                             | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



 **See Also:**

"V\$LATCH"

## 9.30 V\$LATCH\_MISSES

`V$LATCH MISSES` displays statistics about missed attempts to acquire a latch.

| Column         | Datatype      | Description                                                                                                                                         |
|----------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| PARENT_NAME    | VARCHAR2 (64) | Latch name of a parent latch                                                                                                                        |
| WHERE          | VARCHAR2 (80) | This column is obsolete and maintained for backward compatibility. The value of this column is always equal to the value in <code>LOCATION</code> . |
| NWFAIL_COUNT   | NUMBER        | Number of times that no-wait acquisition of the latch failed                                                                                        |
| SLEEP_COUNT    | NUMBER        | Number of times that acquisition attempts caused sleeps                                                                                             |
| WTR_SLP_COUNT  | NUMBER        | Number of times a waiter slept                                                                                                                      |
| LONGHOLD_COUNT | NUMBER        | Number of times someone held a latch for the entire duration of someone else's sleep                                                                |
| LOCATION       | VARCHAR2 (80) | Location that attempted to acquire the latch                                                                                                        |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.31 V\$LATCH\_PARENT

V\$LATCH\_PARENT displays statistics about parent latches.

\ The columns for V\$LATCH\_PARENT are the same as those for V\$LATCH.

 **See Also:**  
"V\$LATCH"

## 9.32 V\$LATCHHOLDER

V\$LATCHHOLDER displays information about the current latch holders.

| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PID    | NUMBER        | Identifier of the process holding the latch                                                                                                                                                                                                                                                                                                                                                                                                       |
| SID    | NUMBER        | Identifier of the session that owns the latch                                                                                                                                                                                                                                                                                                                                                                                                     |
| LADDR  | RAW (4   8)   | Latch address                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| NAME   | VARCHAR2 (64) | Name of the latch being held                                                                                                                                                                                                                                                                                                                                                                                                                      |
| GETS   | NUMBER        | Number of times that the latch was obtained in either wait mode or no-wait mode                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.33 V\$LATCHNAME

V\$LATCHNAME displays information about decoded latch names for the latches shown in V\$LATCH.

The rows of V\$LATCHNAME have a one-to-one correspondence to the rows of V\$LATCH.

| Column       | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LATCH#       | NUMBER        | Latch number                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NAME         | VARCHAR2 (64) | Latch name                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| DISPLAY_NAME | VARCHAR2 (64) | A clearer and more descriptive name for the latch that appears in the NAME column. Names that appear in the DISPLAY_NAME column can change across Oracle Database releases, therefore customer scripts should not rely on names that appear in the DISPLAY_NAME column across releases.                                                                                                                                                         |
| HASH         | NUMBER        | Latch hash                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TYPE         | VARCHAR2 (4)  | Type of the latch (SGA, PDB, or OSP):                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID       | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$LATCH"

## 9.34 V\$LCR\_CACHE

V\$LCR\_CACHE displays information about entries in the logical change record (LCR) cache.

| Column         | Datatype       | Description                                                                                                                                                                                                                   |
|----------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LCR_TYPE       | CHAR (12)      | Indicates whether the LCR is INTERNAL or EXTERNAL                                                                                                                                                                             |
| COMPONENT_NAME | VARCHAR2 (128) | Component name                                                                                                                                                                                                                |
| COMPONENT_TYPE | VARCHAR2 (40)  | Component type. Possible values: <ul style="list-style-type: none"> <li>APPLY COORDINATOR</li> <li>APPLY READER</li> <li>APPLY SERVER</li> <li>CAPTURE COORDINATOR</li> <li>CAPTURE READER</li> <li>CAPTURE SERVER</li> </ul> |
| NUM_COLUMNS    | NUMBER         | Number of columns in the LCR                                                                                                                                                                                                  |
| FREE_COUNT     | NUMBER         | Number of available LCRs                                                                                                                                                                                                      |
| REQUEST_COUNT  | NUMBER         | Total request count                                                                                                                                                                                                           |
| CACHE_HITS     | NUMBER         | Cache hit count                                                                                                                                                                                                               |
| ALT_CACHE_HITS | NUMBER         | Hit count from an alternate LCR cache entry                                                                                                                                                                                   |
| PURGED_COUNT   | NUMBER         | Cache purge count                                                                                                                                                                                                             |
| SID            | NUMBER         | Session ID of the component process                                                                                                                                                                                           |

| Column  | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SERIAL# | NUMBER   | Session serial number of the component process                                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID  | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.35 V\$LGWRIO\_OUTLIER

V\$LGWRIO\_OUTLIER contains entries corresponding to Log Writer (LGWR) process I/Os that have taken a long time (more than 500 ms) to complete. Use this view to see if there any occasional delays in serving disk I/O requests by the storage subsystem.

| Column        | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FUNCTION_NAME | VARCHAR2 (18)  | I/O function name of the delayed I/O                                                                                                                                                                                                                                                                                                                                                                                                            |
| IO_SIZE       | NUMBER         | Size of the I/O in bytes                                                                                                                                                                                                                                                                                                                                                                                                                        |
| WAIT_EVENT    | VARCHAR2 (64)  | Wait event name that was used to track the I/O                                                                                                                                                                                                                                                                                                                                                                                                  |
| FILE_NAME     | VARCHAR2 (513) | Name of the file to which the I/O was targeted                                                                                                                                                                                                                                                                                                                                                                                                  |
| IO_LATENCY    | NUMBER         | Time taken to complete the I/O (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                                |
| DISK1_NAME    | VARCHAR2 (255) | For Oracle ASM, the name of the first disk to which the I/O was issued                                                                                                                                                                                                                                                                                                                                                                          |
| DISK1_LATENCY | NUMBER         | Latency seen on the first disk (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                                |
| DISK2_NAME    | VARCHAR2 (255) | For Oracle ASM, the name of the second disk to which the I/O was issued                                                                                                                                                                                                                                                                                                                                                                         |
| DISK2_LATENCY | NUMBER         | Latency seen on the second disk (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                               |
| DISK3_NAME    | VARCHAR2 (255) | For Oracle ASM, the name of the third disk to which the I/O was issued                                                                                                                                                                                                                                                                                                                                                                          |
| DISK3_LATENCY | NUMBER         | Latency seen on the third disk (in milliseconds)                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID        | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

### See Also:

- ["V\\$IO\\_OUTLIER"](#)
- ["V\\$KERNEL\\_IO\\_OUTLIER"](#)



## 9.36 V\$LIBCACHE\_LOCKS

V\$LIBCACHE\_LOCKS displays information about the library cache locks and pins. Locks and pins are distinguished based on the value of the TYPE column.

| Column               | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE                 | VARCHAR2 (4) | LOCK or PIN                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ADDR                 | RAW (4   8)  | Address of the lock/pin                                                                                                                                                                                                                                                                                                                                                                                                             |
| HOLDING_USER_SESSION | RAW (4   8)  | User session holding this lock/pin                                                                                                                                                                                                                                                                                                                                                                                                  |
| HOLDING_SESSION      | RAW (4   8)  | Session holding this lock/pin                                                                                                                                                                                                                                                                                                                                                                                                       |
| OBJECT_HANDLE        | RAW (4   8)  | Handle address for which the lock/pin is acquired                                                                                                                                                                                                                                                                                                                                                                                   |
| LOCK_HELD            | RAW (4   8)  | If the type is LOCK, then LOCK_HELD represents the pin that is pinning the object.<br>If the type is PIN, then LOCK_HELD represents the lock that is locking the object.                                                                                                                                                                                                                                                            |
| REFCOUNT             | NUMBER       | Reference count for this lock/pin                                                                                                                                                                                                                                                                                                                                                                                                   |
| MODE_HELD            | NUMBER       | Lock/pin mode held: <ul style="list-style-type: none"><li>• 0 - No lock/pin held</li><li>• 1 - Null mode</li><li>• 2 - Share mode</li><li>• 3 - Exclusive mode</li></ul>                                                                                                                                                                                                                                                            |
| MODE_REQUESTED       | NUMBER       | Lock/pin mode requested: <ul style="list-style-type: none"><li>• 0 - No lock/pin requested</li><li>• 1 - Null mode</li><li>• 2 - Share mode</li><li>• 3 - Exclusive mode</li></ul>                                                                                                                                                                                                                                                  |
| SAVEPOINT_NUMBER     | NUMBER       | Kernel transaction savepoint number at the time the lock/pin was acquired                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID               | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• n: Where n is the applicable container ID for the rows containing data</li></ul> |

## 9.37 V\$LIBRARY\_CACHE\_MEMORY

V\$LIBRARY\_CACHE\_MEMORY displays information about memory allocated to library cache memory objects in different namespaces.

A memory object is an internal grouping of memory for efficient management. A library cache object may consist of one or more memory objects.

| Column       | Datatype      | Description             |
|--------------|---------------|-------------------------|
| LC_NAMESPACE | VARCHAR2 (15) | Library cache namespace |

| Column                     | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LC_INUSE_MEMORY_OBJECTS    | NUMBER   | Number of library cache memory objects currently in use in the shared pool                                                                                                                                                                                                                                                                                                                                                                      |
| LC_INUSE_MEMORY_SIZE       | NUMBER   | Total size of library cache in-use memory objects (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                |
| LC_FREEABLE_MEMORY_OBJECTS | NUMBER   | Number of freeable library cache memory objects in the shared pool                                                                                                                                                                                                                                                                                                                                                                              |
| LC_FREEABLE_MEMORY_SIZE    | NUMBER   | Size of library cache freeable memory objects (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID                     | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.38 V\$LIBRARYCACHE

V\$LIBRARYCACHE contains statistics about library cache performance and activity.

| Column                    | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAMESPACE                 | VARCHAR2 (64) | Library cache namespace                                                                                                                                                                                                                                                                                                                                                                                                                         |
| GETS                      | NUMBER        | Number of times a lock was requested for objects of this namespace                                                                                                                                                                                                                                                                                                                                                                              |
| GETHITS                   | NUMBER        | Number of times an object's handle was found in memory                                                                                                                                                                                                                                                                                                                                                                                          |
| GETHITRATIO               | NUMBER        | Ratio of GETHITS to GETS                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PINS                      | NUMBER        | Number of times a PIN was requested for objects of this namespace                                                                                                                                                                                                                                                                                                                                                                               |
| PINHITS                   | NUMBER        | Number of times all of the metadata pieces of the library object were found in memory                                                                                                                                                                                                                                                                                                                                                           |
| PINHITRATIO               | NUMBER        | Ratio of PINHITS to PINS                                                                                                                                                                                                                                                                                                                                                                                                                        |
| RELOADS                   | NUMBER        | Any PIN of an object that is not the first PIN performed since the object handle was created, and which requires loading the object from disk                                                                                                                                                                                                                                                                                                   |
| INVALIDATIONS             | NUMBER        | Total number of times objects in this namespace were marked invalid because a dependent object was modified                                                                                                                                                                                                                                                                                                                                     |
| DLM_LOCK_REQUESTS         | NUMBER        | Number of GET requests lock instance locks                                                                                                                                                                                                                                                                                                                                                                                                      |
| DLM_PIN_REQUESTS          | NUMBER        | Number of PIN requests lock instance locks                                                                                                                                                                                                                                                                                                                                                                                                      |
| DLM_PIN_RELEASES          | NUMBER        | Number of release requests PIN instance locks                                                                                                                                                                                                                                                                                                                                                                                                   |
| DLM_INVALIDATION_REQUESTS | NUMBER        | Number of GET requests for invalidation instance locks                                                                                                                                                                                                                                                                                                                                                                                          |
| DLM_INVALIDATIONS         | NUMBER        | Number of invalidation pings received from other instances                                                                                                                                                                                                                                                                                                                                                                                      |
| CON_ID                    | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.39 V\$LICENSE

V\$LICENSE displays information about license limits.

| Column                     | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SESSIONS_MAX               | NUMBER   | Maximum number of concurrent user sessions allowed for the instance                                                                                                                                                                                                                                                                                                                                                                             |
| SESSIONS_WARNING           | NUMBER   | Warning limit for concurrent user sessions for the instance                                                                                                                                                                                                                                                                                                                                                                                     |
| SESSIONS_CURRENT           | NUMBER   | Current number of concurrent user sessions                                                                                                                                                                                                                                                                                                                                                                                                      |
| SESSIONS_HIGHWATER         | NUMBER   | Highest number of concurrent user sessions since the instance started                                                                                                                                                                                                                                                                                                                                                                           |
| USERS_MAX                  | NUMBER   | Maximum number of named users allowed for the database                                                                                                                                                                                                                                                                                                                                                                                          |
| CPU_COUNT_CURRENT          | NUMBER   | Current number of logical CPUs or processors on the system                                                                                                                                                                                                                                                                                                                                                                                      |
| CPU_CORE_COUNT_CURRENT     | NUMBER   | Current number of CPU cores on the system (includes subcores of multicore CPUs, as well as single-core CPUs)                                                                                                                                                                                                                                                                                                                                    |
| CPU_SOCKET_COUNT_CURRENT   | NUMBER   | Current number of CPU sockets on the system (represents an absolute count of CPU chips on the system, regardless of multithreading or multicore architectures)                                                                                                                                                                                                                                                                                  |
| CPU_COUNT_HIGHWATER        | NUMBER   | Highest number of logical CPUs or processors on the system since the instance started                                                                                                                                                                                                                                                                                                                                                           |
| CPU_CORE_COUNT_HIGHWATER   | NUMBER   | Highest number of CPU cores on the system since the instance started (includes subcores of multicore CPUs, as well as single-core CPUs)                                                                                                                                                                                                                                                                                                         |
| CPU_SOCKET_COUNT_HIGHWATER | NUMBER   | Highest number of CPU sockets on the system since the instance started (represents an absolute count of CPU chips on the system, regardless of multithreading or multicore architectures)                                                                                                                                                                                                                                                       |
| CON_ID                     | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



### Note:

The availability of the CPU core count and CPU socket count statistics is subject to the operating system platform on which the Oracle Database is running. If a statistic is unavailable, the view will return NULL for the statistic value.

## 9.40 V\$LOADSTAT

V\$LOADSTAT contains errors that occurred when updating indexes on a table during a load using the Direct Path API.

| Column | Datatype      | Description |
|--------|---------------|-------------|
| OWNER  | VARCHAR2 (31) | Schema name |

| Column      | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABNAME     | VARCHAR2 (31)   | Table name                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| INDEXNAME   | VARCHAR2 (31)   | Index name                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SUBNAME     | VARCHAR2 (31)   | Index sub name                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| MESSAGE_NUM | NUMBER          | Error message number                                                                                                                                                                                                                                                                                                                                                                                                                            |
| MESSAGE     | VARCHAR2 (4000) | Error message                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID      | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.41 V\$LOADPSTAT

V\$LOADPSTAT contains statistics about the number of rows loaded into a partition, or subpartition, during a load using the Direct Path API.

| Column   | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER    | VARCHAR2 (31) | Schema name                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TABNAME  | VARCHAR2 (31) | Table name                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PARTNAME | VARCHAR2 (31) | Partition name                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| LOADED   | NUMBER        | Number of rows loaded                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID   | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.42 V\$LOCK

V\$LOCK lists the locks currently held by the Oracle Database and outstanding requests for a lock or latch.

| Column | Datatype    | Description                                          |
|--------|-------------|------------------------------------------------------|
| ADDR   | RAW (4   8) | Address of lock state object                         |
| KADDR  | RAW (4   8) | Address of lock                                      |
| SID    | NUMBER      | Identifier for session holding or acquiring the lock |

| Column  | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE    | VARCHAR2 (2) | <p>Type of user or system lock</p> <p>The locks on the user types are obtained by user applications. Any process that is blocking others is likely to be holding one of these locks. The user type locks are:</p> <p>TM - DML enqueue<br/>TX - Transaction enqueue<br/>UL - User supplied</p> <p>The system type locks are listed in <a href="#">Table 9-1</a>. Be aware that not all types of locks are documented. To find a complete list of locks for the current release, query the V\$LOCK_TYPE data dictionary view, described on "<a href="#">V\$LOCK_TYPE</a>".</p> |
| ID1     | NUMBER       | Lock identifier #1 (depends on type)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ID2     | NUMBER       | Lock identifier #2 (depends on type)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LMODE   | NUMBER       | <p>Lock mode in which the session holds the lock:</p> <ul style="list-style-type: none"> <li>0 - none</li> <li>1 - null (NULL)</li> <li>2 - row-S (SS)</li> <li>3 - row-X (SX)</li> <li>4 - share (S)</li> <li>5 - S/Row-X (SSX)</li> <li>6 - exclusive (X)</li> </ul>                                                                                                                                                                                                                                                                                                       |
| REQUEST | NUMBER       | <p>Lock mode in which the process requests the lock:</p> <ul style="list-style-type: none"> <li>0 - none</li> <li>1 - null (NULL)</li> <li>2 - row-S (SS)</li> <li>3 - row-X (SX)</li> <li>4 - share (S)</li> <li>5 - S/Row-X (SSX)</li> <li>6 - exclusive (X)</li> </ul>                                                                                                                                                                                                                                                                                                    |
| CTIME   | NUMBER       | Time since current mode was granted                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| BLOCK   | NUMBER       | <p>Indicates whether the lock in question is blocking other processes. The possible values are:</p> <ul style="list-style-type: none"> <li>0 - The lock is not blocking any other processes</li> <li>1 - The lock is blocking other processes</li> <li>2 - The lock is not blocking any blocked processes on the local node, but it may or may not be blocking processes on remote nodes. This value is used only in Oracle Real Application Clusters (Oracle RAC) configurations (not in single instance configurations).</li> </ul>                                        |
| CON_ID  | NUMBER       | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                       |

**Table 9-1 Values for the TYPE Column: System Types**

| System Type | Description                                         | System Type | Description                                   |
|-------------|-----------------------------------------------------|-------------|-----------------------------------------------|
| AE          | Edition enqueue                                     | MR          | Media recovery                                |
| AT          | Lock held for the ALTER TABLE statement             | NA..NZ      | Library cache pin instance (A..Z = namespace) |
| BL          | Buffer hash table instance                          | PF          | Password File                                 |
| CF          | Control file schema global enqueue                  | PI, PS      | Parallel operation                            |
| CI          | Cross-instance function invocation instance         | PR          | Process startup                               |
| CU          | Cursor bind                                         | QA..QZ      | Row cache instance (A..Z = cache)             |
| DF          | datafile instance                                   | RT          | Redo thread global enqueue                    |
| DL          | Direct loader parallel index create                 | SC          | System change number instance                 |
| DM          | Mount/startup db primary/secondary instance         | SM          | SMON                                          |
| DR          | Distributed recovery process                        | SN          | Sequence number instance                      |
| DX          | Distributed transaction entry                       | SQ          | Sequence number enqueue                       |
| FS          | File set                                            | SS          | Sort segment                                  |
| HW          | Space management operations on a specific segment   | ST          | Space transaction enqueue                     |
| IN          | Instance number                                     | SV          | Sequence number value                         |
| IR          | Instance recovery serialization global enqueue      | TA          | Generic enqueue                               |
| IS          | Instance state                                      | TS          | Temporary segment enqueue (ID2=0)             |
| IV          | Library cache invalidation instance                 | TS          | New block allocation enqueue (ID2=1)          |
| JQ          | Job queue                                           | TT          | Temporary table enqueue                       |
| KK          | Thread kick                                         | UN          | User name                                     |
| LA .. LP    | Library cache lock instance lock (A..P = namespace) | US          | Undo segment DDL                              |
| MM          | Mount definition global enqueue                     | WL          | Being-written redo log instance               |

## 9.43 V\$LOCK\_ACTIVITY

V\$LOCK\_ACTIVITY is deprecated. The information that was provided in this view is now provided in the V\$INSTANCE\_CACHE\_TRANSFER and V\$SEGMENT\_STATISTICS views.

| Column     | Datatype | Description                                                 |
|------------|----------|-------------------------------------------------------------|
| FROM_VAL   | CHAR(4)  | Global Cache Resource initial state; always NULL            |
| TO_VAL     | CHAR(1)  | Global Cache Resource initial state; always S               |
| ACTION_VAL | CHAR(21) | Description of the conversion; always Lock buffers for read |
| COUNTER    | NUMBER   | Number of times the lock operation executed                 |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

 **See Also:**

- ["V\\$INSTANCE\\_CACHE\\_TRANSFER"](#)
- ["V\\$SEGMENT\\_STATISTICS"](#)

## 9.44 V\$LOCK\_TYPE

V\$LOCK\_TYPE describes the type of locks available.

| Column      | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE        | VARCHAR2 (64)   | A two-letter internal resource identifier                                                                                                                                                                                                                                                                                                                                                                                                              |
| NAME        | VARCHAR2 (64)   | Resource type name. This is a short (less than 32 characters) enqueue type name.                                                                                                                                                                                                                                                                                                                                                                       |
| ID1_TAG     | VARCHAR2 (64)   | Description of the enqueue type.                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ID2_TAG     | VARCHAR2 (64)   | Further description of the enqueue type.                                                                                                                                                                                                                                                                                                                                                                                                               |
| IS_USER     | VARCHAR2 (3)    | User enqueue. These are enqueues that are acquired as a direct result of a SQL statement. Applications may get deadlocks on these enqueues. Such deadlocks are considered application errors.                                                                                                                                                                                                                                                          |
| IS_RECYCLE  | VARCHAR2 (3)    | <p>Indicates whether the enqueue requires caching of the associated resource in the DLM's resource cache.</p> <p>Possible values:</p> <ul style="list-style-type: none"> <li>NO: Means the enqueue requires caching of the associated resource in the DLM's resource cache</li> <li>YES: Means the enqueue does not require caching of the associated resource in the DLM's resource cache</li> </ul>                                                  |
| DESCRIPTION | VARCHAR2 (4000) | Explanation of how or for what purpose the enqueue is used.                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID      | NUMBER          | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.45 V\$LOCKDOWN\_RULES

V\$LOCKDOWN\_RULES displays information about lockdown profile rules that are applicable in the pluggable database (PDB) where this view is queried.

| Column        | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RULE_TYPE     | VARCHAR2 (128) | Type of the rule: <ul style="list-style-type: none"><li>• STATEMENT</li><li>• FEATURE</li><li>• OPTION</li></ul>                                                                                                                                                                                                                                                                                                                                  |
| RULE          | VARCHAR2 (128) | Rule to be enabled or disabled                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CLAUSE        | VARCHAR2 (128) | Clause of the statement                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CLAUSE_OPTION | VARCHAR2 (128) | Option of the clause                                                                                                                                                                                                                                                                                                                                                                                                                              |
| STATUS        | VARCHAR2 (7)   | Status of the lockdown profile: <ul style="list-style-type: none"><li>• ENABLE</li><li>• DISABLE</li><li>• EMPTY</li></ul>                                                                                                                                                                                                                                                                                                                        |
| USERS         | VARCHAR2 (6)   | Type of users affected by the rule: <ul style="list-style-type: none"><li>• ALL</li><li>• LOCAL</li><li>• COMMON</li></ul>                                                                                                                                                                                                                                                                                                                        |
| CON_ID        | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs</li><li>• 1: This value is used for rows containing data that pertain to only the root.</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



### See Also:

*Oracle Database Security Guide* for more information about PDB lockdown profiles

## 9.46 V\$LOCKED\_OBJECT

V\$LOCKED\_OBJECT lists all locks acquired by every transaction on the system. It shows which sessions are holding DML locks (that is, TM-type enqueues) on what objects and in what mode.

| Column  | Datatype | Description         |
|---------|----------|---------------------|
| XIDUSN  | NUMBER   | Undo segment number |
| XIDSLOT | NUMBER   | Slot number         |
| XIDSQN  | NUMBER   | Sequence number     |



| Column          | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_ID       | NUMBER         | Object ID being locked                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SESSION_ID      | NUMBER         | Session ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ORACLE_USERNAME | VARCHAR2 (128) | Oracle user name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| OS_USER_NAME    | VARCHAR2 (128) | Operating system user name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PROCESS         | VARCHAR2 (24)  | Operating system process ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| LOCKED_MODE     | NUMBER         | <p>Lock mode. The numeric values for this column map to these text values for the lock modes for table locks:</p> <ul style="list-style-type: none"> <li>• 0 - NONE: lock requested but not yet obtained</li> <li>• 1 - NULL</li> <li>• 2 - ROWS_S (SS): Row Share Lock</li> <li>• 3 - ROW_X (SX): Row Exclusive Table Lock</li> <li>• 4 - SHARE (S): Share Table Lock</li> <li>• 5 - S/ROW-X (SSX): Share Row Exclusive Table Lock</li> <li>• 6 - Exclusive (X): Exclusive Table Lock</li> </ul> <p><b>See Also:</b> <i>Oracle Database Concepts</i> for more information about lock modes for table locks</p> |
| CON_ID          | NUMBER         | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                    |

## 9.47 V\$LOG

V\$LOG displays log file information from the control file.

| Column    | Datatype     | Description                             |
|-----------|--------------|-----------------------------------------|
| GROUP#    | NUMBER       | Log group number                        |
| THREAD#   | NUMBER       | Log thread number                       |
| SEQUENCE# | NUMBER       | Log sequence number                     |
| BYTES     | NUMBER       | Size of the log (in bytes)              |
| BLOCKSIZE | NUMBER       | Block size of the logfile (512 or 4096) |
| MEMBERS   | NUMBER       | Number of members in the log group      |
| ARCHIVED  | VARCHAR2 (3) | Archive status (YES) or (NO)            |

| Column        | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS        | VARCHAR2 (16) | <b>Log status:</b> <ul style="list-style-type: none"> <li>• <b>UNUSED</b> - Online redo log has never been written to. This is the state of a redo log that was just added, or just after a <b>RESETLOGS</b>, when it is not the current redo log.</li> <li>• <b>CURRENT</b> - Current redo log. This implies that the redo log is active. The redo log could be open or closed.</li> <li>• <b>ACTIVE</b> - Log is active but is not the current log. It is needed for crash recovery. It may be in use for block recovery. It may or may not be archived.</li> <li>• <b>CLEARING</b> - Log is being re-created as an empty log after an <b>ALTER DATABASE CLEAR LOGFILE</b> statement. After the log is cleared, the status changes to <b>UNUSED</b>.</li> <li>• <b>CLEARING_CURRENT</b> - Current log is being cleared of a closed thread. The log can stay in this status if there is some failure in the switch such as an I/O error writing the new log header.</li> <li>• <b>INACTIVE</b> - Log is no longer needed for instance recovery. It may be in use for media recovery. It may or may not be archived.</li> </ul> |
| FIRST_CHANGE# | NUMBER        | Lowest system change number (SCN) in the log                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| FIRST_TIME    | DATE          | Time of the first SCN in the log                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| NEXT_CHANGE#  | NUMBER        | Highest change number (SCN) in the log<br>When <b>STATUS=CURRENT</b> , <b>NEXT_CHANGE#</b> is set to the highest possible SCN, 9295429630892703743.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| NEXT_TIME     | DATE          | Time of the highest SCN in the log. When <b>STATUS=CURRENT</b> , <b>NEXT_TIME</b> is set to <b>NULL</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID        | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## 9.48 V\$LOG\_HISTORY

V\$LOG\_HISTORY displays log history information from the control file.

| Column            | Datatype | Description                                                      |
|-------------------|----------|------------------------------------------------------------------|
| RECID             | NUMBER   | Control file record ID                                           |
| STAMP             | NUMBER   | Control file record stamp                                        |
| THREAD#           | NUMBER   | Thread number of the archived log                                |
| SEQUENCE#         | NUMBER   | Sequence number of the archived log                              |
| FIRST_CHANGE#     | NUMBER   | Lowest system change number (SCN) in the log                     |
| FIRST_TIME        | DATE     | Time of the first entry (lowest SCN) in the log                  |
| NEXT_CHANGE#      | NUMBER   | Highest SCN in the log                                           |
| RESETLOGS_CHANGE# | NUMBER   | Resetlogs change number of the database when the log was written |
| RESETLOGS_TIME    | DATE     | Resetlogs time of the database when the log was written          |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.49 V\$LOGFILE

V\$LOGFILE contains information about redo log files.

| Column                | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUP#                | NUMBER         | Redo log group identifier number                                                                                                                                                                                                                                                                                                                                                                                                                       |
| STATUS                | VARCHAR2 (7)   | <p>Status of the log member:</p> <ul style="list-style-type: none"> <li>INVALID - File is inaccessible</li> <li>STALE - File's contents are incomplete</li> <li>DELETED - File is no longer used</li> <li>null - File is in use</li> </ul>                                                                                                                                                                                                             |
| TYPE                  | VARCHAR2 (7)   | <p>Type of the logfile:</p> <ul style="list-style-type: none"> <li>ONLINE</li> <li>STANDBY</li> </ul>                                                                                                                                                                                                                                                                                                                                                  |
| MEMBER                | VARCHAR2 (513) | Redo log member name                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| IS_RECOVERY_DEST_FILE | VARCHAR2 (3)   | Indicates whether the file was created in the fast recovery area (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID                | NUMBER         | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.50 V\$LOGHIST

V\$LOGHIST contains log history information from the control file. This view is retained for historical compatibility. Oracle recommends that you use V\$LOG\_HISTORY instead.



**See Also:**

"V\$LOG\_HISTORY"

| Column         | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| THREAD#        | NUMBER   | Log thread number                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SEQUENCE#      | NUMBER   | Log sequence number                                                                                                                                                                                                                                                                                                                                                                                                                             |
| FIRST_CHANGE#  | NUMBER   | Lowest SCN in the log                                                                                                                                                                                                                                                                                                                                                                                                                           |
| FIRST_TIME     | DATE     | Time of first SCN in the log                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SWITCH_CHANGE# | NUMBER   | SCN at which the log switch occurred; one more than highest SCN in the log                                                                                                                                                                                                                                                                                                                                                                      |
| CON_ID         | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.51 V\$LOGMNR\_CONTENTS

V\$LOGMNR\_CONTENTS contains log history information. To query this view, you must have the LOGMINING privilege.

When a SELECT statement is executed against the V\$LOGMNR\_CONTENTS view, the archive redo log files are read sequentially. Translated records from the redo log files are returned as rows in the V\$LOGMNR\_CONTENTS view. This continues until either the filter criteria specified at startup (EndTime or endScn) are met or the end of the archive log file is reached.

When this view is queried from a PDB, it returns only redo generated by that PDB.

| Column           | Datatype | Description                                                                                                                                                                                                                                                                                                                            |
|------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCN              | NUMBER   | System change number (SCN) when the database change was made                                                                                                                                                                                                                                                                           |
| START_SCN        | NUMBER   | System change number (SCN) when the transaction that contains this change started; only meaningful if the COMMITTED_DATA_ONLY option was chosen in a DBMS_LOGMNR.START_LOGMNR() invocation, NULL otherwise. This column may also be NULL if the query is run over a time/SCN range that does not contain the start of the transaction. |
| COMMIT_SCN       | NUMBER   | System change number (SCN) when the transaction committed; only meaningful if the COMMITTED_DATA_ONLY option was chosen in a DBMS_LOGMNR.START_LOGMNR() invocation                                                                                                                                                                     |
| TIMESTAMP        | DATE     | Timestamp when the database change was made                                                                                                                                                                                                                                                                                            |
| START_TIMESTAMP  | DATE     | Timestamp when the transaction that contains this change started; only meaningful if the COMMITTED_DATA_ONLY option was chosen in a DBMS_LOGMNR.START_LOGMNR() invocation, NULL otherwise. This column may also be NULL if the query is run over a time/SCN range that does not contain the start of the transaction.                  |
| COMMIT_TIMESTAMP | DATE     | Timestamp when the transaction committed; only meaningful if the COMMITTED_DATA_ONLY option was chosen in a DBMS_LOGMNR.START_LOGMNR() invocation                                                                                                                                                                                      |
| XIDUSN           | NUMBER   | Transaction ID undo segment number of the transaction that generated the change                                                                                                                                                                                                                                                        |
| XIDSLT           | NUMBER   | Transaction ID slot number of the transaction that generated the change                                                                                                                                                                                                                                                                |

| Column    | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| XIDSQN    | NUMBER         | Transaction ID sequence number of the transaction that generated the change                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| XID       | RAW (8)        | Raw representation of the transaction identifier                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PXIDUSN   | NUMBER         | Parent transaction ID undo segment number of a parallel transaction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PXIDSLT   | NUMBER         | Parent transaction ID slot number of a parallel transaction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PXIDSQN   | NUMBER         | Parent transaction ID sequence number of a parallel transaction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PXID      | RAW (8)        | Raw representation of the parent transaction identifier                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TX_NAME   | VARCHAR2 (256) | Name of the transaction that made the change; only meaningful if the transaction is a named transaction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| OPERATION | VARCHAR2 (32)  | <p>User level SQL operation that made the change:</p> <ul style="list-style-type: none"> <li>INTERNAL - Change was caused by internal operations initiated by the database</li> <li>INSERT - Change was caused by an insert statement</li> <li>DELETE - Change was caused by a delete statement</li> <li>UPDATE - Change was caused by an update statement</li> <li>DDL - Change was caused by a DDL statement</li> <li>START - Change was caused by the start of a transaction</li> <li>COMMIT - Change was caused by the commit of a transaction</li> <li>SEL_LOB_LOCATOR - Operation was a <code>SELECT</code> statement that returned a LOB locator</li> <li>LOB_WRITE - Change was caused by an invocation of <code>DBMS_LOB.WRITE</code></li> <li>LOB_TRIM - Change was caused by an invocation of <code>DBMS_LOB.TRIM</code></li> <li>SELECT_FOR_UPDATE - Operation was a <code>SELECT FOR UPDATE</code> statement</li> <li>LOB_ERASE - Change was caused by an invocation of <code>DBMS_LOB.ERASE</code></li> <li>MISSING_SCN - LogMiner encountered a gap in the redo records. This is most likely because not all redo logs were registered with LogMiner.</li> <li>ROLLBACK - Change was caused by a full rollback of a transaction</li> <li>XML DOC BEGIN - Beginning of a change to an XMLType column or table</li> <li>XML DOC WRITE - Data for an XML document</li> <li>XML DOC END - End of the Data for an XML document</li> <li>UNSUPPORTED - Change was caused by operations not currently supported by LogMiner (for example, changes made to nested tables)</li> </ul> <p>The <code>OPERATION</code> and <code>OPERATION_CODE</code> columns in this view are available for top-level user operations, for example, DML and DDL. Values that are not documented for these columns are internal to LogMiner or the RDBMS and do not reflect user operations.</p> |

| Column         | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OPERATION_CODE | NUMBER         | Number of the operation code: <ul style="list-style-type: none"> <li>• 0 - INTERNAL</li> <li>• 1 - INSERT</li> <li>• 2 - DELETE</li> <li>• 3 - UPDATE</li> <li>• 5 - DDL</li> <li>• 6 - START</li> <li>• 7 - COMMIT</li> <li>• 9 - SELECT_LOB_LOCATOR</li> <li>• 10 - LOB_WRITE</li> <li>• 11 - LOB_TRIM</li> <li>• 25 - SELECT_FOR_UPDATE</li> <li>• 29 - LOB_ERASE</li> <li>• 34 - MISSING_SCN</li> <li>• 36 - ROLLBACK</li> <li>• 68 - XML DOC BEGIN</li> <li>• 70 = XML DOC WRITE</li> <li>• 71 = XML DOC END</li> <li>• 255 - UNSUPPORTED</li> </ul> |
| ROLLBACK       | NUMBER         | 1 = if the redo record was generated because of a partial or a full rollback of the associated transaction<br>0 = otherwise                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SEG_OWNER      | VARCHAR2 (386) | Owner of the modified data segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SEG_NAME       | VARCHAR2 (256) | Name of the modified data segment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TABLE_NAME     | VARCHAR2 (386) | Name of the modified table (in case the redo pertains to a table modification)                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| SEG_TYPE       | NUMBER         | Type of the modified data segment: <ul style="list-style-type: none"> <li>• 0 - UNKNOWN</li> <li>• 1 - INDEX</li> <li>• 2 - TABLE</li> <li>• 19 - TABLE PARTITION</li> <li>• 20 - INDEX PARTITION</li> <li>• 34 - TABLE SUBPARTITION</li> <li>• All other values - UNSUPPORTED</li> </ul>                                                                                                                                                                                                                                                                 |
| SEG_TYPE_NAME  | VARCHAR2 (32)  | Segment type name: <ul style="list-style-type: none"> <li>• UNKNOWN</li> <li>• INDEX</li> <li>• TABLE</li> <li>• TABLE PARTITION</li> <li>• INDEX PARTITION</li> <li>• TABLE SUBPARTITION</li> <li>• UNSUPPORTED</li> </ul>                                                                                                                                                                                                                                                                                                                               |
| TABLE_SPACE    | VARCHAR2 (92)  | Name of the tablespace containing the modified data segment. This column is not populated for rows where the value of the OPERATION column is DDL. This is because DDL may operate on more than one tablespace.                                                                                                                                                                                                                                                                                                                                           |
| ROW_ID         | VARCHAR2 (18)  | Row ID of the row modified by the change (only meaningful if the change pertains to a DML). This will be NULL if the redo record is not associated with a DML.                                                                                                                                                                                                                                                                                                                                                                                            |
| USERNAME       | VARCHAR2 (384) | Name of the user who executed the transaction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Column          | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OS_USERNAME     | VARCHAR2 (4000) | Name of the operating system user                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| MACHINE_NAME    | VARCHAR2 (4000) | Machine from which the user connected to the database                                                                                                                                                                                                                                                                                                                                                                                                              |
| AUDIT_SESSIONID | NUMBER          | Audit session ID associated with the user session making the change                                                                                                                                                                                                                                                                                                                                                                                                |
| SESSION#        | NUMBER          | Session number of the session that made the change                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SERIAL#         | NUMBER          | Serial number of the session that made the change                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SESSION_INFO    | VARCHAR2 (4000) | Information about the database session that executed the transaction. Contains process information, machine name from which the user logged in, and so on. A possible SESSION_INFO column may contain the following: <ul style="list-style-type: none"> <li>login_username = HR</li> <li>client_info =</li> <li>OS_username = jkundu</li> <li>Machine_name = nirvan</li> <li>OS_terminal = pts/31</li> <li>OS_program_name = sqlplus@nirvan (TNS V1-V3)</li> </ul> |
| THREAD#         | NUMBER          | Number of the thread that made the change to the database                                                                                                                                                                                                                                                                                                                                                                                                          |
| SEQUENCE#       | NUMBER          | Sequence number of the SQL statement within the transaction. If you are mining without the COMMITTED_DATA_ONLY option set, then this value is 1.                                                                                                                                                                                                                                                                                                                   |
| RBASQN          | NUMBER          | Sequence# associated with the Redo Block Address (RBA) of the redo record associated with the change                                                                                                                                                                                                                                                                                                                                                               |
| RBABLK          | NUMBER          | RBA block number within the log file                                                                                                                                                                                                                                                                                                                                                                                                                               |
| RBABYTE         | NUMBER          | RBA byte offset within the block                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| UBAFIL          | NUMBER          | Undo Block Address (UBA) file number identifying the file containing the undo block                                                                                                                                                                                                                                                                                                                                                                                |
| UBABLK          | NUMBER          | UBA block number for the undo block                                                                                                                                                                                                                                                                                                                                                                                                                                |
| UBAREC          | NUMBER          | UBA record index within the undo block                                                                                                                                                                                                                                                                                                                                                                                                                             |
| UBASQN          | NUMBER          | UBA undo block sequence number                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ABS_FILE#       | NUMBER          | Data block absolute file number of the block changed by the transaction                                                                                                                                                                                                                                                                                                                                                                                            |
| REL_FILE#       | NUMBER          | Data block relative file number. The file number is relative to the tablespace of the object.                                                                                                                                                                                                                                                                                                                                                                      |
| DATA_BLK#       | NUMBER          | Data block number within the file                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DATA_OBJ#       | NUMBER          | Data block object number identifying the object                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DATA_OBJV#      | NUMBER          | Version number of the table being modified                                                                                                                                                                                                                                                                                                                                                                                                                         |
| DATA_OBJD#      | NUMBER          | Data block data object number identifying the object within the tablespace                                                                                                                                                                                                                                                                                                                                                                                         |
| SQL_REDO        | VARCHAR2 (4000) | Reconstructed SQL statement that is equivalent to the original SQL statement that made the change. Refer to <i>Oracle Database Utilities</i> before executing SQL_REDO to your database.<br><br>LogMiner does not generate SQL redo for temporary tables. In such a case, this column will contain the string "/* No SQL_REDO for temporary tables */".                                                                                                            |

| Column          | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQL_UNDO        | VARCHAR2 (4000) | Reconstructed SQL statement that can be used to undo the effect of the original statement that made the change. DDL statements have no corresponding SQL_UNDO. Refer to <i>Oracle Database Utilities</i> before executing SQL_UNDO to your database.<br><br>LogMiner does not generate SQL undo for temporary tables. In such a case, this column will contain the string "/* No SQL_UNDO for temporary tables */".                                                                                                                                      |
| RS_ID           | VARCHAR2 (32)   | Record set ID. The tuple (RS_ID, SSN) together uniquely identifies a logical row change. This will usually mean one row from V\$LOGMNR_CONTENTS, but could be more than one row if a single SQL statement for either the Redo or Undo would be too large to fit within the respective columns SQL_UNDO or SQL_REDO. RS_ID uniquely identifies the redo record that generated the row.                                                                                                                                                                    |
| SSN             | NUMBER          | SQL sequence number. Used in conjunction with RS_ID, this uniquely identifies a logical row change, shown as one or more rows from the V\$LOGMNR_CONTENTS view.                                                                                                                                                                                                                                                                                                                                                                                          |
| CSF             | NUMBER          | Continuation SQL flag. Possible values are: <ul style="list-style-type: none"> <li>0 - Indicates SQL_REDO and SQL_UNDO is contained within the same row</li> <li>1 - Indicates that either SQL_REDO or SQL_UNDO is greater than 4000 bytes in size and is continued in the next row returned by the view</li> </ul>                                                                                                                                                                                                                                      |
| INFO            | VARCHAR2 (64)   | Informational message about the row. For instance, the string "USER DDL" indicates that the DDL statement returned in the SQL_REDO column was the top-level DDL executed by the user and the string "INTERNAL DDL" indicates that the DDL statement returned in the SQL_REDO column was executed internally by the RDBMS.                                                                                                                                                                                                                                |
| STATUS          | NUMBER          | A value of 0 indicates that the reconstructed SQL statements as shown in the SQL_REDO and SQL_UNDO columns are valid executable SQL statements. Otherwise, the reconstructed SQL statements are not executable. This may be because no data dictionary was provided to LogMiner for the analysis, or that the data dictionary provided did not have the definition of the object being mined.<br><br>A value of 5 indicates that this row is part of a change to an XMLType column or table and the XML document must be assembled before being applied. |
| REDO_VALUE      | NUMBER          | Used as input to the DBMS_LOGMNR.MINE_VALUE () and DBMS_LOGMNR.COLUMN_PRESENT () functions                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| UNDO_VALUE      | NUMBER          | Used as input to the DBMS_LOGMNR.MINE_VALUE () and DBMS_LOGMNR.COLUMN_PRESENT () functions                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SAFE_RESUME_SCN | NUMBER          | Reserved for future use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CSCN            | NUMBER          | This column is deprecated in favor of the COMMIT_SCN column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| OBJECT_ID       | RAW (16)        | Object identifier for DMLs to XMLType tables. For changes to non-typed tables, this column is NULL.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| EDITION_NAME    | VARCHAR2 (384)  | Identifies the edition in which a DDL statement was executed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CLIENT_ID       | VARCHAR2 (64)   | Client identifier in the session that performed the operation, if available.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SRC_CON_NAME    | VARCHAR2 (384)  | Contains the pluggable database (PDB) name. This information will only be available when mining with a current LogMiner dictionary.                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SRC_CON_ID      | NUMBER          | Contains the PDB ID (the PDB_ID column from the DBA_PDBS view). This information will be available only with a current LogMiner dictionary.                                                                                                                                                                                                                                                                                                                                                                                                              |



| Column       | Datatype | Description                                                                                                                                                                                                                                                                                                                                       |
|--------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SRC_CON_UID  | NUMBER   | Contains the PDB UID (the CON_UID column from the DBA_PDBS view). This information will be available with or without a current LogMiner dictionary.                                                                                                                                                                                               |
| SRC_CON_DBID | NUMBER   | Contains the PDB identifier (the DBID column from the DBA_PDBS view). This information will only be available when mining with a current LogMiner dictionary.                                                                                                                                                                                     |
| SRC_CON_GUID | RAW (16) | Contains the GUID associated with the PDB (the GUID column from the DBA_PDBS view). This information will only be available when mining with a current LogMiner dictionary.                                                                                                                                                                       |
| CON_ID       | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> </ul> |

#### See Also:

- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_LOGMNR package
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_LOB package

## 9.52 V\$LOGMNR\_DICTIONARY

V\$LOGMNR\_DICTIONARY contains log history information.

| Column             | Datatype      | Description                                                                                           |
|--------------------|---------------|-------------------------------------------------------------------------------------------------------|
| DB_NAME            | VARCHAR2 (9)  | Name of the database                                                                                  |
| DB_ID              | NUMBER        | Database ID                                                                                           |
| DB_CREATED         | DATE          | Creation date of the source database (corresponds to the CREATED column in the V\$DATABASE view)      |
| TIMESTAMP          | DATE          | Date when the dictionary was created                                                                  |
| RESET_SCN          | NUMBER        | Reset log SCN when the dictionary was created                                                         |
| RESET_SCN_TIME     | DATE          | Timestamp of the reset log SCN when the dictionary was created                                        |
| DB_VERSION_TIME    | DATE          | Version time for the source database (corresponds to the VERSION_TIME column in the V\$DATABASE view) |
| DB_CHARACTER_SET   | VARCHAR2 (30) | Character set of the source database                                                                  |
| DB_VERSION         | VARCHAR2 (64) | This column is deprecated.                                                                            |
| DB_STATUS          | VARCHAR2 (64) | This column is deprecated.                                                                            |
| DICTIONARY_SCN     | NUMBER        | Database checkpoint SCN at which the dictionary was created                                           |
| ENABLED_THREAD_MAP | RAW (16)      | This column is deprecated.                                                                            |
| DB_TXN_SCN         | NUMBER        | SCN at which the dictionary was created                                                               |

| Column   | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILENAME | VARCHAR2 (512) | Dictionary file name                                                                                                                                                                                                                                                                                                                                                                                                                            |
| INFO     | VARCHAR2 (32)  | Informational/Status message<br><br>BAD_DATE indicates that the SCN of the dictionary file does not match the SCN range of the log files                                                                                                                                                                                                                                                                                                        |
| STATUS   | NUMBER         | A NULL indicates a valid dictionary file for the list of log files. A non-NULL value indicates further information is contained in the INFO column as a text string.                                                                                                                                                                                                                                                                            |
| CON_ID   | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.53 V\$LOGMNR\_DICTIONARY\_LOAD

V\$LOGMNR\_DICTIONARY\_LOAD displays information about LogMiner dictionaries for all active LogMiner sessions on the system.

Each query of this view will return one row for each attached LogMiner session. This view will not show valid information for LogMiner adhoc query clients.

| Column            | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SESSION_ID        | NUMBER         | LogMiner session ID                                                                                                                                                                                                                                                                                                                                                                                                                             |
| LOGMNR_UID        | NUMBER         | LogMiner dictionary UID                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ACTION#           | NUMBER         | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                       |
| OPCODE            | NUMBER         | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                       |
| COMMAND           | VARCHAR2 (161) | Current command being executed                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CURRENT_STATE     | VARCHAR2 (32)  | Summary information if LOADED=ACTIVE                                                                                                                                                                                                                                                                                                                                                                                                            |
| COMPLETED_ACTIONS | NUMBER         | The steps completed so far                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TOTAL_ACTIONS     | NUMBER         | Total steps to complete                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LOADED            | VARCHAR2 (7)   | Status of the dictionary load: <ul style="list-style-type: none"> <li>YES - dictionary has been loaded</li> <li>NO - dictionary has not been loaded</li> <li>ACTIVE - dictionary is in the process of being loaded</li> </ul>                                                                                                                                                                                                                   |
| PERCENT_DONE      | NUMBER         | Percentage of the dictionary that has been loaded                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID            | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.54 V\$LOGMNR\_LATCH

V\$LOGMNR\_LATCH can be joined with the V\$LATCH and the V\$LATCH\_CHILDREN views to obtain statistics about different latches used by active LogMiner persistent sessions.

A persistent LogMiner session is created either by starting Data Guard SQL Apply on a logical standby database for the first time or by creating a Replication capture.

| Column     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SESSION_ID | NUMBER        | Unique identifier of the LogMiner persistent session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| NAME       | VARCHAR2 (32) | Name of the Latch: <ul style="list-style-type: none"> <li>LogMiner internal state - Identifies the latch that protects communications between the LogMiner READER, PREPARER, and BUILDER processes</li> <li>LogMiner memory allocation - Identifies the latch that protects all memory allocation and deallocation inside LogMiner</li> <li>LogMiner transaction list - Identifies the latch that protects interaction between the LogMiner layer and its clients during Data Guard SQL Apply on a logical standby database</li> </ul> |
| CHILD_ADDR | RAW (4   8)   | Address of the child latch object. This column matches the corresponding ADDR column in the V\$LATCH_CHLDREN view                                                                                                                                                                                                                                                                                                                                                                                                                      |
| STATE      | VARCHAR2 (6)  | State of the Latch: <ul style="list-style-type: none"> <li>UNINIT - The latch structure is uninitialized; that is, it is not currently assigned to any LogMiner persistent session</li> <li>READY - The latch structure is being used by a persistent LogMiner session</li> </ul>                                                                                                                                                                                                                                                      |
| CON_ID     | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                        |



### See Also:

- "V\$LATCH"
- "V\$LATCH\_CHILDREN"

## 9.55 V\$LOGMNR\_LOGS

V\$LOGMNR\_LOGS contains log information.

| Column   | Datatype       | Description                |
|----------|----------------|----------------------------|
| LOG_ID   | NUMBER         | This column is deprecated. |
| FILENAME | VARCHAR2 (512) | Name of the log file       |

| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LOW_TIME         | DATE          | Oldest date of any records in the file                                                                                                                                                                                                                                                                                                                                                                                                          |
| HIGH_TIME        | DATE          | Most recent date of any records in the file                                                                                                                                                                                                                                                                                                                                                                                                     |
| DB_ID            | NUMBER        | Database ID                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DB_NAME          | VARCHAR2 (8)  | Name of the database                                                                                                                                                                                                                                                                                                                                                                                                                            |
| RESET_SCN        | NUMBER        | Resetlogs SCN of the database incarnation that generated the log file                                                                                                                                                                                                                                                                                                                                                                           |
| RESET_SCN_TIME   | DATE          | Resetlogs timestamp of the database incarnation that generated the log file                                                                                                                                                                                                                                                                                                                                                                     |
| COMPATIBLE       | VARCHAR2 (17) | The setting of the database COMPATIBLE initialization parameter at the time the log file was generated                                                                                                                                                                                                                                                                                                                                          |
| THREAD_ID        | NUMBER        | Thread number                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| THREAD_SEQN      | NUMBER        | Thread sequence number                                                                                                                                                                                                                                                                                                                                                                                                                          |
| LOW_SCN          | NUMBER        | SCN allocated when log switched into                                                                                                                                                                                                                                                                                                                                                                                                            |
| NEXT_SCN         | NUMBER        | SCN after this log. Low SCN of the next log.                                                                                                                                                                                                                                                                                                                                                                                                    |
| DICTIONARY_BEGIN | VARCHAR2 (3)  | Indicates whether dictionary dumped to redo logs starts in this redo log (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                      |
| DICTIONARY_END   | VARCHAR2 (3)  | Indicates whether dictionary dumped to redo logs ends in this redo log (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                        |
| TYPE             | VARCHAR2 (7)  | Redo log file type: <ul style="list-style-type: none"> <li>ARCHIVED</li> <li>ONLINE</li> </ul>                                                                                                                                                                                                                                                                                                                                                  |
| BLOCKSIZE        | NUMBER        | Database block size                                                                                                                                                                                                                                                                                                                                                                                                                             |
| FILESIZE         | NUMBER        | Size of the redo file (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                |
| INFO             | VARCHAR2 (32) | Informational message. A value of MISSING_LOGFILE will be assigned to a row entry where a needed log file is missing from the list of log files.                                                                                                                                                                                                                                                                                                |
| STATUS           | NUMBER        | Status of the redo log file: <ul style="list-style-type: none"> <li>0 - Will be read</li> <li>1 - First to be read</li> <li>2 - Not needed</li> <li>4 - Missing log file</li> </ul>                                                                                                                                                                                                                                                             |
| CON_ID           | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.56 V\$LOGMNR\_PARAMETERS

V\$LOGMNR\_PARAMETERS contains log information.

| Column              | Datatype | Description                                                  |
|---------------------|----------|--------------------------------------------------------------|
| START_DATE          | DATE     | Date to start the search                                     |
| REQUIRED_START_DATE | DATE     | Required date to start the search if DDL tracking is enabled |

| Column             | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| END_DATE           | DATE          | Date to end the search                                                                                                                                                                                                                                                                                                                                                                                                                          |
| START_SCN          | NUMBER        | System change number to start the search                                                                                                                                                                                                                                                                                                                                                                                                        |
| REQUIRED_START_SCN | NUMBER        | Required system change number to start the search if DDL tracking is enabled                                                                                                                                                                                                                                                                                                                                                                    |
| END_SCN            | NUMBER        | System change number to end the search                                                                                                                                                                                                                                                                                                                                                                                                          |
| OPTIONS            | NUMBER        | Options specified for the current LogMiner session                                                                                                                                                                                                                                                                                                                                                                                              |
| INFO               | VARCHAR2 (32) | This column is always null.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| STATUS             | NUMBER        | This column is always 0.                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID             | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.57 V\$LOGMNR\_PROCESS

V\$LOGMNR\_PROCESS identifies all processes attached to an active LogMiner persistent session.

(A persistent LogMiner session is created either by starting Data Guard SQL Apply on a logical standby database for the first time or by creating Replication capture.) This view can be joined with either the V\$SESSION view or the V\$PROCESS view to gather process-specific information.

| Column            | Datatype      | Description                                                                                                 |
|-------------------|---------------|-------------------------------------------------------------------------------------------------------------|
| SESSION_ID        | NUMBER        | Unique identifier for the LogMiner persistent session                                                       |
| PID               | NUMBER        | Oracle process identifier for the SQL Apply or Replication capture process (same as the V\$PROCESS.PID)     |
| SPID              | VARCHAR2 (24) | Operating system process identifier (same as the V\$PROCESS.SPID)                                           |
| ROLE              | VARCHAR2 (32) | Identifies the role of the active LogMiner process: READER, PREPARER, BUILDER, COORDINATOR, or APPLY SERVER |
| USERNAME          | VARCHAR2 (15) | Operating system process user name that is connected to the database                                        |
| SID               | NUMBER        | Session identifier for the V\$SESSION.SID process                                                           |
| SERIAL#           | NUMBER        | Session serial number associated with the V\$SESSION.SERIAL process                                         |
| LATCHWAIT         | VARCHAR2 (16) | Address of the latch the process is waiting for; NULL if none                                               |
| LATCHSPIN         | VARCHAR2 (16) | This column is obsolete                                                                                     |
| WORK_MICROSEC     | VARCHAR2 (21) | Microseconds spent by the process doing useful work                                                         |
| OVERHEAD_MICROSEC | VARCHAR2 (21) | Microseconds spent by the process doing overhead tasks or simply waiting/idling                             |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

- "V\$SESSION"
- "V\$PROCESS"

## 9.58 V\$LOGMNR\_SESSION

V\$LOGMNR\_SESSION displays information about active LogMiner persistent sessions.

(A LogMiner persistent session is created either by starting Data Guard SQL Apply on a logical standby database for the first time or by creating Replication capture.) Transient LogMiner sessions (those created as a result of querying the V\$LOGMNR\_CONTENTS view) do not show up in the V\$LOGMNR\_SESSION view. The statistics shown in this view correspond to snapshots of the system and are not cumulative in nature.

| Column          | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SESSION_ID      | NUMBER         | Unique identifier for the LogMiner persistent session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SESSION_NAME    | VARCHAR2 (32)  | Unique session name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SESSION_STATE   | VARCHAR2 (9)   | Current state of the LogMiner persistent session: <ul style="list-style-type: none"> <li>READY - Client has created the LogMiner persistent session and added the relevant archived redo log files, but has not loaded the initial LogMiner dictionary</li> <li>STARTED - The LogMiner dictionary has been loaded</li> <li>ACTIVE - The LogMiner persistent session is mining the redo stream</li> <li>DETACHED - The LogMiner persistent session is not currently active, and it is in the process of becoming inactive</li> <li>DISCARDED - Client is about to destroy the LogMiner persistent session</li> </ul> |
| DB_NAME         | VARCHAR2 (128) | Global database name for the source database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| DB_ID           | NUMBER         | Database identifier of the source database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| RESET_SCN       | NUMBER         | System change number (SCN) when the session started                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| RESET_TIMESTAMP | NUMBER         | Time of the RESETLOGS when the LogMiner persistent session started                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| RESET_TIME      | DATE           | The time when the session started                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| NUM_PROCESS     | NUMBER         | Number of processes allocated to this session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CHUNK_SIZE      | NUMBER         | Amount of memory allocated for this chunk                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Column                  | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| START_SCN               | NUMBER   | System change number (SCN) at start of the session                                                                                                                                                                                                                                                                                                                                                                                              |
| END_SCN                 | NUMBER   | System change number (SCN) at end of the session                                                                                                                                                                                                                                                                                                                                                                                                |
| SPILL_SCN               | NUMBER   | In the event of a restart, redo records with an SCN lower than this will not be read from the archived redo log files                                                                                                                                                                                                                                                                                                                           |
| PROCESSED_SCN           | NUMBER   | The <b>BUILDER</b> process has successfully mined redo records up to this SCN                                                                                                                                                                                                                                                                                                                                                                   |
| PROCESSED_TIME          | DATE     | The <b>BUILDER</b> process has successfully mined redo records up to this time                                                                                                                                                                                                                                                                                                                                                                  |
| PREPARED_SCN            | NUMBER   | The <b>PREPARER</b> processes have successfully transformed all redo records below this SCN into logical change records (LCRs). However the LCRs may not have been grouped into transactions or merged in case they pertain to chained rows or LOB updates.                                                                                                                                                                                     |
| READ_SCN                | NUMBER   | The <b>READER</b> process has read all redo records below this SCN                                                                                                                                                                                                                                                                                                                                                                              |
| LOW_MARK_SCN            | NUMBER   | LogMiner has delivered all transactions that committed below this SCN to the client                                                                                                                                                                                                                                                                                                                                                             |
| CONSUMED_SCN            | NUMBER   | Client has consumed and released all transactions that committed below this SCN.                                                                                                                                                                                                                                                                                                                                                                |
| MAX_MEMORY_SIZE         | NUMBER   | Maximum amount of shared memory (in bytes) that LogMiner is allowed to consume                                                                                                                                                                                                                                                                                                                                                                  |
| USED_MEMORY_SIZE        | NUMBER   | Amount of shared memory (in bytes) actually consumed by LogMiner                                                                                                                                                                                                                                                                                                                                                                                |
| BUILDER_WORK_SIZE       | NUMBER   | Amount of redo (in bytes) in the current work unit being processed by the <b>BUILDER</b> process.                                                                                                                                                                                                                                                                                                                                               |
| PREPARED_WORK_SIZE      | NUMBER   | Amount of redo (in bytes) that has been prepared by LogMiner                                                                                                                                                                                                                                                                                                                                                                                    |
| AVAILABLE_WORK_SIZE     | NUMBER   | Amount of redo records (in bytes) that are ready, but are yet to be consumed by the client                                                                                                                                                                                                                                                                                                                                                      |
| AVAILABLE_TXN           | NUMBER   | Number of transaction chunks ready for consumption                                                                                                                                                                                                                                                                                                                                                                                              |
| AVAILABLE_COMMITTED_TXN | NUMBER   | Number of committed transactions ready for consumption. This is less than, or equal to, <b>AVAILABLE_TXN</b> .                                                                                                                                                                                                                                                                                                                                  |
| DELIVERED_TXN           | NUMBER   | Number of transaction chunks that the client currently has in its possession                                                                                                                                                                                                                                                                                                                                                                    |
| DELIVERED_COMMITTED_TXN | NUMBER   | Number of committed transaction chunks that the client is currently working on. This is less than, or equal to, the value of the <b>DELIVERED_TXN</b> column.                                                                                                                                                                                                                                                                                   |
| PINNED_TXN              | NUMBER   | Number of transactions pinned (the client is actively working on)                                                                                                                                                                                                                                                                                                                                                                               |
| PINNED_COMMITTED_TXN    | NUMBER   | Number of committed transactions pinned (the client is actively working on)                                                                                                                                                                                                                                                                                                                                                                     |
| CHECKPOINT_INTERVAL     | NUMBER   | Checkpoint interval                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID                  | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**["V\\$LOGMNR\\_CONTENTS"](#)

## 9.59 V\$LOGMNR\_STATS

V\$LOGMNR\_STATS displays the activity currently being performed by the active LogMiner persistent sessions.

| Column     | Datatype | Description                                            |
|------------|----------|--------------------------------------------------------|
| SESSION_ID | NUMBER   | Unique identifier for the LogMiner persistent sessions |



| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME   | VARCHAR2 (64) | <p>Name of the LogMiner statistic, state, or status, including:</p> <ul style="list-style-type: none"> <li>• Bytes of Redo Processed - Cumulative count of bytes processed by SQL Apply</li> <li>• Redo Records Processed - Count of redo records processed by SQL Apply</li> <li>• Txns Delivered to Client - Count of SQL transactions processed by SQL Apply</li> <li>• DML txns delivered - Count of DML transactions processed by SQL Apply</li> <li>• DDL txns delivered - Count of DDL transactions processed by SQL Apply</li> <li>• CTAS txns delivered - Count of CREATE TABLE AS SELECT (CTAS) transactions processed by SQL Apply</li> <li>• Recursive txns delivered - Count of recursive transactions processed by SQL Apply</li> <li>• Rolled back txns seen</li> <li>• LCRs delivered to client - Number of logical change records (LCRs) processed by SQL Apply</li> <li>• Bytes paged out - Cumulative count of bytes that have been paged out. LogMiner pages out memory from the LCR cache to accommodate certain ill-behaved workloads or under-configured systems. The ratio of bytes paged out to bytes of redo processed should be low. If this ratio is high (10% or higher), try increasing the MAX_SGA allocated to SQL Apply.</li> <li>• Microsecs spent in pageout - Time spent by LogMiner paging out memory from the LCR cache</li> <li>• Bytes checkpointed - Keeps track of the amount of bytes checkpointed. The mining engine takes periodic checkpoints, whereby it writes out logical change records (LCRs) pertaining to long-running transactions. The ratio of Bytes Checkpointed to Bytes of Redo Processed should be low. A high ratio (10% or higher) indicates an ill-behaved workload.</li> <li>• Microsecs spent in checkpoint - Time spent by the mining engine taking checkpoints, whereby it writes out logical change records (LCRs) pertaining to long-running transactions.</li> <li>• Bytes rolled back - Cumulative value of the number of bytes rolled back by LogMiner. There are times that LogMiner needs to backtrack and reprocess a section of the redo stream. In this case, it will roll back work it has already done. The ratio of Bytes Rolled Back to Bytes of Redo Processed should be low. If this ratio is high (10% or higher), reduce the number of PREPARER processes allocated to SQL Apply.</li> <li>• Microsecs spent in rollback - Time spent rolling back transactions already applied to the logical standby database</li> </ul> |
| VALUE  | VARCHAR2 (64) | The corresponding metric value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## 9.60 V\$LOGSTDBY

V\$LOGSTDBY is deprecated.

| Column      | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SERIAL#     | NUMBER         | SQL Session serial number. This data is used when joining this view with the V\$SESSION and V\$PX_SESSION views.                                                                                                                                                                                                                                                                                                                                |
| LOGSTDBY_ID | NUMBER         | Parallel query worker ID                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PID         | VARCHAR2 (24)  | Process ID of the SQL apply process                                                                                                                                                                                                                                                                                                                                                                                                             |
| TYPE        | VARCHAR2 (128) | Indicates the task being performed by the process (COORDINATOR, APPLIER, ANALYZER, READER, PREPARER, or BUILDER)                                                                                                                                                                                                                                                                                                                                |
| STATUS_CODE | NUMBER         | Status number (or Oracle error code) belonging to the STATUS message                                                                                                                                                                                                                                                                                                                                                                            |
| STATUS      | VARCHAR2 (256) | Description of the current activity of the process                                                                                                                                                                                                                                                                                                                                                                                              |
| HIGH_SCN    | NUMBER         | Highest system change number (SCN) seen by the process. This column is used to confirm the progress of the individual process.                                                                                                                                                                                                                                                                                                                  |
| CON_ID      | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.61 V\$LOGSTDBY\_PROCESS

V\$LOGSTDBY\_PROCESS displays dynamic information about what is happening to the Data Guard log apply services.

This view is helpful when diagnosing performance problems during the logical application of archived redo logs to the standby database, and it can be helpful for other problems. This view is for logical standby databases only.

| Column      | Datatype      | Description                                                                                                                      |
|-------------|---------------|----------------------------------------------------------------------------------------------------------------------------------|
| SID         | NUMBER        | Session id of the associated session. This matches the SID column of the corresponding row in the V\$SESSION view.               |
| SERIAL#     | NUMBER        | Serial number of the associated session. Together, (SID,SERIAL#) uniquely identify the session in the current database instance. |
| LOGSTDBY_ID | NUMBER        | Parallel query worker ID                                                                                                         |
| SPID        | VARCHAR2 (24) | This corresponds to the SPID value of the row corresponding to this process in the V\$PROCESS view                               |

| Column      | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE        | VARCHAR2 (128) | Role that the process plays in the context of SQL Apply: <ul style="list-style-type: none"> <li>COORDINATOR</li> <li>APPLIER</li> <li>ANALYZER</li> <li>READER</li> <li>PREPARER</li> <li>BUILDER</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| STATUS_CODE | NUMBER         | Operation code identifying the current action of the process: <ul style="list-style-type: none"> <li>16111 - SQL Apply process is initializing</li> <li>16112 - SQL Apply process is cleaning up as apply and mining processes are stopping based on a user command</li> <li>16116 - SQL Apply process is idle</li> <li>16117 - SQL Apply process is busy and is not waiting on any interesting event</li> <li>16110 - APPLIER process has invoked a user-provided stored procedure in order to inspect a DDL statement prior to it being processed</li> <li>16113 - APPLIER process is applying DML changes to some user object or to a sequence</li> <li>16114 - APPLIER process is applying a DDL change</li> <li>16115 - COORDINATOR process is loading the LogMiner dictionary from the redo stream</li> <li>16243 - BUILDER process is paging out memory to free up space in lcr cache</li> <li>16240 - READER process idle waiting for additional logfile to be available</li> <li>16241 - READER process is idle waiting for the logfile to fill the log sequence gap</li> <li>16242 - READER process is processing a logfile</li> </ul> |
| STATUS      | VARCHAR2 (256) | Description of the current action of the process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| HIGH_SCN    | NUMBER         | Identifies the highest redo record/LCR processed by this process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID      | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## 9.62 V\$LOGSTDBY\_PROGRESS

V\$LOGSTDBY\_PROGRESS displays the progress of log apply services on the logical standby database. This view is for logical standby databases only.

| Column       | Datatype | Description                                                                            |
|--------------|----------|----------------------------------------------------------------------------------------|
| APPLIED_SCN  | NUMBER   | All the transactions with COMMIT SCN lower than or equal to this SCN have been applied |
| APPLIED_TIME | DATE     | The time and date of APPLIED_SCN                                                       |

| Column       | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RESTART_SCN  | NUMBER   | During an apply restart, LogMiner does not read any log file with a NEXT_CHANGE# lower than this SCN.                                                                                                                                                                                                                                                                                                                                                  |
| RESTART_TIME | DATE     | The time and date of RESTART_SCN                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LATEST_SCN   | NUMBER   | The highest SCN of all redo records that Logical Standby has encountered                                                                                                                                                                                                                                                                                                                                                                               |
| LATEST_TIME  | DATE     | The time and date of LATEST_SCN                                                                                                                                                                                                                                                                                                                                                                                                                        |
| MINING_SCN   | NUMBER   | The SCN of the latest redo record processed by the builder process                                                                                                                                                                                                                                                                                                                                                                                     |
| MINING_TIME  | DATE     | The time and date of MINING_SCN                                                                                                                                                                                                                                                                                                                                                                                                                        |
| RESETLOGS_ID | NUMBER   | A redo branch is identified by resetlogs SCN and resetlogs timestamp. The RESETLOGS_ID column contents are the same as resetlogs timestamp converted to a number.                                                                                                                                                                                                                                                                                      |
| CON_ID       | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.63 V\$LOGSTDBY\_STATE

V\$LOGSTDBY\_STATE provides consolidated information from V\$LOGSTDBY and V\$LOGSTDBY\_STATS about the running state of Logical Standby.

| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                |
|------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRIMARY_DBID     | NUMBER        | Database ID (DBID) of the primary database                                                                                                                                                                                                                                                                                                                                                 |
| PRIMARY_CON_DBID | NUMBER        | This column indicates the DBID of the source database or source PDB corresponding to the database (or CDB) from which this column is queried. For a non-CDB and the root of a CDB, this column matches the PRIMARY_DBID column. For a maintained PDB, this column indicates the DBID for the corresponding PDB at the source. For a skipped PDB or a local PDB, this column would be NULL. |
| SESSION_ID       | NUMBER        | LogMiner session ID allocated to SQL Apply.                                                                                                                                                                                                                                                                                                                                                |
| REALTIME_APPLY   | VARCHAR2 (64) | Y indicates that SQL Apply is running in real-time apply mode. If a standby redo log is configured, SQL Apply applies changes as they are written to the standby redo log files. N indicates that SQL Apply applies changes as each archived redo log file is received.                                                                                                                    |

| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATE  | VARCHAR2 (64) | <ul style="list-style-type: none"><li>INITIALIZING: LogMiner session has been created and coordinator has attached to it</li><li>LOADING DICTIONARY: SQL Apply is loading the LogMiner dictionary</li><li>WAITING ON GAP: SQL Apply is waiting for a log file to be sent from the primary database</li><li>APPLYING: SQL Apply is actively mining or applying transactions</li><li>WAITING FOR DICTIONARY LOGS: SQL Apply is waiting for the archived logs containing the LogMiner dictionary to be shipped from the primary database</li><li>IDLE: SQL Apply has applied all changes available at the logical standby, and is caught up with the primary database</li></ul> |
| CON_ID | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul>                                                                                                                                                                                                                           |

**See Also:**

- ["V\\$LOGSTDBY"](#)
- ["V\\$LOGSTDBY\\_STATS"](#)

## 9.64 V\$LOGSTDBY\_STATS

V\$LOGSTDBY\_STATS displays statistics, current state, and status information related to SQL Apply.

No rows are returned from this view when SQL Apply is not running. This view is only meaningful in the context of a logical standby database.

All statistics shown in this view are reinitialized at each SQL Apply start.

| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME   | VARCHAR2 (64) | <p>Name of the statistic, state, or status:</p> <p><b>Note:</b> Many of the following statistics are subject to change or deletion; programmers should write application code to tolerate missing or extra statistics.</p> <ul style="list-style-type: none"> <li>• id of the logminer session used by SQL Apply to mine the redo logs.</li> <li>• number of preparers</li> <li>• number of appliers</li> <li>• server processes in use for SQL Apply</li> <li>• maximum SGA (in MBytes) for LCR cache</li> <li>• whether SQL Apply is preserving the commit order seen at the primary database while applying changes</li> <li>• maximum events recorded in the DBA_LOGSTDBY_EVENTS table</li> <li>• whether SQL Apply is logging errors that are skipped in the DBA_LOGSTDBY_EVENTS table</li> <li>• whether SQL Apply is logging DDLs that are skipped in the DBA_LOGSTDBY_EVENTS table</li> <li>• whether SQL Apply is logging DDLs that are applied in the DBA_LOGSTDBY_EVENTS table</li> <li>• whether SQL Apply is logging unsupported operations that are encountered in the DBA_LOGSTDBY_EVENTS table</li> <li>• whether or not real time apply is on</li> <li>• value of apply delay (in minutes)</li> <li>• coordinator state</li> <li>• coordinator uptime in seconds</li> <li>• time of the most recent start of SQL Apply</li> <li>• number of transactions mined and made available for apply</li> <li>• number of transactions applied</li> <li>• number of rolled back transactions mined</li> <li>• number of DDL txns mined</li> <li>• number of CTAS (Create Table as Select) txns mined</li> <li>• number of thread enable events encountered in the redo stream</li> <li>• number of thread disable events encountered in the redo stream</li> <li>• bytes of redo records mined</li> <li>• bytes paged out</li> <li>• seconds spent in pageout activity</li> <li>• bytes checkpointed</li> <li>• seconds spent in checkpointing activity</li> <li>• seconds SQL Apply is idle</li> <li>• number of times a complete standby redo logs are mined without having to mine the corresponding archived log</li> <li>• number of times SQL Apply had to switch from a standby redo log to the corresponding archived log</li> <li>• number of times SQL Apply mined redo from the archived logs</li> <li>• number of archived logs that arrived at the standby via gap fetch mechanism (gap fetched logs mined)</li> <li>• number of failed attempts to open a logfile</li> <li>• amount of time spent in waiting for the current gap to resolve if SQL Apply is running in real time mode (current logfile wait)<sup>1</sup></li> <li>• time spent in waiting for gap to resolve if SQL Apply is running in real time mode (total logfile wait)<sup>2</sup></li> </ul> |
| VALUE  | VARCHAR2 (64) | Value of the statistic or state information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

- <sup>1</sup> In case SQL Apply is not running in real time mode, this may not reflect time spent in gap resolution, but simply the time spent waiting for the most recent archived log to show up at the logical standby.
- <sup>2</sup> In case SQL Apply is not running in real time mode, this will include time that SQL Apply spent every time it finished processing all archived logs registered with it, and waited for the next log to be archived.

## 9.65 V\$LOGSTDBY\_TRANSACTION

V\$LOGSTDBY\_TRANSACTION displays all transactions that are actively being processed by SQL Apply.

The transaction identifiers shown in this view are those mined from the redo stream and correspond to transaction identifiers assigned at the primary database, and do not correspond to the transactions that are active at the logical standby database. For information regarding transactions active in the logical standby database, including those created as part of SQL Apply, query the V\$TRANSACTION view at the logical standby database.

| Column                | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRIMARY_XIDUSN        | NUMBER        | Undo segment number of the transaction                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| PRIMARY_XIDSLT        | NUMBER        | Slot number of the transaction                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PRIMARY_XIDSQN        | NUMBER        | Sequence number of the transaction                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PRIMARY_XID           | RAW (8)       | Transaction ID                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PRIMARY_START_SCN     | NUMBER        | Start system change number (SCN) base                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PRIMARY_START_TIME    | DATE          | Start time                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| PRIMARY_PARENT_XIDUSN | NUMBER        | Undo segment number of the parent transaction                                                                                                                                                                                                                                                                                                                                                                                                                             |
| PRIMARY_PARENT_XIDSLT | NUMBER        | Slot number of the parent transaction                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PRIMARY_PARENT_XIDSQN | NUMBER        | Sequence number of the parent transaction                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PRIMARY_PARENT_XID    | RAW (8)       | Transaction ID of the parent transaction (PDML)                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TYPE                  | VARCHAR2 (32) | <p>Type:</p> <ul style="list-style-type: none"> <li>PL/SQL - Transaction was done as part of a supported PL/SQL procedure</li> <li>Direct Path Load - Transaction is a direct path load</li> <li>CTAS - Transaction contains at least one CREATE TABLE ... AS SELECT operation</li> <li>DDL - Transaction contains one or more DDL operations</li> <li>PDML Child - Transaction is a child transaction</li> <li>DML - Transaction contains only DML operations</li> </ul> |

| Column        | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MINING_STATUS | VARCHAR2 (32) | <p>Mining status:</p> <ul style="list-style-type: none"> <li>ACTIVE - Transaction is still being mined by LogMiner. At least part of this transaction is ready to be applied or has already been applied.</li> <li>COMPLETE - Transaction is complete and ready to be applied. LogMiner has finished mining.</li> </ul>                                                                                                                                                                                                           |
| SRC_CON_ID    | NUMBER        | Contains the PDB ID (the PDB_ID column from the DBA_PDBS view) of the source database that generated the change for this transaction.                                                                                                                                                                                                                                                                                                                                                                                             |
| APPLY_STATUS  | VARCHAR2 (6)  | <ul style="list-style-type: none"> <li>ACTIVE - Transaction has been assigned to an apply server. It is in one of the following states: <ul style="list-style-type: none"> <li>The transaction is being actively applied</li> <li>The transaction is being held by an apply server waiting for certain events to occur</li> <li>The transaction is being held by an apply server waiting for subsequent parts of this transaction</li> </ul> </li> <li>NONE - Transaction has not yet been assigned to an apply server</li> </ul> |
| SID           | NUMBER        | Session ID of the apply server's session; Null if APPLY_STATUS is NONE                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| SERIAL#       | NUMBER        | Serial number of the apply server's session; Null if APPLY_STATUS is NONE                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID        | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                            |



**See Also:**

"V\$TRANSACTION"

## 9.66 V\$MANAGED\_STANDBY

V\$MANAGED\_STANDBY displays current status information for some Oracle Database processes related to physical standby databases in the Data Guard environment. This view does not persist after an instance shutdown.



| Column         | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROCESS        | VARCHAR2 (9)  | Type of the process whose information is being reported: <ul style="list-style-type: none"> <li>RFS - Remote file server</li> <li>MRP0 - Detached recovery server process</li> <li>MR (fg) - Foreground recovery session</li> <li>ARCH - Archiver process</li> <li>DGRD - Generic Oracle Data Guard process</li> <li>FGRD</li> <li>LGWR</li> <li>RFS (FAL)</li> <li>RFS (NEXP)</li> <li>LNS - ASYNC Redo Transport process</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PID            | VARCHAR2 (24) | Operating system process identifier of the process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| STATUS         | VARCHAR2 (12) | Current process status: <ul style="list-style-type: none"> <li>ALLOCATED - Process is active but not currently connected to a primary database</li> <li>ANNOUNCING - Process is announcing the existence of a potential dependent archived redo log</li> <li>APPLYING_LOG - Process is actively applying the archived redo log to the standby database</li> <li>ATTACHED - Process is actively attached and communicating to a primary database</li> <li>CLOSING - Process has completed archival and is closing the archived redo log</li> <li>CONNECTED - Network connection established to a primary database</li> <li>ERROR - Process has failed</li> <li>IDLE - Process is not performing any activities</li> <li>OPENING - Process is opening the archived redo log</li> <li>RECEIVING - Process is receiving network communication</li> <li>REGISTERING - Process is registering the existence of a completed dependent archived redo log</li> <li>UNUSED - No active process</li> <li>WAIT_FOR_GAP - Process is waiting for the archive gap to be resolved</li> <li>WAIT_FOR_LOG - Process is waiting for the archived redo log to be completed</li> <li>WAIT_FOR_NEW_PRIMARY - Process is waiting for a new primary (source PDB) to register itself with this container database</li> <li>WRITING - Process is actively writing redo data to the archived redo log</li> </ul> |
| CLIENT_PROCESS | VARCHAR2 (8)  | Identifies the corresponding primary database process: <ul style="list-style-type: none"> <li>Archival - Foreground (manual) archival process (SQL)</li> <li>ARCH - Background ARCn process</li> <li>LGWR - Background LGWR process</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CLIENT_PID     | VARCHAR2 (40) | Operating system process identifier of the client process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CLIENT_DBID    | VARCHAR2 (40) | Database identifier of the primary database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| GROUP#         | VARCHAR2 (40) | Standby redo log group                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| RESETLOG_ID    | NUMBER        | Resetlogs identifier of the archived redo log                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| THREAD#        | NUMBER        | Archived redo log thread number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SEQUENCE#      | NUMBER        | Archived redo log sequence number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Column        | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BLOCK#        | NUMBER   | Last processed archived redo log block number                                                                                                                                                                                                                                                                                                                                                                                                   |
| BLOCKS        | NUMBER   | Count (in 512-byte blocks) of the last write to a redo log, or for a recovery process, the expected final read count                                                                                                                                                                                                                                                                                                                            |
| DELAY_MINS    | NUMBER   | Archived redo log delay interval in minutes                                                                                                                                                                                                                                                                                                                                                                                                     |
| KNOWN_AGENTS  | NUMBER   | Total number of standby database agents processing an archived redo log                                                                                                                                                                                                                                                                                                                                                                         |
| ACTIVE_AGENTS | NUMBER   | Number of standby database agents actively processing an archived redo log                                                                                                                                                                                                                                                                                                                                                                      |
| CON_ID        | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

This view is deprecated in Oracle Database 12c Release 2 (12.2.0.1) and may be desupported in a future release. The `V$DATAGUARD_PROCESS` view should be used, instead.

**See Also:**

`"V$DATAGUARD_PROCESS"`

## 9.67 V\$MAP\_COMP\_LIST

`V$MAP_COMP_LIST` displays supplementary information for all element mapping structures.

| Column     | Datatype       | Description                         |
|------------|----------------|-------------------------------------|
| ELEM_IDX   | NUMBER         | Index corresponding to the element  |
| NUM_COMP   | NUMBER         | Number of components (maximum is 5) |
| COMP1_NAME | VARCHAR2 (256) | Name of the first component         |
| COMP1_VAL  | VARCHAR2 (256) | Value of the first component        |
| COMP2_NAME | VARCHAR2 (256) | Name of the second component        |
| COMP2_VAL  | VARCHAR2 (256) | Value of the second component       |
| COMP3_NAME | VARCHAR2 (256) | Name of the third component         |
| COMP3_VAL  | VARCHAR2 (256) | Value of the third component        |
| COMP4_NAME | VARCHAR2 (256) | Name of the fourth component        |
| COMP4_VAL  | VARCHAR2 (256) | Value of the fourth component       |

| Column     | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMP5_NAME | VARCHAR2 (256) | Name of the fifth component                                                                                                                                                                                                                                                                                                                                                                                                                     |
| COMP5_VAL  | VARCHAR2 (256) | Value of the fifth component                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID     | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.68 V\$MAP\_ELEMENT

V\$MAP\_ELEMENT displays a list of all element mapping structures in the SGA of the instance.

| Column        | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ELEM_NAME     | VARCHAR2 (256) | Element name                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ELEM_IDX      | NUMBER         | Index corresponding to the element                                                                                                                                                                                                                                                                                                                                                                                                              |
| ELEM_CFGID    | VARCHAR2 (256) | Configuration ID (N/A if configuration ID is not supported)                                                                                                                                                                                                                                                                                                                                                                                     |
| ELEM_TYPE     | VARCHAR2 (12)  | Element type: <ul style="list-style-type: none"> <li>MIRROR</li> <li>STRIPE</li> <li>RAID5</li> <li>CONCATENATED</li> <li>PARTITION</li> <li>DISK</li> <li>NONE</li> </ul>                                                                                                                                                                                                                                                                      |
| ELEM_SIZE     | NUMBER         | Element Size in HKB                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ELEM_NSUBELEM | NUMBER         | Number of Subelements                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ELEM_DESCR    | VARCHAR2 (256) | Element Description                                                                                                                                                                                                                                                                                                                                                                                                                             |
| STRIPE_SIZE   | NUMBER         | Stripe Size in HKB for RAID-5 and STRIPE elements, 0 for the remaining types                                                                                                                                                                                                                                                                                                                                                                    |
| LIB_IDX       | NUMBER         | Index of the library which claims ownership of the element                                                                                                                                                                                                                                                                                                                                                                                      |
| CON_ID        | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.69 V\$MAP\_EXT\_ELEMENT

V\$MAP\_EXT\_ELEMENT displays supplementary information for all element mapping structures.

| Column      | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ELEM_IDX    | NUMBER         | Index corresponding to the element                                                                                                                                                                                                                                                                                                                                                                                                                     |
| NUM_ATTRB   | NUMBER         | Number of Attributes (maximum is 5)                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ATTRB1_NAME | VARCHAR2 (256) | Name of the first Attribute                                                                                                                                                                                                                                                                                                                                                                                                                            |
| ATTRB1_VAL  | VARCHAR2 (256) | Value of the first attribute                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ATTRB2_NAME | VARCHAR2 (256) | Name of the second attribute                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ATTRB2_VAL  | VARCHAR2 (256) | Value of the second attribute                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ATTRB3_NAME | VARCHAR2 (256) | Name of the third attribute                                                                                                                                                                                                                                                                                                                                                                                                                            |
| ATTRB3_VAL  | VARCHAR2 (256) | Value of the third attribute                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ATTRB4_NAME | VARCHAR2 (256) | Name of the fourth attribute                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ATTRB4_VAL  | VARCHAR2 (256) | Value of the fourth attribute                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ATTRB5_NAME | VARCHAR2 (256) | Name of the fifth attribute                                                                                                                                                                                                                                                                                                                                                                                                                            |
| ATTRB5_VAL  | VARCHAR2 (256) | Value of the fifth attribute                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID      | NUMBER         | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.70 V\$MAP\_FILE

V\$MAP\_FILE displays a list of all file mapping structures in the shared memory of the instance.

| Column         | Datatype       | Description                                                                                                                                                                         |
|----------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE_MAP_IDX   | NUMBER         | Index corresponding to the file                                                                                                                                                     |
| FILE_CFGID     | VARCHAR2 (256) | Configuration ID (N/A if configuration ID is not supported)                                                                                                                         |
| FILE_STATUS    | VARCHAR2 (7)   | <p>Status of the mapping information:</p> <ul style="list-style-type: none"> <li>VALID - File mapping information is latest</li> <li>INVALID - Mapping must be refreshed</li> </ul> |
| FILE_NAME      | VARCHAR2 (256) | Absolute file name                                                                                                                                                                  |
| FILE_TYPE      | VARCHAR2 (11)  | <p>File type:</p> <ul style="list-style-type: none"> <li>DATAFILE</li> <li>SPFILE</li> <li>TEMPFILE</li> <li>CONTROLFILE</li> <li>LOGFILE</li> <li>ARCHIVEFILE</li> </ul>           |
| FILE_STRUCTURE | VARCHAR2 (9)   | <p>File structure:</p> <ul style="list-style-type: none"> <li>FILE</li> <li>RAWVOLUME</li> <li>RAWDEVICE</li> <li>NONE</li> </ul>                                                   |
| FILE_SIZE      | NUMBER         | File size in HKB (half KB)                                                                                                                                                          |

| Column     | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE_NEXTS | NUMBER   | Number of file extents in the file (not necessarily the same as the number of file extents mapped)                                                                                                                                                                                                                                                                                                                                              |
| LIB_IDX    | NUMBER   | Index of mapping library claiming ownership of the file                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID     | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.71 V\$MAP\_FILE\_EXTENT

V\$MAP\_FILE\_EXTENT displays a list of all file extent mapping structures in the shared memory of the instance.

| Column       | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE_MAP_IDX | NUMBER       | File index (corresponds to FILE_MAP_IDX in V\$MAP_FILE)                                                                                                                                                                                                                                                                                                                                                                                         |
| EXT_NUM      | NUMBER       | File extent number                                                                                                                                                                                                                                                                                                                                                                                                                              |
| EXT_ELEM_OFF | NUMBER       | Element offset in HKB                                                                                                                                                                                                                                                                                                                                                                                                                           |
| EXT_SIZE     | NUMBER       | File extent size in HKB                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EXT_FILE_OFF | NUMBER       | File Offset in HKB                                                                                                                                                                                                                                                                                                                                                                                                                              |
| EXT_TYPE     | VARCHAR2 (6) | File Extent Type: <ul style="list-style-type: none"> <li>DATA</li> <li>PARITY</li> <li>NONE</li> </ul>                                                                                                                                                                                                                                                                                                                                          |
| ELEM_IDX     | NUMBER       | Index in V\$MAP_ELEMENT corresponding to the element where the file extent resides                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID       | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.72 V\$MAP\_FILE\_IO\_STACK

V\$MAP\_FILE\_IO\_STACK displays the hierarchical arrangement of storage containers for files. Each row in the view represents a level in the hierarchy.

| Column       | Datatype | Description                                             |
|--------------|----------|---------------------------------------------------------|
| FILE_MAP_IDX | NUMBER   | File index (corresponds to FILE_MAP_IDX in V\$MAP_FILE) |
| DEPTH        | NUMBER   | Element depth within the I/O stack                      |

| Column        | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ELEM_IDX      | NUMBER        | Index corresponding to the element                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CU_SIZE       | NUMBER        | Contiguous set of logical blocks of the file (in HKB units) that is resident contiguously on the element                                                                                                                                                                                                                                                                                                                                              |
| STRIDE        | NUMBER        | Number of HKB between contiguous units (CU) in the file that are contiguous on this element. Used in RAID5 and striped files.                                                                                                                                                                                                                                                                                                                         |
| NUM_CU        | NUMBER        | Number of contiguous units that are adjacent to each other on this element that are separated by <code>STRIDE</code> HKB in the file. In RAID5, the number of contiguous units also include the parity stripes.                                                                                                                                                                                                                                       |
| ELEM_OFFSET   | NUMBER        | Element offset in HKB units                                                                                                                                                                                                                                                                                                                                                                                                                           |
| FILE_OFFSET   | NUMBER        | Offset in HKB units from the start of the file to the first byte of the contiguous units                                                                                                                                                                                                                                                                                                                                                              |
| DATA_TYPE     | VARCHAR2 (15) | Datatype: <ul style="list-style-type: none"> <li>• DATA</li> <li>• PARITY</li> <li>• DATA AND PARITY</li> </ul>                                                                                                                                                                                                                                                                                                                                       |
| PARITY_POS    | NUMBER        | Position of the parity. Only for RAID5. This column is needed to distinguish the parity from the data part.                                                                                                                                                                                                                                                                                                                                           |
| PARITY_PERIOD | NUMBER        | Parity period. Only for RAID5.                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ID            | NUMBER        | Unique identifier                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PARENT_ID     | NUMBER        | Parent identifier                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID        | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.73 V\$MAP\_LIBRARY

`V$MAP_LIBRARY` displays a list of all mapping libraries dynamically loaded by the external process.

| Column       | Datatype        | Description                                                                                                                                                           |
|--------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LIB_IDX      | NUMBER          | Index corresponding to the library                                                                                                                                    |
| LIB_NAME     | VARCHAR2 (256)  | Absolute library name                                                                                                                                                 |
| VENDOR_NAME  | VARCHAR2 (64)   | Name of the vendor implementing the library                                                                                                                           |
| PROTOCOL_NUM | NUMBER          | Mapping protocol that the library supports                                                                                                                            |
| VERSION_NUM  | VARCHAR2 (32)   | Version number                                                                                                                                                        |
| PATH_NAME    | VARCHAR2 (4000) | Path name                                                                                                                                                             |
| MAP_FILE     | VARCHAR2 (1)    | Indicates whether the library supports mapping files (Y) or not (N)                                                                                                   |
| FILE_CFGID   | VARCHAR2 (13)   | Type of configuration ID supported for files: <ul style="list-style-type: none"> <li>• NONE - Not supported</li> <li>• PERSISTENT</li> <li>• NONPERSISTENT</li> </ul> |

| Column     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAP_ELEM   | VARCHAR2 (1)  | Indicates whether the library supports mapping elements (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                          |
| ELEM_CFGID | VARCHAR2 (13) | Type of configuration id supported for elements: <ul style="list-style-type: none"> <li>NONE - Not supported</li> <li>PERSISTENT</li> <li>NONPERSISTENT</li> </ul>                                                                                                                                                                                                                                                                              |
| MAP_SYNC   | VARCHAR2 (1)  | Indicates whether the library needs to be explicitly synchronized so that future mappings reflect the most recent changes (Y) or not (N). Note that configuration IDs cannot be supported if the library needs to be explicitly synced.                                                                                                                                                                                                         |
| CON_ID     | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.74 V\$MAP\_SUBELEMENT

V\$MAP\_SUBELEMENT displays a list of all subelement mapping structures in the shared memory of the instance.

| Column      | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CHILD_IDX   | NUMBER   | Index in V\$MAP_ELEMENT corresponding to the child element                                                                                                                                                                                                                                                                                                                                                                                      |
| PARENT_IDX  | NUMBER   | Index in V\$MAP_ELEMENT corresponding to the parent element                                                                                                                                                                                                                                                                                                                                                                                     |
| SUB_NUM     | NUMBER   | Subelement number                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SUB_SIZE    | NUMBER   | Subelement size in HKB                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ELEM_OFFSET | NUMBER   | Offset in HKB on the child element                                                                                                                                                                                                                                                                                                                                                                                                              |
| SUB_FLAGS   | NUMBER   | Subelement flags (currently unused)                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID      | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.75 V\$MAPPED\_SQL

V\$MAPPED\_SQL lists the SQL statements that are translated and mapped in memory to a different SQL statement for execution.

| Column   | Datatype        | Description                                    |
|----------|-----------------|------------------------------------------------|
| SQL_TEXT | VARCHAR2 (1000) | First 1000 characters of the original SQL text |

| Column                     | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQL_FULLTEXT               | CLOB            | Full text for the original SQL statement                                                                                                                                                                                                                                                                                                                                                                                                        |
| SQL_ID                     | VARCHAR2 (13)   | SQL identifier of the original SQL statement                                                                                                                                                                                                                                                                                                                                                                                                    |
| HASH_VALUE                 | NUMBER          | Hash value of the original SQL statement                                                                                                                                                                                                                                                                                                                                                                                                        |
| MAPPED_SQL_TEXT            | VARCHAR2 (1000) | First 1000 characters of the mapped SQL text                                                                                                                                                                                                                                                                                                                                                                                                    |
| MAPPED_SQL_FULLTEXT        | CLOB            | Full text for the mapped SQL statement                                                                                                                                                                                                                                                                                                                                                                                                          |
| MAPPED_SQL_ID              | VARCHAR2 (13)   | SQL identifier of the mapped SQL statement                                                                                                                                                                                                                                                                                                                                                                                                      |
| MAPPED_HASH_VALUE          | NUMBER          | Hash value of the mapped SQL statement                                                                                                                                                                                                                                                                                                                                                                                                          |
| SQL_TRANSLATION_PROFILE_ID | NUMBER          | A non-NULL value specifies the object ID of the SQL translation profile used to translate the SQL statement into the mapped SQL statement                                                                                                                                                                                                                                                                                                       |
| CON_ID                     | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| TRANSLATION_TIMESTAMP      | DATE            | Time this SQL statement was translated                                                                                                                                                                                                                                                                                                                                                                                                          |
| TRANSLATION_CPU_TIME       | NUMBER          | CPU time used to translate this SQL statement                                                                                                                                                                                                                                                                                                                                                                                                   |
| TRANSLATION_ELAPSED_TIME   | NUMBER          | Elapsed time used to translate this SQL statement                                                                                                                                                                                                                                                                                                                                                                                               |
| TRANSLATION_METHOD         | VARCHAR2 (10)   | Method used to translate this SQL statement                                                                                                                                                                                                                                                                                                                                                                                                     |
| DICTIONARY_SQL_ID          | VARCHAR2 (13)   | SQL ID of SQL text in custom translation dictionary used to translate this SQL statement                                                                                                                                                                                                                                                                                                                                                        |
| USE_COUNT                  | NUMBER          | Number of times this translation has been used                                                                                                                                                                                                                                                                                                                                                                                                  |

## 9.76 V\$MEMOPTIMIZE\_WRITE\_AREA

V\$MEMOPTIMIZE\_WRITE\_AREA displays information about fast ingest data in the large pool.

| Column      | Datatype | Description                                                                                                        |
|-------------|----------|--------------------------------------------------------------------------------------------------------------------|
| TOTAL_SIZE  | NUMBER   | Total amount of memory allocated for fast ingest data in the large pool (in bytes)                                 |
| USED_SPACE  | NUMBER   | Total amount of memory currently used by fast ingest data in the large pool (in bytes)                             |
| FREE_SPACE  | NUMBER   | Total amount of memory currently free for storing fast ingest data in the large pool (in bytes)                    |
| NUM_WRITES  | NUMBER   | Number of fast ingest insert operations for which data is still in the large pool and is yet to be written to disk |
| NUM_WRITERS | NUMBER   | Number of clients currently using fast ingest for inserting data into the database                                 |



| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.77 V\$MEMORY\_CURRENT\_RESIZE\_OPS

V\$MEMORY\_CURRENT\_RESIZE\_OPS displays information about memory resize operations (both automatic and manual) which are currently in progress.

An operation can be a grow or a shrink of a dynamic memory component. All sizes are expressed in bytes.

| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPONENT        | VARCHAR2 (64) | Component name                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| OPER_TYPE        | VARCHAR2 (13) | <p>Operation type:</p> <ul style="list-style-type: none"> <li>STATIC</li> <li>INITIALIZING</li> <li>DISABLED</li> <li>GROW</li> <li>SHRINK</li> <li>SHRINK_CANCEL</li> </ul>                                                                                                                                                                                                                                                                           |
| OPER_MODE        | VARCHAR2 (9)  | <p>Operation mode:</p> <ul style="list-style-type: none"> <li>MANUAL</li> <li>DEFERRED</li> <li>IMMEDIATE</li> </ul>                                                                                                                                                                                                                                                                                                                                   |
| PARAMETER        | VARCHAR2 (80) | Name of the parameter for the resize operation                                                                                                                                                                                                                                                                                                                                                                                                         |
| INITIAL_SIZE     | NUMBER        | Parameter value at the start of the operation                                                                                                                                                                                                                                                                                                                                                                                                          |
| TARGET_SIZE      | NUMBER        | Desired value of the parameter after the resize                                                                                                                                                                                                                                                                                                                                                                                                        |
| CURRENT_SIZE     | NUMBER        | Current value of the parameter                                                                                                                                                                                                                                                                                                                                                                                                                         |
| START_TIME       | DATE          | Start time of the operation                                                                                                                                                                                                                                                                                                                                                                                                                            |
| LAST_UPDATE_TIME | DATE          | Last time progress was made for the operation                                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID           | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.78 V\$MEMORY\_DYNAMIC\_COMPONENTS

V\$MEMORY\_DYNAMIC\_COMPONENTS displays information about the dynamic SGA components.

This view summarizes information based on all completed SGA resize operations since instance startup. All sizes are expressed in bytes.

| Column              | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPONENT           | VARCHAR2 (64) | Component name                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CURRENT_SIZE        | NUMBER        | Current size of the component                                                                                                                                                                                                                                                                                                                                                                                                                     |
| MIN_SIZE            | NUMBER        | Minimum size of the component since instance startup                                                                                                                                                                                                                                                                                                                                                                                              |
| MAX_SIZE            | NUMBER        | Maximum size of the component since instance startup                                                                                                                                                                                                                                                                                                                                                                                              |
| USER_SPECIFIED_SIZE | NUMBER        | Value of the user parameter for the component                                                                                                                                                                                                                                                                                                                                                                                                     |
| OPER_COUNT          | NUMBER        | Number of operations since instance startup                                                                                                                                                                                                                                                                                                                                                                                                       |
| LAST_OPER_TYPE      | VARCHAR2 (13) | Last completed operation for the component: <ul style="list-style-type: none"><li>• STATIC</li><li>• INITIALIZING</li><li>• DISABLED</li><li>• GROW</li><li>• SHRINK</li><li>• SHRINK_CANCEL</li></ul>                                                                                                                                                                                                                                            |
| LAST_OPER_MODE      | VARCHAR2 (9)  | Mode of the last completed operation: <ul style="list-style-type: none"><li>• MANUAL</li><li>• DEFERRED</li><li>• IMMEDIATE</li></ul>                                                                                                                                                                                                                                                                                                             |
| LAST_OPER_TIME      | DATE          | Start time of the last completed operation                                                                                                                                                                                                                                                                                                                                                                                                        |
| GRANULE_SIZE        | NUMBER        | Granularity of the GROW or SHRINK operation                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID              | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.79 V\$MEMORY\_RESIZE\_OPS

V\$MEMORY\_RESIZE\_OPS displays information about the last 800 completed memory resize operations (both automatic and manual). This does not include in-progress operations. All sizes are expressed in bytes.

| Column    | Datatype      | Description    |
|-----------|---------------|----------------|
| COMPONENT | VARCHAR2 (64) | Component name |

| Column          | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OPER_TYPE       | VARCHAR2 (13) | Operation type: <ul style="list-style-type: none"> <li>• STATIC</li> <li>• INITIALIZING</li> <li>• DISABLED</li> <li>• GROW</li> <li>• SHRINK</li> <li>• SHRINK_CANCEL</li> </ul>                                                                                                                                                                                                                                                                     |
| OPER_MODE       | VARCHAR2 (9)  | Operation mode: <ul style="list-style-type: none"> <li>• MANUAL</li> <li>• DEFERRED</li> <li>• IMMEDIATE</li> </ul>                                                                                                                                                                                                                                                                                                                                   |
| PARAMETER       | VARCHAR2 (80) | Name of the parameter for the resize operation                                                                                                                                                                                                                                                                                                                                                                                                        |
| INITIAL_SIZE    | NUMBER        | Parameter value at the start of the operation                                                                                                                                                                                                                                                                                                                                                                                                         |
| TARGET_SIZE     | NUMBER        | Requested value of the parameter after the resize                                                                                                                                                                                                                                                                                                                                                                                                     |
| FINAL_SIZE      | NUMBER        | Real value of the parameter after the resize                                                                                                                                                                                                                                                                                                                                                                                                          |
| RECEIVED_SIZE   | NUMBER        | Amount of memory that became available as a result of the resize                                                                                                                                                                                                                                                                                                                                                                                      |
| STATUS          | VARCHAR2 (9)  | Completion status of the operation: <ul style="list-style-type: none"> <li>• INACTIVE</li> <li>• PENDING</li> <li>• COMPLETE</li> <li>• CANCELLED</li> <li>• ERROR</li> </ul>                                                                                                                                                                                                                                                                         |
| START_TIMESTAMP | TIMESTAMP (6) | Timestamp for the start time of the operation                                                                                                                                                                                                                                                                                                                                                                                                         |
| END_TIMESTAMP   | TIMESTAMP (6) | Timestamp for the end time of the operation                                                                                                                                                                                                                                                                                                                                                                                                           |
| START_TIME      | DATE          | Start time of the operation                                                                                                                                                                                                                                                                                                                                                                                                                           |
| END_TIME        | DATE          | End time of the operation                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID          | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.80 V\$MEMORY\_TARGET\_ADVICE

V\$MEMORY\_TARGET\_ADVICE provides information about how the MEMORY\_TARGET parameter should be sized based on current sizing and satisfaction metrics.

| Column      | Datatype | Description                                                                                                                                                                                                                                                                                            |
|-------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MEMORY_SIZE | NUMBER   | <p>If the MEMORY_SIZE_FACTOR column has a value of 1, then this column shows the current size of memory, as set by the MEMORY_TARGET initialization parameter.</p> <p>If the value of the MEMORY_SIZE_FACTOR column is less than or greater than 1, then this column shows a proposed memory size.</p> |

| Column              | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MEMORY_SIZE_FACTOR  | NUMBER   | A multiplier for the current memory size. Possible values are 0.25, 0.5, 0.75, 1, 1.5, 1.75, and 2. This multiplier times the current memory size equals the value of the MEMORY_SIZE column.                                                                                                                                                                                                                                                   |
| ESTD_DB_TIME        | NUMBER   | For current memory size (MEMORY_SIZE_FACTOR = 1), the amount of database time required to complete the current workload. For a proposed memory size, the estimated amount of database time that would be required if the MEMORY_TARGET parameter were changed to the proposed size.                                                                                                                                                             |
| ESTD_DB_TIME_FACTOR | NUMBER   | For a proposed memory size, ratio of estimated database time to current database time                                                                                                                                                                                                                                                                                                                                                           |
| VERSION             | NUMBER   | Version number of this recommendation (this snapshot of the V\$MEMORY_TARGET_ADVICE view)                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID              | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

Table 9-2 shows how the information provided in V\$MEMORY\_TARGET\_ADVICE could be used to improve performance. The data indicates that if current memory size is 380M, and you were to increase it to 760M (2x), the current workload would take 80525 units of DBtime as opposed to 115475 units of DBtime, which is a significant improvement in performance.

**Table 9-2 Example of Using V\$MEMORY\_TARGET\_ADVICE**

| MEMORY_SIZE | MEMORY_SIZE_FACT<br>OR | ESTD_DB_TIME | ESTD_DB_TIME_FACT<br>OR | VERSION |
|-------------|------------------------|--------------|-------------------------|---------|
| 380         | 1                      | 115475       | 1                       | 3       |
| 95          | .25                    | 200500       | 1.7                     | 3       |
| 190         | .5                     | 125600       | 1.1                     | 3       |
| 760         | 2                      | 80525        | 0.7                     | 3       |



**See Also:**

"MEMORY\_TARGET"

## 9.81 V\$METRIC

V\$METRIC displays the most recent statistic values for the complete set of metrics captured by the Automatic Workload Repository (AWR) infrastructure.

| Column     | Datatype | Description                |
|------------|----------|----------------------------|
| BEGIN_TIME | DATE     | Begin time of the interval |

| Column          | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| END_TIME        | DATE          | End time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                        |
| INTSIZE_CSEC    | NUMBER        | Interval size (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                       |
| GROUP_ID        | NUMBER        | Metric Group ID. Refer to the V\$METRICNAME view for the name of the group.                                                                                                                                                                                                                                                                                                                                                                     |
| ENTITY_ID       | NUMBER        | Entity ID for the metric in question. The value of the Entity ID depends upon the metric group. (See the following table for an explanation of possible values.)                                                                                                                                                                                                                                                                                |
| ENTITY_SEQUENCE | NUMBER        | Entity Sequence number for the metric in question. The value of the Entity Sequence depends upon the metric group. (See the following table for an explanation of possible values.)                                                                                                                                                                                                                                                             |
| METRIC_ID       | NUMBER        | Metric ID                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| METRIC_NAME     | VARCHAR2 (64) | Metric Name. This is the statistic that is captured for the entity.                                                                                                                                                                                                                                                                                                                                                                             |
| VALUE           | NUMBER        | Value of the statistic between BEGIN_TIME and END_TIME                                                                                                                                                                                                                                                                                                                                                                                          |
| METRIC_UNIT     | VARCHAR2 (64) | Unit for the VALUE                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID          | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

The following table describes what the ENTITY\_ID and ENTITY\_SEQUENCE are for each metric group:

| GID | Group NAME                       | Entity ID     | Entity Sequence  |
|-----|----------------------------------|---------------|------------------|
| 0   | Event Metrics                    | Event#        | N/A              |
| 1   | Event Class Metrics              | Wait Class ID | N/A              |
| 2   | System Metrics Long Duration     | N/A           | N/A              |
| 3   | System Metrics Short Duration    | N/A           | N/A              |
| 4   | Session Metrics Long Duration    | Session ID    | Serial#          |
| 5   | Session Metrics Short Duration   | Session ID    | Serial#          |
| 6   | Service Metrics                  | N/A           | Service Hash     |
| 7   | File Metrics Long Duration       | File#         | Creation Change# |
| 9   | Tablespace Metrics Long Duration | Tablespace#   | N/A              |
| 10  | Service Metrics (Short)          | N/A           | Service Hash     |

## 9.82 V\$METRICGROUP

V\$METRICGROUP displays information about the metric group for each of the four major Replication components: capture, propagation, apply, and queue.

| Column        | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUP_ID      | NUMBER        | Internal ID associated with each group                                                                                                                                                                                                                                                                                                                                                                                                          |
| NAME          | VARCHAR2 (64) | External name of the group                                                                                                                                                                                                                                                                                                                                                                                                                      |
| INTERVAL_SIZE | NUMBER        | How often to collect statistics                                                                                                                                                                                                                                                                                                                                                                                                                 |
| MAX_INTERVAL  | NUMBER        | Total number of intervals over which statistics should be collected                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID        | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.83 V\$METRIC\_HISTORY

V\$METRIC\_HISTORY displays all the available statistic values for the complete set of metrics captured by the Automatic Workload Repository (AWR) infrastructure.

| Column          | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BEGIN_TIME      | DATE          | Begin time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                      |
| END_TIME        | DATE          | End time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                        |
| INTSIZE_CSEC    | NUMBER        | Interval size (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                       |
| GROUP_ID        | NUMBER        | Metric Group ID. Refer to the V\$METRICNAME view for the name of the group.                                                                                                                                                                                                                                                                                                                                                                     |
| ENTITY_ID       | NUMBER        | Entity ID for the metric in question. The value of the Entity ID depends upon the metric group. (See the table in the description of V\$METRIC for an explanation of possible values.)                                                                                                                                                                                                                                                          |
| ENTITY_SEQUENCE | NUMBER        | Entity Sequence number for the metric in question. The value of the Entity Sequence depends upon the metric group. (See the table in the description of V\$METRIC for an explanation of possible values.)                                                                                                                                                                                                                                       |
| METRIC_ID       | NUMBER        | Metric ID                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| METRIC_NAME     | VARCHAR2 (64) | Metric Name. This is the statistic that is captured for the entity.                                                                                                                                                                                                                                                                                                                                                                             |
| VALUE           | NUMBER        | Value of the statistic between BEGIN_TIME and END_TIME                                                                                                                                                                                                                                                                                                                                                                                          |
| METRIC_UNIT     | VARCHAR2 (64) | Unit for the VALUE                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID          | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.84 V\$METRICNAME

V\$METRICNAME displays the mapping of the name of metrics to their metric ID.

| Column      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUP_ID    | NUMBER        | Metric group ID                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| GROUP_NAME  | VARCHAR2 (64) | Metric group name                                                                                                                                                                                                                                                                                                                                                                                                                               |
| METRIC_ID   | NUMBER        | Metric ID                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| METRIC_NAME | VARCHAR2 (64) | Metric name                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| METRIC_UNIT | VARCHAR2 (64) | Unit of measurement                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.85 V\$MTTR\_TARGET\_ADVICE

V\$MTTR\_TARGET\_ADVICE displays rows that predict the number of physical I/Os for the MTTR corresponding to each row.

The rows also compute a physical I/O factor, which is the ratio of the number of estimated I/Os to the number of I/Os actually performed by the current MTTR setting during the measurement interval.

The content of the view is empty if MTTR advisory has not been turned on since database startup. Otherwise, it returns the advisory information collected. If advisory is currently off, then this information comes from the last time MTTR advisory was on. FAST\_START\_MTTR\_TARGET must be set to a nonzero value if the STATISTICS\_LEVEL parameter is dynamically modified to turn MTTR advisory on.

If the FAST\_START\_MTTR\_TARGET parameter is changed while MTTR advisory is on, then MTTR advisory is temporarily turned off until the new FAST\_START\_MTTR\_TARGET setting takes effect. During this transition period, the contents of V\$MTTR\_TARGET\_ADVICE reflect the simulation result for the old MTTR setting.

| Column                   | Datatype     | Description                                                                                                                                                                 |
|--------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MTTR_TARGET_FOR_ESTIMATE | NUMBER       | MTTR setting being simulated. Equal to the current MTTR setting if this is the first row of the view.                                                                       |
| ADVICE_STATUS            | VARCHAR2 (5) | Current status of MTTR simulation: <ul style="list-style-type: none"> <li>ON</li> <li>READY</li> <li>OFF</li> </ul>                                                         |
| DIRTY_LIMIT              | NUMBER       | Dirty buffer limit derived from the MTTR being simulated                                                                                                                    |
| ESTD_CACHE_WRITES        | NUMBER       | Estimated number of cache physical writes under this MTTR                                                                                                                   |
| ESTD_CACHE_WRITE_FACTOR  | NUMBER       | Estimated cache physical write ratio under this MTTR. It is the ratio of the estimated number of cache writes to the number of cache writes under the current MTTR setting. |
| ESTD_TOTAL_WRITES        | NUMBER       | Estimated total number of physical writes under this MTTR                                                                                                                   |

| Column                  | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ESTD_TOTAL_WRITE_FACTOR | NUMBER   | Estimated total physical write ratio under this MTTR. It is the ratio of the estimated total number of physical writes to the total number of physical writes under the current MTTR setting.                                                                                                                                                                                                                                                   |
| ESTD_TOTAL_IOS          | NUMBER   | Estimated total number of I/Os under this MTTR                                                                                                                                                                                                                                                                                                                                                                                                  |
| ESTD_TOTAL_IO_FACTOR    | NUMBER   | Estimated total I/O ratio under this MTTR. It is the ratio of the estimated total number of I/Os to the total number of I/Os under the current MTTR setting.                                                                                                                                                                                                                                                                                    |
| CON_ID                  | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

- "FAST\_START\_MTTR\_TARGET"
- "STATISTICS\_LEVEL"

## 9.86 V\$MUTEX\_SLEEP

V\$MUTEX\_SLEEP shows the wait time, and the number of sleeps for each combination of mutex type and location.

| Column     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MUTEX_TYPE | VARCHAR2 (32) | Type of action/object the mutex protects                                                                                                                                                                                                                                                                                                                                                                                                        |
| LOCATION   | VARCHAR2 (40) | The code location where the waiter slept for the mutex                                                                                                                                                                                                                                                                                                                                                                                          |
| SLEEPS     | NUMBER        | Number of sleeps for this MUTEX_TYPE and LOCATION                                                                                                                                                                                                                                                                                                                                                                                               |
| WAIT_TIME  | NUMBER        | Wait time in microseconds                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID     | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



## 9.87 V\$MUTEX\_SLEEP\_HISTORY

V\$MUTEX\_SLEEP\_HISTORY displays time-series data.

Each row in this view is for a specific time, mutex type, location, requesting session and blocking session combination. That is, it shows data related to a specific session (requesting session) that slept while requesting a specific mutex type and location, because it was being held by a specific blocking session. The data in this view is contained within a circular buffer, with the most recent sleeps shown.

| Column             | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MUTEX_IDENTIFIER   | NUMBER        | Mutex ID                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SLEEP_TIMESTAMP    | TIMESTAMP (6) | The last date/time this MUTEX_TYPE and LOCATION was slept for by the REQUESTING_SESSION, while being held by the BLOCKING_SESSION.                                                                                                                                                                                                                                                                                                              |
| MUTEX_TYPE         | VARCHAR2 (32) | Type of action/object the mutex protects                                                                                                                                                                                                                                                                                                                                                                                                        |
| GETS               | NUMBER        | The total number of gets since the mutex was created and up until the time of the wait (and from all sessions past and present)                                                                                                                                                                                                                                                                                                                 |
| SLEEPS             | NUMBER        | The number of times the requester had to sleep before obtaining the mutex                                                                                                                                                                                                                                                                                                                                                                       |
| REQUESTING_SESSION | NUMBER        | The SID of a session requesting the mutex                                                                                                                                                                                                                                                                                                                                                                                                       |
| BLOCKING_SESSION   | NUMBER        | The SID of a session holding the mutex                                                                                                                                                                                                                                                                                                                                                                                                          |
| LOCATION           | VARCHAR2 (40) | The code location where the waiter slept for the mutex                                                                                                                                                                                                                                                                                                                                                                                          |
| MUTEX_VALUE        | RAW (4   8)   | If the mutex is held in exclusive (X) mode, this column shows the SID of the blocking session, else it shows the number of sessions referencing the mutex in S mode.                                                                                                                                                                                                                                                                            |
| P1                 | NUMBER        | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                       |
| P1RAW              | RAW (4   8)   | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                       |
| P2                 | NUMBER        | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                       |
| P3                 | NUMBER        | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                       |
| P4                 | NUMBER        | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                       |
| P5                 | VARCHAR2 (64) | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID             | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.88 V\$MVREFRESH

V\$MVREFRESH displays information about the materialized views currently being refreshed.

| Column | Datatype | Description        |
|--------|----------|--------------------|
| SID    | NUMBER   | Session identifier |

| Column      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SERIAL#     | NUMBER        | Session serial number, which is used to uniquely identify a session's objects. Guarantees that session-level commands are applied to the correct session objects if the session ends with, and another session begins with, the same session ID.                                                                                                                                                                                                |
| CURRMVOWNER | VARCHAR2 (31) | Owner of the materialized view currently being refreshed. The materialized view resides in this user's schema.                                                                                                                                                                                                                                                                                                                                  |
| CURRMVNAME  | VARCHAR2 (31) | Name of the materialized view currently being refreshed                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.89 V\$MYSTAT

V\$MYSTAT contains statistics on the current session.

| Column     | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID        | NUMBER   | ID of the current session                                                                                                                                                                                                                                                                                                                                                                                                                       |
| STATISTIC# | NUMBER   | Number of the statistic                                                                                                                                                                                                                                                                                                                                                                                                                         |
| VALUE      | NUMBER   | Value of the statistic                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID     | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.90 V\$NFS\_CLIENTS

V\$NFS\_CLIENTS displays information about NFS clients currently connected to the XML DB NFS Server.

| Column                 | Datatype        | Description                                                               |
|------------------------|-----------------|---------------------------------------------------------------------------|
| CLIENTID               | NUMBER          | A number identifying the client                                           |
| PRINCIPAL              | VARCHAR2 (2000) | User string denoting the principal that set the client ID (SetClientId)   |
| CLIENTOPAQUEIDENTIFIER | VARCHAR2 (1000) | Opaque string presented as identification by the client to the NFS server |
| VERIFIER               | RAW (8)         | Verifier presented by the client                                          |
| LEASEEXPIRY            | NUMBER          | Number of seconds in which the lease expires for the client               |
| CLIENTADDR             | VARCHAR2 (2000) | Address of the client                                                     |

| Column    | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CONFIRMED | VARCHAR2 (5) | TRUE if the client is confirmed; otherwise FALSE                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID    | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.91 V\$NFS\_LOCKS

V\$NFS\_LOCKS displays information about byte range locks held on different files by NFS clients.

| Column         | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OPENSTATEID    | RAW (16)        | Open state ID of the open owner                                                                                                                                                                                                                                                                                                                                                                                                                 |
| OPENSEQUENCEID | NUMBER          | Open Sequence ID of the open owner                                                                                                                                                                                                                                                                                                                                                                                                              |
| LOCKSTATEID    | RAW (16)        | Lock state ID of the lock owner                                                                                                                                                                                                                                                                                                                                                                                                                 |
| LOCKSEQUENCEID | NUMBER          | Lock sequence ID of the lock owner                                                                                                                                                                                                                                                                                                                                                                                                              |
| LOCKOWNER      | VARCHAR2 (2000) | Opaque string presented as identification by the lock owner to the NFS server                                                                                                                                                                                                                                                                                                                                                                   |
| OFFSET         | NUMBER          | Byte Offset from which lock starts                                                                                                                                                                                                                                                                                                                                                                                                              |
| LENGTH         | NUMBER          | Length of the lock                                                                                                                                                                                                                                                                                                                                                                                                                              |
| LOCKTYPE       | VARCHAR2 (20)   | Type of the lock                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID         | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.92 V\$NFS\_OPEN\_FILES

V\$NFS\_OPEN\_FILES displays information about all the files currently opened by clients at the NFS server.

| Column          | Datatype        | Description                                                   |
|-----------------|-----------------|---------------------------------------------------------------|
| CLIENTID        | NUMBER          | Number identifying the client                                 |
| OPENOWNEROPAQUE | VARCHAR2 (2000) | All the files currently opened by clients at the NFS server   |
| OPENSTATEID     | RAW (16)        | Open state ID of the open owner                               |
| FILEHANDLE      | RAW (32)        | FileHandle of the file that has been opened                   |
| OPENSEQUENCEID  | NUMBER          | Open sequence ID of open owner                                |
| OPENREAD        | VARCHAR2 (5)    | TRUE if the file is open for READ operations; otherwise FALSE |

| Column      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OPENWRITE   | VARCHAR2 (5)  | TRUE if the file is open for WRITE operations; otherwise FALSE                                                                                                                                                                                                                                                                                                                                                                                  |
| SHAREACCESS | VARCHAR2 (15) | Sharing mode of the file (SharedReadWrite, SharedRead, SharedWrite)                                                                                                                                                                                                                                                                                                                                                                             |
| SHAREDENY   | VARCHAR2 (13) | Deny mode of the file (DenyReadWrite, DenyRead, DenyWrite)                                                                                                                                                                                                                                                                                                                                                                                      |
| CONFIRMED   | VARCHAR2 (5)  | TRUE if open is confirmed; otherwise FALSE                                                                                                                                                                                                                                                                                                                                                                                                      |
| CON_ID      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.93 V\$NLS\_PARAMETERS

V\$NLS\_PARAMETERS contains current values of NLS parameters.

| Column    | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PARAMETER | VARCHAR2 (64) | Parameter names are as follows: NLS_CALENDAR, NLS_CHARACTERSET, NLS_COMP, NLS_CURRENCY, NLS_DATE_FORMAT, NLS_DATE_LANGUAGE, NLS_DUAL_CURRENCY, NLS_ISO_CURRENCY, NLS_LANGUAGE, NLS_LENGTH_SEMANTICS, NLS_NCHAR_CHARACTERSET, NLS_NCHAR_CONV_EXCP, NLS_NUMERIC_CHARACTERS, NLS_SORT, NLS_TERRITORY, NLS_TIMESTAMP_FORMAT, NLS_TIMESTAMP_TZ_FORMAT<br><br>Two additional parameters, NLS_TIME_FORMAT and NLS_TIME_TZ_FORMAT, are currently used for internal purposes only. |
| VALUE     | VARCHAR2 (64) | NLS parameter value                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID    | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                           |

## 9.94 V\$NLS\_VALID\_VALUES

V\$NLS\_VALID\_VALUES lists all valid values for NLS parameters.

| Column       | Datatype      | Description                                                               |
|--------------|---------------|---------------------------------------------------------------------------|
| PARAMETER    | VARCHAR2 (64) | Parameter name (LANGUAGE   SORT   TERRITORY   CHARACTERSET)               |
| VALUE        | VARCHAR2 (64) | NLS parameter value                                                       |
| ISDEPRECATED | VARCHAR2 (5)  | Indicates whether the parameter has been deprecated (TRUE) or not (FALSE) |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.95 V\$NONLOGGED\_BLOCK

V\$NONLOGGED\_BLOCK displays ranges of nonlogged datafile blocks recorded in the control file.

Prior to Oracle Database 12c, the presence of any nonlogged blocks in a data file was recorded in the file header via the FIRST\_NONLOGGED\_SCN column of the V\$DATAFILE view. Now with 12c, in addition to the file header data, the ranges themselves are recorded in the control file. A control file range is a superset of the actual nonlogged blocks, meaning that small ranges can be merged to form larger ranges, even when there are some valid blocks between the smaller ranges.

The information in the view is maintained by RMAN VALIDATE, RMAN RESTORE, RMAN RECOVER, and Flashback Database and Media Recovery. A non RMAN-based restore will cause the data to become invalid, and it will be purged the next time any of those tasks are invoked and involve the file. As a result of space reuse, it is possible for ranges to no longer contain any nonlogged blocks. An RMAN VALIDATE command can be used to synchronize the ranges with the actual nonlogged blocks found from a scan of the data file.

| Column                  | Datatype      | Description                                                                                                    |
|-------------------------|---------------|----------------------------------------------------------------------------------------------------------------|
| FILE#                   | NUMBER        | Absolute file number of the data file that contains the nonlogged blocks                                       |
| BLOCK#                  | NUMBER        | Block number of the first nonlogged block in the range of nologged blocks                                      |
| BLOCKS                  | NUMBER        | Number of nonlogged blocks found starting with BLOCK#                                                          |
| NONLOGGED_START_CHANGE# | NUMBER        | The smallest SCN on which any block in this block range became nonlogged. NULL if unknown.                     |
| NONLOGGED_START_TIME    | DATE          | The time that corresponds to NONLOGGED_START_CHANGE#. NULL if unknown.                                         |
| NONLOGGED_END_CHANGE#   | NUMBER        | The largest SCN on which any block in this block range became nonlogged. NULL if unknown.                      |
| NONLOGGED_END_TIME      | DATE          | The time that corresponds to NONLOGGED_END_CHANGE#. NULL if unknown.                                           |
| RESETLOGS_CHANGE#       | NUMBER        | The resetlogs SCN of the incarnation on which this block range was first marked as nonlogged. NULL if unknown. |
| RESETLOGS_TIME          | DATE          | The resetlogs time of the incarnation on which this block range was first marked as nologged. NULL if unknown. |
| OBJECT#                 | VARCHAR2 (40) | The object ID this range belongs to. If this field is NULL, the object number is unknown.                      |

| Column | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REASON | VARCHAR2 (9) | The reason why this block range appears in this list, for example, primary file offline, could not talk to primary, non-standby recovery, and so on. For Oracle Database 12c and later releases, it is always UNKNOWN.                                                                                                                                                                                                                          |
| CON_ID | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.96 V\$OBJECT\_DEPENDENCY

V\$OBJECT\_DEPENDENCY displays the objects depended on by a package, procedure, or cursor that is currently loaded in the shared pool. For example, together with V\$SESSION and V\$SQL, this view can be used to determine which tables are used in the SQL statement that a user is currently executing.



### See Also:

"V\$SESSION" and "V\$SQL"

| Column       | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FROM_ADDRESS | RAW (4   8)     | Address of a procedure, package, or cursor that is currently loaded in the shared pool                                                                                                                                                                                                                                                                                                                                                          |
| FROM_HASH    | NUMBER          | Hash value of a procedure, package, or cursor that is currently loaded in the shared pool                                                                                                                                                                                                                                                                                                                                                       |
| TO_OWNER     | VARCHAR2 (64)   | Owner of the object that is depended on                                                                                                                                                                                                                                                                                                                                                                                                         |
| TO_NAME      | VARCHAR2 (1000) | Name of the object that is depended on                                                                                                                                                                                                                                                                                                                                                                                                          |
| TO_ADDRESS   | RAW (4   8)     | Address of the object that is depended on. These can be used to look up more information on the object in V\$DB_OBJECT_CACHE.                                                                                                                                                                                                                                                                                                                   |
| TO_HASH      | NUMBER          | Hash value of the object that is depended on. These can be used to look up more information on the object in V\$DB_OBJECT_CACHE.                                                                                                                                                                                                                                                                                                                |
| TO_TYPE      | NUMBER          | Type of the object that is depended on                                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID       | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.97 V\$OBJECT\_PRIVILEGE

V\$OBJECT\_PRIVILEGE displays information about privileges associated with an object.

| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_TYPE_NAME | VARCHAR2 (64) | Name of the object type                                                                                                                                                                                                                                                                                                                                                                                                                     |
| OBJECT_TYPE_ID   | NUMBER        | ID of the object type                                                                                                                                                                                                                                                                                                                                                                                                                       |
| PRIVILEGE_ID     | NUMBER        | ID of the privilege                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PRIVILEGE_NAME   | VARCHAR2 (64) | Name of the privilege                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID           | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.98 V\$OBsolete\_BACKUP\_FILES

V\$OBsolete\_BACKUP\_FILES displays all obsolete backups, copies, and archived logs according to the current retention policy.

This view requires that the database is set using the DBMS\_RCVMAN.SETDATABASE procedure.

| Column       | Datatype      | Description                                                                                                                                                                                                                                                                                                                         |
|--------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PKEY         | NUMBER        | Primary key for the backup                                                                                                                                                                                                                                                                                                          |
| BACKUP_TYPE  | VARCHAR2 (32) | Type of the backup: <ul style="list-style-type: none"><li>BACKUP SET</li><li>COPY</li><li>PROXY COPY</li></ul>                                                                                                                                                                                                                      |
| FILE_TYPE    | VARCHAR2 (32) | Type of the file: <ul style="list-style-type: none"><li>DATAFILE</li><li>CONTROLFILE</li><li>SPFILE</li><li>REDO LOG</li><li>PIECE</li></ul>                                                                                                                                                                                        |
| KEEP         | VARCHAR2 (3)  | Indicates whether the backup has a retention policy different from the value for CONFIGURE RETENTION POLICY (YES) or not (NO)                                                                                                                                                                                                       |
| KEEP_UNTIL   | DATE          | If the KEEP UNTIL TIME clause of the BACKUP command was specified, then this column shows the date after which the backup becomes obsolete. If the column is null and KEEP_OPTIONS is not null, the backup never becomes obsolete.                                                                                                  |
| KEEP_OPTIONS | VARCHAR2 (13) | KEEP options for the backup: <ul style="list-style-type: none"><li>LOGS - RMAN keeps the logs needed to recover the backup</li><li>NOLOGS - RMAN does not keep the logs needed to recover the backup</li></ul> If this column is null, then the backup has no KEEP options and will be made obsolete based on the retention policy. |

| Column                | Datatype        | Description                                                                                                                                              |
|-----------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS                | VARCHAR2 (16)   | Status of the backup: <ul style="list-style-type: none"> <li>• AVAILABLE</li> <li>• UNAVAILABLE</li> <li>• EXPIRED</li> <li>• OTHER</li> </ul>           |
| FNAME                 | VARCHAR2 (1024) | Name of the file                                                                                                                                         |
| TAG                   | VARCHAR2 (32)   | Tag of the piece, copy, or proxy copy                                                                                                                    |
| MEDIA                 | VARCHAR2 (80)   | Media ID of the piece or proxy copy                                                                                                                      |
| RECID                 | NUMBER          | Recid of the record in the controlfile                                                                                                                   |
| STAMP                 | NUMBER          | Stamp of the record in the controlfile                                                                                                                   |
| DEVICE_TYPE           | VARCHAR2 (255)  | Type of media device that stores the backup                                                                                                              |
| BLOCK_SIZE            | NUMBER          | Block size for the backup (in bytes)                                                                                                                     |
| COMPLETION_TIME       | DATE            | Time when the backup completed                                                                                                                           |
| BS_KEY                | NUMBER          | Primary key of the backup set (valid only when BACKUP_TYPE is BACKUP SET)                                                                                |
| BS_COUNT              | NUMBER          | Count of the backup set from the controlfile record (valid only when BACKUP_TYPE is BACKUP SET)                                                          |
| BS_STAMP              | NUMBER          | Stamp of the backup set from the controlfile record (valid only when BACKUP_TYPE is BACKUP SET)                                                          |
| BS_TYPE               | VARCHAR2 (32)   | Type of the backup set (valid only when BACKUP_TYPE is BACKUP SET): <ul style="list-style-type: none"> <li>• DATAFILE</li> <li>• ARCHIVED LOG</li> </ul> |
| BS_INCR_TYPE          | VARCHAR2 (32)   | Incremental level of the backup set (valid only when BACKUP_TYPE is BACKUP SET)                                                                          |
| BS_PIECES             | NUMBER          | Number of backup pieces in the backup set (valid only when BACKUP_TYPE is BACKUP SET)                                                                    |
| BS_COMPLETION_TIME    | DATE            | Completion time of the backup set (valid only when BACKUP_TYPE is BACKUP SET)                                                                            |
| BP_PIECE#             | NUMBER          | Number of the backup piece (valid only when FILE_TYPE is PIECE and BACKUP_TYPE is BACKUP SET)                                                            |
| BP_COPY#              | NUMBER          | Copy number of the backup piece (valid only when FILE_TYPE is PIECE and BACKUP_TYPE is BACKUP SET)                                                       |
| DF_FILE#              | NUMBER          | Absolute file number of the datafile (valid only when FILE_TYPE is DATAFILE)                                                                             |
| DF_RESETLOGS_CHANGE#  | NUMBER          | System change number (SCN) of the most recent RESETLOGS when the control file or datafile was created (valid only when FILE_TYPE is DATAFILE)            |
| DF_CREATION_CHANGE#   | NUMBER          | Creation SCN of the control file or datafile (valid only when FILE_TYPE is DATAFILE)                                                                     |
| DF_CHECKPOINT_CHANGE# | NUMBER          | System change number (SCN) of the most recent control file or datafile checkpoint (valid only when FILE_TYPE is DATAFILE)                                |
| DF_CKP_MOD_TIME       | DATE            | Modification time in case of SPFILE, otherwise time when the control file or datafile was checkpointed (valid only when FILE_TYPE is DATAFILE)           |
| RL_THREAD#            | NUMBER          | Number of the redo thread (valid only when FILE_TYPE is REDO LOG)                                                                                        |



| Column               | Datatype | Description                                                                                                                 |
|----------------------|----------|-----------------------------------------------------------------------------------------------------------------------------|
| RL_SEQUENCE#         | NUMBER   | Log sequence number (valid only when FILE_TYPE is REDO LOG)                                                                 |
| RL_RESETLOGS_CHANGE# | NUMBER   | System change number (SCN) of the most recent RESETLOGS when the record was created (valid only when FILE_TYPE is REDO LOG) |
| RL_FIRST_CHANGE#     | NUMBER   | First SCN of the redo log (valid only when FILE_TYPE is REDO LOG)                                                           |
| RL_FIRST_TIME        | DATE     | Time when Oracle switched into the redo log (valid only when FILE_TYPE is REDO LOG)                                         |
| RL_NEXT_CHANGE#      | NUMBER   | First SCN of the next redo log in the thread (valid only when FILE_TYPE is REDO LOG)                                        |
| RL_NEXT_TIME         | DATE     | First timestamp of the next redo log in the thread (valid only when FILE_TYPE is REDO LOG)                                  |



#### See Also:

*Oracle Database Backup and Recovery User's Guide* for more information about the DBMS\_RCVMAN.SETDATABASE procedure

## 9.99 V\$OBsolete\_PARAMETER

V\$OBsolete\_PARAMETER displays information about obsolete initialization parameters. If any row of the view contains TRUE in the ISSPECIFIED column, then you should examine why.

| Column      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME        | VARCHAR2 (64) | Name of the parameter                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ISSPECIFIED | VARCHAR2 (5)  | Indicates whether the parameter was specified in the parameter file (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.100 V\$OFFLINE\_RANGE

V\$OFFLINE\_RANGE displays datafile offline information from the control file.

Note that the last offline range of each datafile is kept in the DATAFILE record.

An offline range is created for a datafile when its tablespace is first altered to be OFFLINE NORMAL or READ ONLY, and then subsequently altered to be ONLINE or read/write. Note that no offline range is created if the datafile itself is altered to be OFFLINE or if the tablespace is altered to be OFFLINE IMMEDIATE.

**See Also:****"V\$DATAFILE"**

| Column            | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RECID             | NUMBER   | Record ID                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| STAMP             | NUMBER   | Record stamp                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| FILE#             | NUMBER   | Datafile number                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| OFFLINE_CHANGE#   | NUMBER   | SCN at which offlined                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ONLINE_CHANGE#    | NUMBER   | SCN at which online                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ONLINE_TIME       | DATE     | Time of offline SCN                                                                                                                                                                                                                                                                                                                                                                                                                             |
| RESETLOGS_CHANGE# | NUMBER   | Resetlogs change number of the record                                                                                                                                                                                                                                                                                                                                                                                                           |
| RESETLOGS_TIME    | DATE     | Resetlogs timestamp of the record                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID            | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.101 V\$OFS\_STATS

V\$OFS\_STATS displays performance statistics for various Oracle File System operations. These statistics are maintained at per mount level.

| Column       | Datatype        | Description                           |
|--------------|-----------------|---------------------------------------|
| OFS_MNTPNT   | VARCHAR2 (4096) | Mount point                           |
| OFS_LOOKUP   | NUMBER          | Number of lookup operations performed |
| OFS_FORGET   | NUMBER          | Number of forget operations performed |
| OFS_GETATTR  | NUMBER          | Number of getattr operations          |
| OFS_SETATTR  | NUMBER          | Number of setattr operations          |
| OFS_READLINK | NUMBER          | Number of readlink operations         |
| OFS_SYMLINK  | NUMBER          | Number of symlink operations          |
| OFS_MKNOD    | NUMBER          | Number of mknod operations            |
| OFS_MKDIR    | NUMBER          | Number of mkdir operations            |
| OFS_UNLINK   | NUMBER          | Number of remove file operations      |
| OFS_RMDIR    | NUMBER          | Number of remove directory operations |
| OFS_RENAME   | NUMBER          | Number of file rename operations      |
| OFS_LINK     | NUMBER          | Number of hard link operations        |
| OFS_OPEN     | NUMBER          | Number of file open operations        |
| OFS_READ     | NUMBER          | Number of file read operations        |

| Column            | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OFS_WRITE         | NUMBER   | Number of file write operations                                                                                                                                                                                                                                                                                                                                                                                                                 |
| OFS_STATFS        | NUMBER   | Number of statfs operations performed                                                                                                                                                                                                                                                                                                                                                                                                           |
| OFS_RELEASE       | NUMBER   | Number of release operations                                                                                                                                                                                                                                                                                                                                                                                                                    |
| OFS_FSYNC         | NUMBER   | Number of file sync operations                                                                                                                                                                                                                                                                                                                                                                                                                  |
| OFS_SETXATTR      | NUMBER   | Number of set extended attributes operations                                                                                                                                                                                                                                                                                                                                                                                                    |
| OFS_GETXATTR      | NUMBER   | Number of get extended attributes                                                                                                                                                                                                                                                                                                                                                                                                               |
| OFS_LISTXATTR     | NUMBER   | Number of list extended attributes                                                                                                                                                                                                                                                                                                                                                                                                              |
| OFS_REMOVEXATTR   | NUMBER   | Number of remove extended attributes                                                                                                                                                                                                                                                                                                                                                                                                            |
| OFS_FLUSH         | NUMBER   | Number of flush operations                                                                                                                                                                                                                                                                                                                                                                                                                      |
| OFS_INIT          | NUMBER   | Number of init operations                                                                                                                                                                                                                                                                                                                                                                                                                       |
| OFS_OPENDIR       | NUMBER   | Number of opendir operations                                                                                                                                                                                                                                                                                                                                                                                                                    |
| OFS_READDIR       | NUMBER   | Number of readdir operations                                                                                                                                                                                                                                                                                                                                                                                                                    |
| OFS_RELEASEDIR    | NUMBER   | Number of releasedir operations                                                                                                                                                                                                                                                                                                                                                                                                                 |
| OFS_FSYNCDIR      | NUMBER   | Number of directory sync operations                                                                                                                                                                                                                                                                                                                                                                                                             |
| OFS_GETLK         | NUMBER   | Number of file get lock operations                                                                                                                                                                                                                                                                                                                                                                                                              |
| OFS_SETLK         | NUMBER   | Number of file lock operations                                                                                                                                                                                                                                                                                                                                                                                                                  |
| OFS_SETLKW        | NUMBER   | Number of file lock operation with wait option                                                                                                                                                                                                                                                                                                                                                                                                  |
| OFS_ACCESS        | NUMBER   | Number of access operations                                                                                                                                                                                                                                                                                                                                                                                                                     |
| OFS_CREATE        | NUMBER   | Number of create operations                                                                                                                                                                                                                                                                                                                                                                                                                     |
| OFS_INTERRUPT     | NUMBER   | Number of interrupt operations received on the mount                                                                                                                                                                                                                                                                                                                                                                                            |
| OFS_BMAP          | NUMBER   | Number of block map operations received                                                                                                                                                                                                                                                                                                                                                                                                         |
| OFS_DESTROY       | NUMBER   | Number of destroy operations                                                                                                                                                                                                                                                                                                                                                                                                                    |
| OFS_BYTES_READ    | NUMBER   | Total number of bytes read on the mount point                                                                                                                                                                                                                                                                                                                                                                                                   |
| OFS_BYTES_WRITTEN | NUMBER   | Total number of bytes written to the mount point                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID            | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

This database view is supported only on the Linux operating system.

**See Also:**

"V\$OFSMOUNT"

## 9.102 V\$OFS\_THREADS

V\$OFS\_THREADS displays information about Oracle file system (OFS) threads.

| Column             | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PDBID              | NUMBER          | ID of the PDB in which the thread was created                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| FSID               | NUMBER          | ID of the mounted file system on which the thread is working                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| FSNAME             | VARCHAR2 (1024) | Name of the mounted file system on which the thread is working                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| FILE_NAME          | VARCHAR2 (1024) | File, directory, or filesystem on which the thread is working<br>The value of this column depends on the value of the REQ_TYPE column: <ul style="list-style-type: none"> <li>If REQ_TYPE = SYSREQ, this column displays the path to the mount point of the filesystem on which the thread is working.</li> <li>If REQ_TYPE = FILEREQ, this column displays the name of the file or directory on which the thread is working.</li> <li>If REQ_TYPE = NONE, the value of this column is null.</li> </ul> |
| THREADID           | VARCHAR2 (24)   | ID of the thread                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| THREAD_TYPE        | VARCHAR2 (24)   | Type of thread: <ul style="list-style-type: none"> <li>WORKER - The thread is used for executing file, directory, or filesystem requests.</li> <li>RECEIVER - The thread receives requests from all OFS mounted file systems.</li> </ul>                                                                                                                                                                                                                                                                |
| THREAD_NAME        | VARCHAR2 (24)   | Name of the thread                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| REQ_TYPE           | VARCHAR2 (1024) | Type of request: <ul style="list-style-type: none"> <li>SYSREQ</li> <li>FILEREQ</li> <li>NONE</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                |
| OPCODE             | VARCHAR2 (1024) | Type of operation on which the thread is working<br>The value of this column depends on the value of the REQ_TYPE column: <ul style="list-style-type: none"> <li>If REQ_TYPE = SYSREQ, this column displays a DBMS_FS operation.</li> <li>If REQ_TYPE = FILEREQ, this column displays any type of file operation.</li> <li>If REQ_TYPE = NONE, the value of this column is null.</li> </ul>                                                                                                             |
| ELAPSED_TIME_MICRO | NUMBER          | If REQ_TYPE = SYSREQ, the amount of time (in microseconds) that has elapsed since the current request was queued                                                                                                                                                                                                                                                                                                                                                                                        |
| SYSRQ_COUNT        | NUMBER          | Total number of REQ_TYPE = SYSREQ requests completed since the instance was started                                                                                                                                                                                                                                                                                                                                                                                                                     |
| FREQ_COUNT         | NUMBER          | Total number of REQ_TYPE = FILEREQ requests completed since the instance was started                                                                                                                                                                                                                                                                                                                                                                                                                    |
| WAIT_EVENT         | VARCHAR2 (64)   | Event on which the thread is waiting                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID             | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul>                                                                       |

**Note:**

This view is available starting with Oracle Database 23ai.

## 9.103 V\$OFSMOUNT

V\$OFSMOUNT provides information about the file systems that are mounted by Oracle File System.

| Column       | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OFS_MNTPATH  | VARCHAR2 (1024) | Mount path where the file system is mounted                                                                                                                                                                                                                                                                                                                                                                                                 |
| OFS_FSPATH   | VARCHAR2 (1024) | File system path                                                                                                                                                                                                                                                                                                                                                                                                                            |
| OFS_MNTOPTS  | VARCHAR2 (1024) | Mount options used to mount the file system                                                                                                                                                                                                                                                                                                                                                                                                 |
| OFS_MNTFLAGS | VARCHAR2 (7)    | Flags to specify if the file system is mounted. A value of 1 indicates that the file system is mounted.                                                                                                                                                                                                                                                                                                                                     |
| CON_ID       | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |
| OFS_NODENM   | VARCHAR2 (255)  | Node name                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| OFS_FSID     | NUMBER          | Unique ID that identifies the mounted file system                                                                                                                                                                                                                                                                                                                                                                                           |
| OFS_FSTYPE   | VARCHAR2 (255)  | Oracle file system type. This is the value that is passed to the <code>dbms_fs.mount_oracle_fs()</code> procedure. Some of the expected values are <code>dbfs</code> and <code>ofs</code> .                                                                                                                                                                                                                                                 |

**Note:**

This database view is supported only on the Linux operating system.

**See Also:**

- "[V\\$OFS\\_STATS](#)"
- Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_FS.MOUNT_ORACLE_FS` procedure

## 9.104 V\$ONLINE\_REDEF

V\$ONLINE\_REDEF provides information about the status of currently running online redefinitions.

| Column                   | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID                      | NUMBER          | Session identifier                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SERIAL#                  | NUMBER          | Session serial number, which is used to uniquely identify a session's objects                                                                                                                                                                                                                                                                                                                                                           |
| REDEFINITION_ID          | NUMBER          | Redefinition identifier                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TABLE_OWNER              | VARCHAR2 (129)  | Owner of the table currently being redefined. The table resides in this user's schema.                                                                                                                                                                                                                                                                                                                                                  |
| ORIGINAL_TABLE_NAME      | VARCHAR2 (129)  | Name of the original table                                                                                                                                                                                                                                                                                                                                                                                                              |
| INTERIM_TABLE_NAME       | VARCHAR2 (1024) | Interim table currently being redefined                                                                                                                                                                                                                                                                                                                                                                                                 |
| PARTITION_NAME           | VARCHAR2 (1024) | Partition of the table currently being redefined. The table resides in this user's schema.                                                                                                                                                                                                                                                                                                                                              |
| OPERATION                | VARCHAR2 (128)  | Operations during the redefining process: <ul style="list-style-type: none"> <li>• start_redef_table</li> <li>• sync_interim_table</li> <li>• copy_table_dependents</li> <li>• finish_redef_table</li> <li>• abort_redef_table</li> </ul>                                                                                                                                                                                               |
| SUBOPERATION             | VARCHAR2 (128)  | Sub operation during the redefining process                                                                                                                                                                                                                                                                                                                                                                                             |
| DETAILED_MESSAGE         | VARCHAR2 (1024) | Details of operations during redefining process. This can include details such as the number of DML being processed, execution start_time, and partition_name                                                                                                                                                                                                                                                                           |
| PROGRESS                 | VARCHAR2 (128)  | Percentage of completion of each operation                                                                                                                                                                                                                                                                                                                                                                                              |
| REFRESH_STATEMENT_SQL_ID | VARCHAR2 (128)  | The SQL ID for the statement in the REFRESH_STATEMENT column                                                                                                                                                                                                                                                                                                                                                                            |
| REFRESH_STATEMENT        | VARCHAR2 (4000) | A refresh statement executed during a refresh operation in some online redefinition procedures. When refresh is a sub operation in the SUBOPERATION column, there will be a refresh statement in this REFRESH_STATEMENT column.                                                                                                                                                                                                         |
| CON_ID                   | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• n: Where n is the applicable container ID for the rows containing data</li> </ul> |

## 9.105 V\$OPEN\_CURSOR

V\$OPEN\_CURSOR lists cursors that each user session currently has opened and parsed, or cached.

| Column    | Datatype       | Description                                                                               |
|-----------|----------------|-------------------------------------------------------------------------------------------|
| SADDR     | RAW (4   8)    | Session address                                                                           |
| SID       | NUMBER         | Session identifier                                                                        |
| USER_NAME | VARCHAR2 (128) | User that is logged in to the session                                                     |
| ADDRESS   | RAW (4   8)    | Used with HASH_VALUE to uniquely identify the SQL statement being executed in the session |

| Column               | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HASH_VALUE           | NUMBER        | Used with ADDRESS to uniquely identify the SQL statement being executed in the session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| SQL_ID               | VARCHAR2 (13) | SQL identifier of the SQL statement being executed in the session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SQL_TEXT             | VARCHAR2 (60) | First 60 characters of the SQL statement that is parsed into the open cursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| LAST_SQL_ACTIVE_TIME | DATE          | Time when this cursor was last executed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SQL_EXEC_ID          | NUMBER        | If the open cursor is executing, then the SQL execution identifier for that execution (see V\$SQL_MONITOR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CURSOR_TYPE          | VARCHAR2 (64) | Type of cursor: <ul style="list-style-type: none"> <li>• OPEN PL/SQL - Open PL/SQL cursors</li> <li>• OPEN - Other open cursors</li> <li>• SESSION CURSOR CACHED - Cursors cached in the generic session cursor cache</li> <li>• OPEN-RECURSIVE - Open recursive cursors</li> <li>• DICTIONARY LOOKUP CURSOR CACHED - Cursors cached in the dictionary lookup cursor cache</li> <li>• BUNDLE DICTIONARY LOOKUP CACHED - Cursors cached in the bundled dictionary lookup cursor cache</li> <li>• JAVA NAME TRANSLATION CURSOR CACHED - Cursors cached in the Java name translation cursor cache</li> <li>• REPLICATION TRIGGER CURSOR CACHED - Cursors cached in the replication trigger cursor cache</li> <li>• CONSTRAINTS CURSOR CACHED - Cursors cached in the constraints cursor cache</li> <li>• PL/SQL CURSOR CACHED - Cursors cached in the PL/SQL cursor cache</li> </ul> |
| CHILD_ADDRESS        | RAW (4   8)   | Address of the child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID               | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                             |

## 9.106 V\$OPTIMIZER\_PROCESSING\_RATE

V\$OPTIMIZER\_PROCESSING\_RATE displays the processing rates used by the optimizer to compute degree of parallelism.



### Note:

You can manipulate these rates using these procedures for the DBMS\_STATS package:

- SET\_PROCESSING\_RATE
- DELETE\_PROCESSING\_RATE
- GATHER\_PROCESSING\_RATE

See *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_STATS package.

| Column            | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADDRESS           | RAW (4   8)   | Address of the handle to the parent for this cursor                                                                                                                                                                                                                                                                                                                                                                                     |
| OPERATION_NAME    | VARCHAR2 (64) | Name of the operation. The possible values are AGGR, ALL, CPU, CPU_ACCESS, CPU_AGGR, CPU_BYTES_PER_SEC, CPU_FILTER, CPU_GBY, CPU_HASH_JOIN, CPU_JOIN, CPU_NL_JOIN, CPU_RANDOM_ACCESS, CPU_ROWS_PER_SEC, CPU_SEQUENTIAL_ACCESS, CPU_SM_JOIN, CPU_SORT, HASH, IO, IO_ACCESS, IO_BYTES_PER_SEC, IO_RANDOM_ACCESS, IO_ROWS_PER_SEC, IO_SEQUENTIAL_ACCESS, MEMCMP, MEMCPY                                                                    |
| MANUAL_VALUE      | VARCHAR2 (10) | Value of the operation set manually by the user                                                                                                                                                                                                                                                                                                                                                                                         |
| CALIBRATION_VALUE | VARCHAR2 (10) | Value of the operation obtained from calibration (by running the GATHER_PROCESSING_RATE procedure)                                                                                                                                                                                                                                                                                                                                      |
| DEFAULT_VALUE     | VARCHAR2 (10) | Default value of the operation                                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID            | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• n: Where n is the applicable container ID for the rows containing data</li> </ul> |

## 9.107 V\$OPTION

V\$OPTION displays Oracle Database options and features.

Typically, although not always, options must be separately licensed, whereas features come with the product and are enabled based on the product that is running (for example, Enterprise Edition).

| Column    | Datatype      | Description                     |
|-----------|---------------|---------------------------------|
| PARAMETER | VARCHAR2 (64) | Name of the option (or feature) |



| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VALUE  | VARCHAR2 (64) | Indicates whether the option (or feature) is installed ( <b>TRUE</b> ) or not ( <b>FALSE</b> )                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**

*Oracle Database Licensing Information User Manual* for more information about Oracle Database options and features

## 9.108 V\$OSSTAT

V\$OSSTAT displays system utilization statistics from the operating system. One row is returned for each system statistic.

| Column     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STAT_NAME  | VARCHAR2 (64) | Name of the statistic (see <a href="#">Table 9-3</a> )                                                                                                                                                                                                                                                                                                                                                                                          |
| VALUE      | NUMBER        | Instantaneous statistic value                                                                                                                                                                                                                                                                                                                                                                                                                   |
| OSSTAT_ID  | NUMBER        | Statistic ID                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| COMMENTS   | VARCHAR2 (64) | Any additional operating system-specific clarifications for the statistic                                                                                                                                                                                                                                                                                                                                                                       |
| CUMULATIVE | VARCHAR2 (3)  | Indicates whether the statistic is cumulative (that is, accumulates over time) ( <b>YES</b> ) or not ( <b>NO</b> )                                                                                                                                                                                                                                                                                                                              |
| CON_ID     | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Table 9-3 V\$OSSTAT Statistics**

| Statistic Name | Description                                                                                                                 |
|----------------|-----------------------------------------------------------------------------------------------------------------------------|
| NUM_CPUS       | Number of CPUs or processors available                                                                                      |
| IDLE_TIME      | Number of hundredths of a second that a processor has been idle, totalled over all processors                               |
| BUSY_TIME      | Number of hundredths of a second that a processor has been busy executing user or kernel code, totalled over all processors |

**Table 9-3 (Cont.) V\$OSSTAT Statistics**

| Statistic Name           | Description                                                                                                                                                                                                                   |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USER_TIME                | Number of hundredths of a second that a processor has been busy executing user code, totalled over all processors                                                                                                             |
| SYS_TIME                 | Number of hundredths of a second that a processor has been busy executing kernel code, totalled over all processors                                                                                                           |
| IOWAIT_TIME              | Number of hundredths of a second that a processor has been waiting for I/O to complete, totalled over all processors                                                                                                          |
| NICE_TIME                | Number of hundredths of a second that a processor has been busy executing low-priority user code, totalled over all processors                                                                                                |
| AVG_IDLE_TIME            | Number of hundredths of a second that a processor has been idle, averaged over all processors                                                                                                                                 |
| AVG_BUSY_TIME            | Number of hundredths of a second that a processor has been busy executing user or kernel code, averaged over all processors                                                                                                   |
| AVG_USER_TIME            | Number of hundredths of a second that a processor has been busy executing user code, averaged over all processors                                                                                                             |
| AVG_SYS_TIME             | Number of hundredths of a second that a processor has been busy executing kernel code, averaged over all processors                                                                                                           |
| AVG_IOWAIT_TIME          | Number of hundredths of a second that a processor has been waiting for I/O to complete, averaged over all processors                                                                                                          |
| AVG_NICE_TIME            | Number of hundredths of a second that a processor has been busy executing low-priority user code, averaged over all processors                                                                                                |
| OS_CPU_WAIT_TIME         | Total number of hundredths of a second that processes have been in a ready state, waiting to be selected by the operating system scheduler to run                                                                             |
| RSRC_MGR_CPU_WAIT_TIME   | Total number of hundredths of a second that Oracle processes have been in a ready state, waiting for CPU to be available for their consumer group in the currently active resource plan                                       |
| VM_IN_BYTES              | Total number of bytes of data that have been paged in due to virtual memory paging                                                                                                                                            |
| VM_OUT_BYTES             | Total number of bytes of data that have been paged out due to virtual memory paging                                                                                                                                           |
| PHYSICAL_MEMORY_BYTES    | Total number of bytes of physical memory                                                                                                                                                                                      |
| LOAD                     | Current number of processes that are either running or in the ready state, waiting to be selected by the operating-system scheduler to run. On many platforms, this statistic reflects the average load over the past minute. |
| NUM_CPU_CORES            | Number of CPU cores available (includes subcores of multicore CPUs as well as single-core CPUs)                                                                                                                               |
| NUM_CPU_SOCKETS          | Number of CPU sockets available (represents an absolute count of CPU chips on the system, regardless of multithreading or multi-core architectures)                                                                           |
| NUM_VCPUS                | Number of virtual CPUs available                                                                                                                                                                                              |
| NUM_LCPUS                | Number of logical CPUs available (includes hardware threads if hardware threading is turned on)                                                                                                                               |
| TCP_SEND_SIZE_MIN        | Minimum size of the TCP send buffer                                                                                                                                                                                           |
| TCP_SEND_SIZE_DEFAULT    | Default size of the TCP send buffer                                                                                                                                                                                           |
| TCP_SEND_SIZE_MAX        | Maximum size of the TCP send buffer                                                                                                                                                                                           |
| TCP_RECEIVE_SIZE_MIN     | Minimum size of the TCP receive buffer                                                                                                                                                                                        |
| TCP_RECEIVE_SIZE_DEFAULT | Default size of the TCP receive buffer                                                                                                                                                                                        |
| TCP_RECEIVE_SIZE_MAX     | Maximum size of the TCP receive buffer                                                                                                                                                                                        |

Table 9-3 (Cont.) V\$OSSTAT Statistics

| Statistic Name          | Description                               |
|-------------------------|-------------------------------------------|
| GLOBAL_SEND_SIZE_MAX    | Maximum size of the global send buffer    |
| GLOBAL_RECEIVE_SIZE_MAX | Maximum size of the global receive buffer |

**Note:**

The availability of all statistics except for `NUM_CPUS` and `RSRC_MGR_CPU_WAIT_TIME` is subject to the operating system platform on which the Oracle Database is running.

## 9.109 V\$PARALLEL\_DEGREE\_LIMIT\_MTH

`V$PARALLEL_DEGREE_LIMIT_MTH` displays all available parallel degree limit resource allocation methods.

| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME   | VARCHAR2 (40) | Name of the parallel degree limit resource allocation method                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.110 V\$PARAMETER

`V$PARAMETER` displays information about the initialization parameters that are currently in effect for the session. A new session inherits parameter values from the instance-wide values displayed by the `V$SYSTEM_PARAMETER` view.

| Column | Datatype        | Description                                                                                                                                                                                |
|--------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM    | NUMBER          | Parameter number                                                                                                                                                                           |
| NAME   | VARCHAR2 (80)   | Name of the parameter                                                                                                                                                                      |
| TYPE   | NUMBER          | Parameter type: <ul style="list-style-type: none"><li>1 - Boolean</li><li>2 - String</li><li>3 - Integer</li><li>4 - Parameter file</li><li>5 - Reserved</li><li>6 - Big integer</li></ul> |
| VALUE  | VARCHAR2 (4000) | Parameter value for the session (if modified within the session); otherwise, the instance-wide parameter value                                                                             |

| Column                | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DISPLAY_VALUE         | VARCHAR2 (4000) | Parameter value in a user-friendly format. For example, if the VALUE column shows the value 262144 for a big integer parameter, then the DISPLAY_VALUE column will show the value 256K.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| DEFAULT_VALUE         | VARCHAR2 (255)  | The default value for this parameter. This is the value of the parameter if a value is not explicitly specified for the parameter.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ISDEFAULT             | VARCHAR2 (9)    | Indicates whether the parameter is set to the default value (TRUE) or the parameter value was specified in the parameter file (FALSE).<br>The database sets the value of the ISDEFAULT column to TRUE for parameters that are not specified in the init.ora or server parameter file (SPFILE).                                                                                                                                                                                                                                                                                                                                                                                                 |
| ISSES_MODIFIABLE      | VARCHAR2 (5)    | Indicates whether the parameter can be changed with ALTER SESSION (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ISSYS_MODIFIABLE      | VARCHAR2 (9)    | Indicates whether the parameter can be changed with ALTER SYSTEM and when the change takes effect: <ul style="list-style-type: none"> <li>• IMMEDIATE - Parameter can be changed with ALTER SYSTEM regardless of the type of parameter file used to start the instance. The change takes effect immediately.</li> <li>• DEFERRED - Parameter can be changed with ALTER SYSTEM regardless of the type of parameter file used to start the instance. The change takes effect in subsequent sessions.</li> <li>• FALSE - Parameter cannot be changed with ALTER SYSTEM unless a server parameter file was used to start the instance. The change takes effect in subsequent instances.</li> </ul> |
| ISPDB_MODIFIABLE      | VARCHAR2 (5)    | Indicates whether the parameter can be modified inside a PDB (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ISINSTANCE_MODIFIABLE | VARCHAR2 (5)    | For parameters that can be changed with ALTER SYSTEM, indicates whether the value of the parameter can be different for every instance (TRUE) or whether the parameter must have the same value for all Real Application Clusters instances (FALSE). If the ISSYS_MODIFIABLE column is FALSE, then this column is always FALSE.                                                                                                                                                                                                                                                                                                                                                                |
| ISMODIFIED            | VARCHAR2 (10)   | Indicates whether the parameter has been modified after instance startup: <ul style="list-style-type: none"> <li>• MODIFIED - Parameter has been modified with ALTER SESSION</li> <li>• SYSTEM_MOD - Parameter has been modified with ALTER SYSTEM (which causes all the currently logged in sessions' values to be modified)</li> <li>• FALSE - Parameter has not been modified after instance startup</li> </ul>                                                                                                                                                                                                                                                                             |
| ISADJUSTED            | VARCHAR2 (5)    | Indicates whether Oracle adjusted the input value to a more suitable value (for example, the parameter value should be prime, but the user input a non-prime number, so Oracle adjusted the value to the next prime number)                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ISDEPRECATED          | VARCHAR2 (5)    | Indicates whether the parameter has been deprecated (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ISBASIC               | VARCHAR2 (5)    | Indicates whether the parameter is a basic parameter (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DESCRIPTION           | VARCHAR2 (255)  | Description of the parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| UPDATE_COMMENT        | VARCHAR2 (255)  | Comments associated with the most recent update                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| HASH                  | NUMBER          | Hash value for the parameter name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

### Examples

The following query returns the default value for the `ALLOW_GLOBAL_DBLINKS` initialization parameter:

```
SQL> SELECT name, default_value FROM v$parameter
 2 WHERE name = 'allow_global_dblinks';
```

NAME

-----

DEFAULT\_VALUE

-----

allow\_global\_dblinks

FALSE

SQL>

The following query shows that the `ALLOW_GLOBAL_DBLINKS` initialization parameter is not modifiable in a PDB:

```
SQL> SELECT name, ispdb_modifiable FROM v$parameter
 2 WHERE name = 'allow_global_dblinks';
```

NAME

-----

ISPDB

-----

allow\_global\_dblinks

FALSE

SQL>



**See Also:**

["V\\$SYSTEM\\_PARAMETER"](#)

## 9.111 V\$PARAMETER\_VALID\_VALUES

V\$PARAMETER\_VALID\_VALUES displays a list of valid values for list parameters.

| Column    | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM       | NUMBER         | Parameter number                                                                                                                                                                                                                                                                                                                                                                                                                            |
| NAME      | VARCHAR2 (64)  | Parameter name                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ORDINAL   | NUMBER         | Ordinal number in the list (1-based)                                                                                                                                                                                                                                                                                                                                                                                                        |
| VALUE     | VARCHAR2 (255) | Parameter value at ordinal                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ISDEFAULT | VARCHAR2 (64)  | Indicates whether the given ordinal value is the default value for the parameter                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID    | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.112 V\$PARAMETER2

V\$PARAMETER2 displays information about the initialization parameters that are currently in effect for the session, with each list parameter value appearing as a row in the view. A new session inherits parameter values from the instance-wide values displayed in the V\$SYSTEM\_PARAMETER2 view.

Presenting the list parameter values in this format enables you to quickly determine the values for a list parameter. For example, if a parameter value is *a*, *b*, then the V\$PARAMETER view does not tell you if the parameter has two values (both *a* and *b*) or one value (*a*, *b*). V\$PARAMETER2 makes the distinction between the list parameter values clear.

| Column        | Datatype        | Description                                                                                                                                                                                |
|---------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM           | NUMBER          | Parameter number                                                                                                                                                                           |
| NAME          | VARCHAR2 (80)   | Name of the parameter                                                                                                                                                                      |
| TYPE          | NUMBER          | Parameter type: <ul style="list-style-type: none"><li>1 - Boolean</li><li>2 - String</li><li>3 - Integer</li><li>4 - Parameter file</li><li>5 - Reserved</li><li>6 - Big integer</li></ul> |
| VALUE         | VARCHAR2 (4000) | Parameter value for the session (if modified within the session); otherwise, the instance-wide parameter value                                                                             |
| DISPLAY_VALUE | VARCHAR2 (4000) | Parameter value in a user-friendly format. For example, if the VALUE column shows the value 262144 for a big integer parameter, then the DISPLAY_VALUE column will show the value 256K.    |
| ISDEFAULT     | VARCHAR2 (6)    | Indicates whether the parameter is set to the default value (TRUE) or the parameter value was specified in the parameter file (FALSE)                                                      |

| Column                | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ISSES_MODIFIABLE      | VARCHAR2 (5)   | Indicates whether the parameter can be changed with ALTER SESSION (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ISSYS_MODIFIABLE      | VARCHAR2 (9)   | Indicates whether the parameter can be changed with ALTER SYSTEM and when the change takes effect: <ul style="list-style-type: none"> <li>IMMEDIATE - Parameter can be changed with ALTER SYSTEM regardless of the type of parameter file used to start the instance. The change takes effect immediately.</li> <li>DEFERRED - Parameter can be changed with ALTER SYSTEM regardless of the type of parameter file used to start the instance. The change takes effect in subsequent sessions.</li> <li>FALSE - Parameter cannot be changed with ALTER SYSTEM unless a server parameter file was used to start the instance. The change takes effect in subsequent instances.</li> </ul> |
| ISPDB_MODIFIABLE      | VARCHAR2 (5)   | Indicates whether the parameter can be modified inside a PDB (TRUE) or not (FALSE).<br>In a non-CDB, the value of this column is NULL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ISINSTANCE_MODIFIABLE | VARCHAR2 (5)   | For parameters that can be changed with ALTER SYSTEM, indicates whether the value of the parameter can be different for every instance (TRUE) or whether the parameter must have the same value for all Real Application Clusters instances (FALSE). If the ISSYS_MODIFIABLE column is FALSE, then this column is always FALSE.                                                                                                                                                                                                                                                                                                                                                          |
| ISMODIFIED            | VARCHAR2 (10)  | Indicates whether the parameter has been modified after instance startup: <ul style="list-style-type: none"> <li>MODIFIED - Parameter has been modified with ALTER SESSION</li> <li>SYSTEM_MOD - Parameter has been modified with ALTER SYSTEM (which causes all the currently logged in sessions' values to be modified)</li> <li>FALSE - Parameter has not been modified after instance startup</li> </ul>                                                                                                                                                                                                                                                                             |
| ISADJUSTED            | VARCHAR2 (5)   | Indicates whether Oracle adjusted the input value to a more suitable value (for example, the parameter value should be prime, but the user input a non-prime number, so Oracle adjusted the value to the next prime number)                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ISDEPRECATED          | VARCHAR2 (5)   | Indicates whether the parameter has been deprecated (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| ISBASIC               | VARCHAR2 (5)   | Indicates whether the parameter is a basic parameter (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DESCRIPTION           | VARCHAR2 (255) | Description of the parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ORDINAL               | NUMBER         | Position (ordinal number) of the parameter value. Useful only for parameters whose values are lists of strings.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| UPDATE_COMMENT        | VARCHAR2 (255) | Comments associated with the most recent update                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID                | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                        |

 **See Also:**

- "V\$SYSTEM\_PARAMETER"
- "V\$PARAMETER"

## 9.113 V\$PASSWORDFILE\_INFO

V\$PASSWORDFILE\_INFO provides information about the database password file.

This view can be queried from the root or from a pluggable database (PDB) in a multitenant container database (CDB). When queried, this view always returns one row.

| Column    | Datatype       | Description                                                                                                                                                                                                                                                                                   |
|-----------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE_NAME | VARCHAR2 (513) | Fully qualified password file name/location.                                                                                                                                                                                                                                                  |
| FORMAT    | VARCHAR2 (6)   | Shows the format of the password file: <ul style="list-style-type: none"><li>• LEGACY</li><li>• 12</li><li>• 12.2</li></ul>                                                                                                                                                                   |
| IS_ASM    | VARCHAR2 (5)   | Indicates whether the password file is stored in Oracle ASM. Possible values: <ul style="list-style-type: none"><li>• TRUE: The password file is stored in Oracle ASM.</li><li>• FALSE: The password file is stored in Oracle Exascale or in the operating system file system.</li></ul>      |
| IS_EXC    | VARCHAR2 (5)   | Indicates whether the password file is stored in Oracle Exascale. Possible values: <ul style="list-style-type: none"><li>• TRUE: The password file is stored in Oracle Exascale.</li><li>• FALSE: The password file is stored in Oracle ASM or in the operating system file system.</li></ul> |
| CON_ID    | NUMBER         | The ID of the container to which the data pertains. Because there is only one password file for a CDB that is common for the entire CDB, the only value possible for CON_ID is 0 for this view.                                                                                               |

 **Note:**

If the database password file name or location was recently changed, and you do not see the change reflected in this view, you can run the following SQL statement:

```
SQL> ALTER SYSTEM FLUSH PASSWORDFILE_METADATA_CACHE;
```

This statement flushes the metadata cache and updates the database to use the new password file. It also updates this view with the current password file information.



## 9.114 V\$PATCHES

V\$PATCHES shows the patches applied on an Oracle ASM instance and the list of patches applied to an Oracle Grid infrastructure home directory.



### Note:

If this view is queried in an RDBMS instance, no patch information is returned.

| Column   | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PATCH_ID | NUMBER   | Patch identifier                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID   | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.115 V\$PDB\_INCARNATION

V\$PDB\_INCARNATION displays information about all PDB incarnations. Oracle creates a new PDB incarnation whenever a PDB is opened with the RESETLOGS option.

| Column                     | Datatype      | Description                                                                                                                                                                                          |
|----------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DB_INCARNATION#            | NUMBER        | Database incarnation number                                                                                                                                                                          |
| PDB_INCARNATION#           | NUMBER        | PDB incarnation number                                                                                                                                                                               |
| STATUS                     | VARCHAR2 (7)  | Incarnation status: <ul style="list-style-type: none"> <li>ORPHAN: Orphan incarnation</li> <li>CURRENT: Current incarnation of the PDB</li> <li>PARENT: Parent of the current incarnation</li> </ul> |
| INCARNATION_SCN            | NUMBER        | The SCN to flashback or recover to for this PDB incarnation                                                                                                                                          |
| INCARNATION_TIME           | DATE          | The point in time recovered to for this PDB incarnation                                                                                                                                              |
| BEGIN_RESETLOGS_SCN        | NUMBER        | The SCN at the beginning of PDB resetlogs                                                                                                                                                            |
| BEGIN_RESETLOGS_TIME       | DATE          | The time at the beginning of PDB resetlogs                                                                                                                                                           |
| END_RESETLOGS_SCN          | NUMBER        | The SCN at the end of PDB resetlogs                                                                                                                                                                  |
| END_RESETLOGS_TIME         | DATE          | The time at the end of PDB resetlogs                                                                                                                                                                 |
| PRIOR_DB_INCARNATION#      | NUMBER        | Parent database incarnation number                                                                                                                                                                   |
| PRIOR_PDB_INCARNATION#     | VARCHAR2 (40) | Parent PDB incarnation number                                                                                                                                                                        |
| FLASHBACK_DATABASE_ALLOWED | VARCHAR2 (3)  | Indicates whether the PDB can be flashbacked to this incarnation as part of a flashback database operation for the CDB                                                                               |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.116 V\$PDBS

V\$PDBS displays information about PDBs associated with the current instance.

| Column     | Datatype                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID     | NUMBER                      | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| DBID       | NUMBER                      | PDB identifier calculated when the PDB is created and stored in all file headers associated with the PDB                                                                                                                                                                                                                                                                                                                                               |
| CON_UID    | NUMBER                      | Unique identifier associated with the PDB                                                                                                                                                                                                                                                                                                                                                                                                              |
| GUID       | RAW(16)                     | Globally unique identifier (GUID) of this PDB                                                                                                                                                                                                                                                                                                                                                                                                          |
| NAME       | VARCHAR2(128)               | Name of the PDB                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| OPEN_MODE  | VARCHAR2(10)                | <p>Open mode information. Possible values:</p> <ul style="list-style-type: none"> <li>MOUNTED</li> <li>READ WRITE</li> <li>READ ONLY</li> <li>MIGRATE</li> </ul>                                                                                                                                                                                                                                                                                       |
| RESTRICTED | VARCHAR2(3)                 | <p>Indicates whether only users possessing RESTRICTED SESSION privilege can connect to the PDB. Possible values:</p> <ul style="list-style-type: none"> <li>YES</li> <li>NO</li> <li>NULL</li> </ul>                                                                                                                                                                                                                                                   |
| OPEN_TIME  | TIMESTAMP(3) WITH TIME ZONE | Date and time when the database was last opened                                                                                                                                                                                                                                                                                                                                                                                                        |
| CREATE_SCN | NUMBER                      | System change number (SCN) for the creation of this PDB                                                                                                                                                                                                                                                                                                                                                                                                |
| TOTAL_SIZE | NUMBER                      | Shows the disk space (in bytes) used by the PDB, including both data and temp files.                                                                                                                                                                                                                                                                                                                                                                   |
| BLOCK_SIZE | NUMBER                      | The current block size for the PDB                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Column                  | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RECOVERY_STATUS         | VARCHAR2 (26) | Shows the recovery status for the PDB. Possible values: <ul style="list-style-type: none"> <li>DISABLED: The PDB is offline. This is similar to all files belonging to this PDB being offline, except that all files to be added to this PDB in the future will also be offline to begin with.</li> <li>DISABLED AUTOMATIC RECOVER: Same as DISABLED, except that standby Active Data Guard recovery will automatically attempt to spawn PDB recovery isolation for the PDB and transition the PDB into ENABLED.</li> <li>ENABLED: The PDB is not offline at the PDB level. Individual files in the PDB may be online or offline at the file level.</li> </ul> |
| SNAPSHOT_PARENT_CON_ID  | NUMBER        | This column shows the container ID of the PDB that this PDB is a snapshot clone of. This column shows a nonzero value only if the PDB is a snapshot clone. For all other cases, it shows a value of 0.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| APPLICATION_ROOT        | VARCHAR2 (3)  | Indicates whether the PDB is an application root                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| APPLICATION_PDB         | VARCHAR2 (3)  | Indicates whether the PDB is an application PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| APPLICATION_SEED        | VARCHAR2 (3)  | Indicates whether the PDB is an application seed (an application seed is also an application PDB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| APPLICATION_ROOT_CON_ID | NUMBER        | If this PDB is an application PDB, the container ID of an application root to which this application PDB belongs.<br>If this PDB is an application root clone, the container ID of an application root to which this application root clone belongs.<br>Otherwise, NULL.                                                                                                                                                                                                                                                                                                                                                                                       |
| APPLICATION_ROOT_CLONE  | VARCHAR2 (3)  | Indicates whether this PDB is an application root clone (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PROXY_PDB               | VARCHAR2 (3)  | Indicates whether this PDB is a proxy PDB (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| LOCAL_UNDO              | NUMBER        | Shows whether the PDB is in local undo. Possible values: <ul style="list-style-type: none"> <li>1 – PDB is in local undo mode</li> <li>0 – PDB is in shared undo mode</li> </ul> This column is not relevant for CDB\$ROOT.                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| UNDO_SCN                | NUMBER        | System change number (SCN) at which the PDB was last converted from shared to local undo, or from local to shared undo.<br>This column is not relevant for CDB\$ROOT.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| UNDO_TIMESTAMP          | DATE          | Date and time at which the PDB was last converted from shared to local undo, or from local to shared undo.<br>This column is not relevant for CDB\$ROOT.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CREATION_TIME           | DATE          | Date and time at which the PDB was created.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DIAGNOSTICS_SIZE        | NUMBER        | Shows the current disk space usage (in bytes) of the diagnostic traces generated in the PDB, which is represented by the CON_ID column of the row                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| PDB_COUNT               | NUMBER        | The number of user-created PDBs belonging to a given application root or CDB\$ROOT. For all other containers, its value is 0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| AUDIT_FILES_SIZE        | NUMBER        | Shows the current disk space usage (in bytes) by Unified Audit files (.bin format) in the current PDB.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| MAX_SIZE                | NUMBER        | Shows the maximum amount of disk space (in bytes) that can be used by data and temp files in the PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| MAX_DIAGNOSTICS_SIZE    | NUMBER        | Shows the maximum amount of disk space (in bytes) that can be used by diagnostic traces generated in the PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| MAX_AUDIT_SIZE          | NUMBER        | Shows the maximum amount of disk space (in bytes) that can be used by Unified Audit files (.bin format) in the PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Column                           | Datatype                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LAST_CHANGED_BY                  | VARCHAR2 (11)                | Indicates what type of user last changed the PDB. Possible values: <ul style="list-style-type: none"> <li>COMMON USER</li> <li>LOCAL USER</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TEMPLATE                         | VARCHAR2 (3)                 | For internal use only                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TENANT_ID                        | VARCHAR2 (256)               | Pluggable database tenant key                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| UPGRADE_LEVEL                    | NUMBER                       | For internal use only                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| GUID_BASE64                      | VARCHAR2 (30)                | The GUID of the PDB, encoded in base64                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| RECOVERY_TARGET_PDB_INCARNATION# | NUMBER                       | The incarnation number to which all datafiles belonging to the PDB would be recovered by the <code>RECOVER PLUGGABLE DATABASE</code> command                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CLOUD_IDENTITY                   | VARCHAR2 (4000)              | Cloud identifier for the PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CLOSE_TIME                       | TIMESTAMP (3) WITH TIME ZONE | Date and time when the database was last closed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PRIORITY                         | NUMBER                       | The priority of the PDB when performing an <code>OPEN</code> or <code>SAVE STATE</code> operation on multiple PDBs with a single <code>ALTER PLUGGABLE DATABASE</code> or <code>ALTER DATABASE</code> statement<br><br>If a priority is not assigned to the PDB, then the value of this column is null.<br><br>An operation is performed first on the PDB with the lowest <code>PRIORITY</code> number, then on the PDB with the second lowest <code>PRIORITY</code> number, and so on. The operation is then performed on PDBs with no assigned priority, if any, in no particular order. |
| BACKUP_SIZE                      | NUMBER                       | Reserved for future use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| BACKUP_STATUS                    | VARCHAR2 (8)                 | Reserved for future use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## 9.117 V\$PERSISTENT\_PUBLISHERS

`V$PERSISTENT_PUBLISHERS` displays information about all active publishers of the persistent queues in the database. There is one row per instance per queue per publisher. The rows are deleted when the database (or instance in an Oracle RAC environment) restarts.

| Column               | Datatype        | Description                                                |
|----------------------|-----------------|------------------------------------------------------------|
| QUEUE_ID             | NUMBER          | Identifier for the queue                                   |
| QUEUE_SCHEMA         | VARCHAR2 (128)  | Owner of the queue                                         |
| QUEUE_NAME           | VARCHAR2 (128)  | Name of the queue                                          |
| PUBLISHER_NAME       | VARCHAR2 (128)  | Name of the agent enqueueing the message                   |
| PUBLISHER_ADDRESS    | VARCHAR2 (1024) | Address of the publisher agent                             |
| PROTOCOL             | NUMBER          | Protocol used by the publisher's address                   |
| ENQUEUED_MSGS        | NUMBER          | Number of messages that have been enqueued                 |
| ELAPSED_ENQUEUE_TIME | NUMBER          | Total time spent doing enqueue (in hundredths of a second) |
| ENQUEUE_CPU_TIME     | NUMBER          | Total CPU time for enqueue (in hundredths of a second)     |
| LAST_ENQUEUE_TIME    | TIMESTAMP (6)   | Last enqueue message timestamp                             |
| ENQUEUE_TRANSACTIONS | NUMBER          | Number of enqueue transactions                             |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.118 V\$PERSISTENT\_QMN\_CACHE

V\$PERSISTENT\_QMN\_CACHE displays detailed information and statistics about the background activities for all queue tables in the system. There is one row per queue table. The rows are deleted when the database (or instance in an Oracle RAC environment) restarts.

| Column                         | Datatype                     | Description                                                                    |
|--------------------------------|------------------------------|--------------------------------------------------------------------------------|
| QUEUE_TABLE_ID                 | NUMBER                       | Queue table object ID                                                          |
| TYPE                           | VARCHAR2 (32)                | Type of the queue table's queue monitor cache                                  |
| STATUS                         | NUMBER                       | Status of the queue table's queue monitor cache                                |
| NEXT_SERVICE_TIME              | TIMESTAMP (3) WITH TIME ZONE | Time when the queue table should be serviced by QMON servers                   |
| WINDOW_END_TIME                | TIMESTAMP (3) WITH TIME ZONE | Time manager activity period for non-owner queue table operations              |
| TOTAL_RUNS                     | NUMBER                       | Total number of times this queue table is served                               |
| TOTAL_LATENCY                  | NUMBER                       | Cumulative latency in serving the queue table (in hundredths of a second)      |
| TOTAL_ELAPSED_TIME             | NUMBER                       | Total time spent in processing this queue table (in seconds)                   |
| TOTAL_CPU_TIME                 | NUMBER                       | Cumulative CPU time for serving the queue table (in hundredths of a second)    |
| TMGR_ROWS_PROCESSED            | NUMBER                       | Number of time manager entries processed                                       |
| TMGR_ELAPSED_TIME              | NUMBER                       | Cumulative time for time management activities (in hundredths of a second)     |
| TMGR_CPU_TIME                  | NUMBER                       | Cumulative CPU time for time management activities (in hundredths of a second) |
| LAST_TMGR_PROCESSING_TIME      | TIMESTAMP (3) WITH TIME ZONE | Last timer manager processing time                                             |
| DEQLOG_ROWS_PROCESSED          | NUMBER                       | Number of dequeue log entries processed                                        |
| DEQLOG_PROCESSING_ELAPSED_TIME | NUMBER                       | Total time for processing dequeue log entries (in hundredths of a second)      |
| DEQLOG_PROCESSING_CPU_TIME     | NUMBER                       | Total CPU time for processing dequeue log entries (in hundredths of a second)  |
| LAST_DEQLOG_PROCESSING_TIME    | TIMESTAMP (3) WITH TIME ZONE | Last dequeue log processing time                                               |
| DEQUEUE_INDEX_BLOCKS_FREED     | NUMBER                       | Number of dequeue index blocks freed                                           |
| HISTORY_INDEX_BLOCKS_FREED     | NUMBER                       | Number of history index blocks freed                                           |

| Column                     | Datatype                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TIME_INDEX_BLOCKS_FREED    | NUMBER                       | Number of time manager index blocks freed                                                                                                                                                                                                                                                                                                                                                                                                       |
| INDEX_CLEANUP_COUNT        | NUMBER                       | Number of times index block cleanup was attempted                                                                                                                                                                                                                                                                                                                                                                                               |
| INDEX_CLEANUP_ELAPSED_TIME | NUMBER                       | Total time for index block cleanup (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                  |
| INDEX_CLEANUP_CPU_TIME     | NUMBER                       | Total CPU time for index block cleanup (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                              |
| LAST_INDEX_CLEANUP_TIME    | TIMESTAMP (3) WITH TIME ZONE | Last index block cleanup time                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID                     | NUMBER                       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.119 V\$PERSISTENT\_QUEUES

V\$PERSISTENT\_QUEUES displays information about all active persistent queues in the database since the queues' first activity time. There is one row per queue. The rows are deleted when the database (or instance in an Oracle RAC environment) restarts.

| Column                       | Datatype       | Description                                                                                                                                                                            |
|------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUE_ID                     | NUMBER         | Identifier for the queue                                                                                                                                                               |
| QUEUE_TABLE_ID               | NUMBER         | Queue table identifier                                                                                                                                                                 |
| QUEUE_SCHEMA                 | VARCHAR2 (128) | Owner of the queue                                                                                                                                                                     |
| QUEUE_NAME                   | VARCHAR2 (128) | Name of the queue                                                                                                                                                                      |
| FIRST_ACTIVITY_TIME          | TIMESTAMP (6)  | First queue activity time since database startup                                                                                                                                       |
| ENQUEUED_MSGS                | NUMBER         | Number of messages enqueued                                                                                                                                                            |
| DEQUEUED_MSGS                | NUMBER         | Number of messages dequeued<br><b>Note:</b> This column will not be incremented until all the subscribers of the message have dequeued the message and its retention time has elapsed. |
| BROWSED_MSGS                 | NUMBER         | Number of messages that have been browsed                                                                                                                                              |
| ELAPSED_ENQUEUE_TIME         | NUMBER         | Total time (in hundredths of a second) spent doing enqueue                                                                                                                             |
| ELAPSED_DEQUEUE_TIME         | NUMBER         | Total time (in hundredths of a second) spent doing dequeue                                                                                                                             |
| ENQUEUE_CPU_TIME             | NUMBER         | Total CPU time for enqueue (in hundredths of a second)                                                                                                                                 |
| DEQUEUE_CPU_TIME             | NUMBER         | Total CPU time for dequeue (in hundredths of a second)                                                                                                                                 |
| AVG_MSG_AGE                  | NUMBER         | Average age of messages in the queue                                                                                                                                                   |
| DEQUEUED_MSG_LATENCY         | NUMBER         | Last dequeued message latency (in seconds)                                                                                                                                             |
| ELAPSED_TRANSFORMATION_TIME  | NUMBER         | Total time (in hundredths of a second) spent doing transformation                                                                                                                      |
| ELAPSED_RULE_EVALUATION_TIME | NUMBER         | Total time (in hundredths of a second) spent doing rule evaluation                                                                                                                     |
| ENQUEUED_EXPIRY_MSGS         | NUMBER         | Number of messages enqueued with expiry                                                                                                                                                |

| Column                        | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ENQUEUED_DELAY_MSGS           | NUMBER        | Number of messages enqueued with delay                                                                                                                                                                                                                                                                                                                                                                                       |
| MSGs_MADE_EXPIRED             | NUMBER        | Number of messages expired by time manager                                                                                                                                                                                                                                                                                                                                                                                   |
| MSGs_MADE_READY               | NUMBER        | Number of messages made ready by time manager                                                                                                                                                                                                                                                                                                                                                                                |
| LAST_ENQUEUE_TIME             | TIMESTAMP (6) | Last message enqueue time                                                                                                                                                                                                                                                                                                                                                                                                    |
| LAST_DEQUEUE_TIME             | TIMESTAMP (6) | Last message dequeue time                                                                                                                                                                                                                                                                                                                                                                                                    |
| LAST_TM_EXPIRY_TIME           | TIMESTAMP (6) | Last time message was expired by time manager                                                                                                                                                                                                                                                                                                                                                                                |
| LAST_TM_READY_TIME            | TIMESTAMP (6) | Last time message was made ready by time manager                                                                                                                                                                                                                                                                                                                                                                             |
| ENQUEUE_TRANSACTIONS          | NUMBER        | Number of enqueue transactions                                                                                                                                                                                                                                                                                                                                                                                               |
| DEQUEUE_TRANSACTIONS          | NUMBER        | Number of dequeue transactions                                                                                                                                                                                                                                                                                                                                                                                               |
| EXECUTION_COUNT               | NUMBER        | Number of executions of the dequeue cursor                                                                                                                                                                                                                                                                                                                                                                                   |
| OLDEST_MSGID                  | RAW (16)      | Message ID of the oldest message in the queue                                                                                                                                                                                                                                                                                                                                                                                |
| OLDEST_MSG_ENQTM              | TIMESTAMP (6) | Enqueue time of the oldest message in the queue                                                                                                                                                                                                                                                                                                                                                                              |
| MANDATORY_AFF_SWITCHES_OUT    | NUMBER        | An affinity switch is a change in dequeue instance for a shard-subscriber pair. A mandatory affinity switch is when there are local enqueues in the queue at the instance but no local dequeues present, so the dequeue affinity is switched to another instance for that shard-subscriber pair. This column shows the number of times mandatory affinity switches were needed from this instance to another for this queue. |
| OPTIONAL_AFF_SWITCHES_OUT     | NUMBER        | Optional affinity switches are affinity switches that are not mandatory. Optional affinity switches are done for global load balancing across the Oracle Real Application Clusters (Oracle RAC) database. This column shows the number of times optional affinity switches were needed from this instance to another for this queue.                                                                                         |
| AFF_SWITCHES_BACK_IN          | NUMBER        | The number of times dequeue affinities have come back from other instances to this instance. $(MANDATORY\_AFF\_SWITCHES\_OUT + OPTIONAL\_AFF\_SWITCHES\_OUT - AFF\_SWITCHES\_BACK\_IN)$ is the number of cross instance affinities present across all shard-subscriber pair for shards owned by this instance for this queue.                                                                                                |
| CROSS_STREAM_JOBS             | NUMBER        | The number of times a shard is being forwarded to another instance due to cross instance dequeues for this queue                                                                                                                                                                                                                                                                                                             |
| RESTORE_BITMAP_JOBS           | NUMBER        | The number of times subscribers used existing shard forwarding to have cross instance dequeues for this queue                                                                                                                                                                                                                                                                                                                |
| SHADOW_AFF_SWITCHES_IN        | NUMBER        | The number of affinity switches for this queue where this instance is the dequeue instance for a shard-subscriber pair where the shard is being enqueued at another instance                                                                                                                                                                                                                                                 |
| SHADOW_AFF_SWITCHES_OUT       | NUMBER        | The number of affinity switches for this queue where shadow affinity is switched back to source instance of the shard. $(SHADOW\_AFF\_SWITCHES\_IN - SHADOW\_AFF\_SWITCHES\_OUT)$ is the number of dequeue affinities which are performing cross instance dequeues from non-local shards.                                                                                                                                    |
| SHADOW_SHARDS_RECEIVED        | NUMBER        | The number of times a shard is being forwarded from another instance to this instance due to cross instance dequeues for this queue                                                                                                                                                                                                                                                                                          |
| SHADOW_SHARDS_FREED           | NUMBER        | The number of times a forwarded shard to this instance was stopped due to removal of cross instance dequeues for this queue                                                                                                                                                                                                                                                                                                  |
| SHADOW_EVENT_STREAMS_RECEIVED | NUMBER        | The number of times an event stream is being forwarded from another instance to this instance due to cross instance dequeues for this queue                                                                                                                                                                                                                                                                                  |

| Column                         | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SHADOW_EVENT_STREAMS_FRE<br>ED | NUMBER   | The number of times a forwarded event stream to this instance was stopped due to removal of cross instance dequeues for this queue                                                                                                                                                                                                                                                                                                              |
| CON_ID                         | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

For sharded queues, only the following columns in this view contain accurate information: FIRST\_ACTIVITY\_TIME, BROWSED\_MSGS, LAST\_ENQUEUE\_TIME, LAST\_DEQUEUE\_TIME, ENQUEUE\_TRANSACTIONS, and DEQUEUE\_TRANSACTIONS. The rest of the columns in this view should be ignored when querying information about sharded queues.

## 9.120 V\$PERSISTENT\_SUBSCRIBERS

V\$PERSISTENT\_SUBSCRIBERS displays information about all active subscribers of the persistent queues in the database.

There is one row per instance per queue per subscriber. The rows are deleted when the database (or instance in an Oracle RAC environment) restarts.

**Note:**

This view does not display information about sharded queues. For information about sharded queues, refer to the "V\$AQ\_SHARDED\_SUBSCRIBER\_STAT" view.

| Column              | Datatype        | Description                                                                                                                                                                     |
|---------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUE_ID            | NUMBER          | Identifier for the queue                                                                                                                                                        |
| QUEUE_SCHEMA        | VARCHAR2 (128)  | Owner of the queue                                                                                                                                                              |
| QUEUE_NAME          | VARCHAR2 (128)  | Name of the queue                                                                                                                                                               |
| SUBSCRIBER_ID       | NUMBER          | Internal subscriber number                                                                                                                                                      |
| SUBSCRIBER_NAME     | VARCHAR2 (512)  | Name of the subscriber                                                                                                                                                          |
| SUBSCRIBER_ADDRESS  | VARCHAR2 (1024) | Address of the subscribing agent                                                                                                                                                |
| PROTOCOL            | NUMBER          | Protocol of the subscribing agent                                                                                                                                               |
| SUBSCRIBER_TYPE     | VARCHAR2 (128)  | Type of the subscriber: <ul style="list-style-type: none"> <li>PROXY - Propagation subscriber</li> <li>SUBSCRIBER - Normal subscriber</li> <li>RECIPIENT - Recipient</li> </ul> |
| FIRST_ACTIVITY_TIME | TIMESTAMP (6)   | First subscriber activity time since database startup                                                                                                                           |



| Column               | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ENQUEUED_MSGS        | NUMBER        | Number of messages enqueued since FIRST_ACTIVITY_TIME                                                                                                                                                                                                                                                                                                                                                                                           |
| DEQUEUED_MSGS        | NUMBER        | Number of messages dequeued since FIRST_ACTIVITY_TIME                                                                                                                                                                                                                                                                                                                                                                                           |
| AVG_MSG_AGE          | NUMBER        | Average age of messages in the queue                                                                                                                                                                                                                                                                                                                                                                                                            |
| BROWSED_MSGS         | NUMBER        | Number of messages that have been browsed                                                                                                                                                                                                                                                                                                                                                                                                       |
| EXPIRED_MSGS         | NUMBER        | Number of messages expired since FIRST_ACTIVITY_TIME                                                                                                                                                                                                                                                                                                                                                                                            |
| DEQUEUED_MSG_LATENCY | NUMBER        | Last dequeued message latency (in seconds)                                                                                                                                                                                                                                                                                                                                                                                                      |
| LAST_ENQUEUE_TIME    | TIMESTAMP (6) | Timestamp of the last enqueued message                                                                                                                                                                                                                                                                                                                                                                                                          |
| LAST_DEQUEUE_TIME    | TIMESTAMP (6) | Timestamp of the last dequeued message                                                                                                                                                                                                                                                                                                                                                                                                          |
| ELAPSED_DEQUEUE_TIME | NUMBER        | Total time spent in dequeue (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                         |
| DEQUEUE_CPU_TIME     | NUMBER        | Total CPU time for dequeue (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                          |
| DEQUEUE_TRANSACTIONS | NUMBER        | Number of dequeue transactions                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EXECUTION_COUNT      | NUMBER        | Number of executions of the dequeue index cursor                                                                                                                                                                                                                                                                                                                                                                                                |
| DEQUEUE_MEMORY_LOCKS | NUMBER        | Number of dequeue transactions that obtained memory locks                                                                                                                                                                                                                                                                                                                                                                                       |
| DEQUEUE_DISK_LOCKS   | NUMBER        | Number of dequeue transactions that obtained disk locks                                                                                                                                                                                                                                                                                                                                                                                         |
| DEQUEUE_DISK_DELETES | NUMBER        | Number of dequeue transactions that deleted index-organized table entries                                                                                                                                                                                                                                                                                                                                                                       |
| OLDEST_MSGID         | RAW (16)      | Message ID of the oldest message                                                                                                                                                                                                                                                                                                                                                                                                                |
| OLDEST_MSG_ENQTM     | TIMESTAMP (6) | Enqueue time of the oldest message                                                                                                                                                                                                                                                                                                                                                                                                              |
| PARENT_SUBSCRIBER_ID | NUMBER        | Subscriber ID of the parent durable subscriber                                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID               | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.121 V\$PGA\_TARGET\_ADVICE

V\$PGA\_TARGET\_ADVICE predicts how the cache hit percentage and over allocation count statistics displayed by the V\$PGASTAT performance view would be impacted if the value of the PGA\_AGGREGATE\_TARGET parameter is changed.

The prediction is performed for various values of the PGA\_AGGREGATE\_TARGET parameter, selected around its current value. The advice statistic is generated by simulating the past workload run by the instance.

The content of the view is empty if PGA\_AGGREGATE\_TARGET is not set. In addition, the content of this view is not updated if the STATISTICS\_LEVEL parameter is set to BASIC. Base statistics for this view are reset at instance startup and when the value of the PGA\_AGGREGATE\_TARGET initialization parameter is dynamically modified.

| Column                  | Datatype | Description                                                  |
|-------------------------|----------|--------------------------------------------------------------|
| PGA_TARGET_FOR_ESTIMATE | NUMBER   | Value of PGA_AGGREGATE_TARGET for this prediction (in bytes) |

| Column                        | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PGA_TARGET_FACTOR             | NUMBER       | PGA_TARGET_FOR_ESTIMATE / the current value of the PGA_AGGREGATE_TARGET parameter                                                                                                                                                                                                                                                                                                                                                               |
| ADVICE_STATUS                 | VARCHAR2 (3) | Indicates whether the advice is enabled (ON) or disabled (OFF) depending on the value of the STATISTICS_LEVEL parameter                                                                                                                                                                                                                                                                                                                         |
| BYTES_PROCESSED               | NUMBER       | Total bytes processed by all the work areas considered by this advice (in bytes)                                                                                                                                                                                                                                                                                                                                                                |
| ESTD_TIME                     | NUMBER       | Time (in seconds) required to process the bytes                                                                                                                                                                                                                                                                                                                                                                                                 |
| ESTD_EXTRA_BYTES_RW           | NUMBER       | Estimated number of extra bytes which would be read or written if PGA_AGGREGATE_TARGET was set to the value of the PGA_TARGET_FOR_ESTIMATE column. This number is derived from the estimated number and size of work areas which would run in one-pass (or multi-pass) for that value of PGA_AGGREGATE_TARGET.                                                                                                                                  |
| ESTD_PGA_CACHE_HIT_PERCENTAGE | NUMBER       | Estimated value of the cache hit percentage statistic when PGA_AGGREGATE_TARGET equals PGA_TARGET_FOR_ESTIMATE. This column is derived from the above two columns and is equal to $\text{BYTES\_PROCESSED} / (\text{BYTES\_PROCESSED} + \text{ESTD\_EXTRA\_BYTES\_RW})$                                                                                                                                                                         |
| ESTD_OVERALLOC_COUNT          | NUMBER       | Estimated number of PGA memory over-allocations if the value of PGA_AGGREGATE_TARGET is set to PGA_TARGET_FOR_ESTIMATE. A nonzero value means that PGA_TARGET_FOR_ESTIMATE is not large enough to run the work area workload. Hence, the DBA should not set PGA_AGGREGATE_TARGET to PGA_TARGET_FOR_ESTIMATE since Oracle will not be able to honor that target.                                                                                 |
| CON_ID                        | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

- "V\$PGASTAT"
- "PGA\_AGGREGATE\_TARGET"
- "STATISTICS\_LEVEL"
- *Oracle Database Performance Tuning Guide* for information on tuning the PGA\_AGGREGATE\_TARGET initialization parameter using the PGA advice views

## 9.122 V\$PGA\_TARGET\_ADVICE\_HISTOGRAM

V\$PGA\_TARGET\_ADVICE\_HISTOGRAM predicts how statistics displayed by the V\$SQL\_WORKAREA\_HISTOGRAM dynamic view would be impacted if the value of the PGAAggregateTarget parameter is changed.

This prediction is performed for various values of the PGAAggregateTarget parameter, selected around its current value. The advice statistic is generated by simulating the past workload run by the instance.

The content of the view is empty if PGAAggregateTarget is not set. In addition, the content of this view is not updated when the STATISTICS\_LEVEL initialization parameter is set to BASIC. Base statistics for this view are reset at instance startup or when the value of the PGAAggregateTarget initialization parameter is dynamically modified.

| Column                      | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PGA_TARGET_FOR_ESTIMATE     | NUMBER       | Value of PGAAggregateTarget for this prediction (in bytes)                                                                                                                                                                                                                                                                                                                                                                        |
| PGA_TARGET_FACTOR           | NUMBER       | PGA_TARGET_FOR_ESTIMATE / the current value of the PGAAggregateTarget parameter                                                                                                                                                                                                                                                                                                                                                   |
| ADVICE_STATUS               | VARCHAR2 (3) | Indicates whether the advice is enabled (ON) or disabled (OFF) depending on the value of the STATISTICS_LEVEL parameter                                                                                                                                                                                                                                                                                                           |
| LOW_OPTIMAL_SIZE            | NUMBER       | Lower bound for the optimal memory requirement of work areas included in this row (in bytes)                                                                                                                                                                                                                                                                                                                                      |
| HIGH_OPTIMAL_SIZE           | NUMBER       | Upper bound for the optimal memory requirement of work areas included in this row (in bytes)                                                                                                                                                                                                                                                                                                                                      |
| ESTD_OPTIMAL_EXECUTIONS     | NUMBER       | Number of work areas with an optimal memory requirement comprised between LOW_OPTIMAL_SIZE and HIGH_OPTIMAL_SIZE which are predicted to run optimal given a value of PGAAggregateTarget equal to PGA_TARGET_FOR_ESTIMATE                                                                                                                                                                                                          |
| ESTD_ONEPASS_EXECUTIONS     | NUMBER       | Number of work areas with an optimal memory requirement comprised between LOW_OPTIMAL_SIZE and HIGH_OPTIMAL_SIZE which are predicted to run one-pass given a value of PGAAggregateTarget equal to PGA_TARGET_FOR_ESTIMATE                                                                                                                                                                                                         |
| ESTD_MULTIPASSES_EXECUTIONS | NUMBER       | Number of work areas with an optimal memory requirement comprised between LOW_OPTIMAL_SIZE and HIGH_OPTIMAL_SIZE which are predicted to run multi-pass given a value of PGAAggregateTarget equal to PGA_TARGET_FOR_ESTIMATE                                                                                                                                                                                                       |
| ESTD_TOTAL_EXECUTIONS       | NUMBER       | Sum of ESTD_OPTIMAL_EXECUTIONS, ESTD_ONEPASS_EXECUTIONS, and ESTD_MULTIPASSES_EXECUTIONS                                                                                                                                                                                                                                                                                                                                          |
| IGNORED_WORKAREAS_COUNT     | NUMBER       | Number of work areas with optimal memory requirement between LOW_OPTIMAL_SIZE and HIGH_OPTIMAL_SIZE ignored in the advice generation due to memory and CPU constraints                                                                                                                                                                                                                                                            |
| CON_ID                      | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**

- `"V$SQL_WORKAREA_HISTOGRAM"`
- `"PGA_AGGREGATE_TARGET"`
- `"STATISTICS_LEVEL"`
- *Oracle Database Performance Tuning Guide* for information on tuning the `PGA_AGGREGATE_TARGET` initialization parameter using the PGA advice views

## 9.123 V\$PGASTAT

`V$PGASTAT` displays PGA memory usage statistics as well as statistics about the automatic PGA memory manager when it is enabled (that is, when `PGA_AGGREGATE_TARGET` is set). Cumulative values in `V$PGASTAT` are accumulated since instance startup.

| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME   | VARCHAR2 (64) | Name of the statistic (see <a href="#">Table 9-4</a> )                                                                                                                                                                                                                                                                                                                                                                                                |
| VALUE  | NUMBER        | Statistic value                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| UNIT   | VARCHAR2 (12) | Unit for the value: <ul style="list-style-type: none"> <li>• bytes</li> <li>• microseconds</li> <li>• percent</li> </ul>                                                                                                                                                                                                                                                                                                                              |
| CON_ID | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Table 9-4 V\$PGASTAT Statistics**

| Statistic Name                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| aggregate PGA auto target      | Amount of PGA memory the Oracle Database can use for work areas running in automatic mode. This amount is dynamically derived from the value of the <code>PGA_AGGREGATE_TARGET</code> initialization parameter and the current work area workload, and continuously adjusted by the Oracle Database.<br><br>If this value is small compared to the value of <code>PGA_AGGREGATE_TARGET</code> , then a large amount of PGA memory is used by other components of the system (for example, PL/SQL or Java memory) and little is left for work areas. The DBA must ensure that enough PGA memory is left for work areas running in automatic mode. |
| aggregate PGA target parameter | Current value of the <code>PGA_AGGREGATE_TARGET</code> initialization parameter. If this parameter is not set, then its value is 0 and automatic management of PGA memory is disabled.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| bytes processed                | Number of bytes processed by memory intensive SQL operators, cumulated since instance startup.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

Table 9-4 (Cont.) V\$PGASTAT Statistics

| Statistic Name                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| cache hit percentage                  | <p>A metric computed by the Oracle Database to reflect the performance of the PGA memory component, cumulative since instance startup. A value of 100% means that all work areas executed by the system since instance startup have used an optimal amount of PGA memory.</p> <p>When a work area cannot run optimal, one or more extra passes is performed over the input data. This will reduce the cache hit percentage in proportion to the size of the input data and the number of extra passes performed.</p> |
| extra bytes read/written              | Number of bytes processed during extra passes of the input data, cumulated since instance startup. When a work area cannot run optimal, one or more of these extra passes is performed.                                                                                                                                                                                                                                                                                                                              |
| global memory bound                   | <p>Maximum size of a work area executed in automatic mode. This value is continuously adjusted by the Oracle Database to reflect the current state of the work area workload. The global memory bound generally decreases when the number of active work areas is increasing in the system.</p> <p>If the value of the global bound decreases below 1 MB, then the value of <code>PGA_AGGREGATE_TARGET</code> should be increased.</p>                                                                               |
| max processes count                   | Maximum number of processes active at any one time since instance startup.                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| maximum PGA allocated                 | Maximum number of bytes of PGA memory allocated at one time since instance startup.                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| maximum PGA used for auto workareas   | Maximum amount of PGA memory consumed at one time by work areas running under the automatic memory management mode since instance startup.                                                                                                                                                                                                                                                                                                                                                                           |
| maximum PGA used for manual workareas | Maximum amount of PGA memory consumed at one time by work areas running under the manual memory management mode since instance startup.                                                                                                                                                                                                                                                                                                                                                                              |
| over allocation count                 | <p>This statistic is cumulative since instance startup. Over allocating PGA memory can happen if the value of <code>PGA_AGGREGATE_TARGET</code> is too small. When this happens, the Oracle Database cannot honor the value of <code>PGA_AGGREGATE_TARGET</code> and extra PGA memory needs to be allocated.</p> <p>If over allocation occurs, then increase the value of <code>PGA_AGGREGATE_TARGET</code> using the information provided by the <code>V\$PGA_TARGET_ADVICE</code> view.</p>                        |
| PGA memory freed back to OS           | Number of bytes of PGA memory freed back to the operating system, cumulated since instance startup.                                                                                                                                                                                                                                                                                                                                                                                                                  |
| process count                         | Number of processes active within up to the last 3 seconds.                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| recompute count (total)               | Number of times the instance bound, which is a cap on the maximum size of each active work area, has been recomputed since instance startup. Generally, the instance bound is recomputed in the background every 3 seconds, but it could be recomputed by a foreground process when the number of work areas changes rapidly in a short period of time.                                                                                                                                                              |
| total freeable PGA memory             | Number of bytes of PGA memory in all processes that could be freed back to the operating system.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| total PGA allocated                   | Current amount of PGA memory allocated by the instance. The Oracle Database attempts to keep this number below the value of the <code>PGA_AGGREGATE_TARGET</code> initialization parameter. However, it is possible for the PGA allocated to exceed that value by a small percentage and for a short period of time when the work area workload is increasing very rapidly or when <code>PGA_AGGREGATE_TARGET</code> is set to a small value.                                                                        |
| total PGA inuse                       | Indicates how much PGA memory is currently consumed by work areas. This number can be used to determine how much memory is consumed by other consumers of the PGA memory (for example, PL/SQL or Java).                                                                                                                                                                                                                                                                                                              |

Table 9-4 (Cont.) V\$PGASTAT Statistics

| Statistic Name                      | Description                                                                                                                                                                                                                                                |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| total PGA used for auto workareas   | Indicates how much PGA memory is currently consumed by work areas running under the automatic memory management mode. This number can be used to determine how much memory is consumed by other consumers of the PGA memory (for example, PL/SQL or Java). |
| total PGA used for manual workareas | Indicates how much PGA memory is currently consumed by work areas running under the manual memory management mode. This number can be used to determine how much memory is consumed by other consumers of the PGA memory (for example, PL/SQL or Java).    |

**See Also:**

"PGA\_AGGREGATE\_TARGET"

## 9.124 V\$PKCS11\_PATH

V\$PKCS11\_PATH displays all processes that are using a PKCS#11 library for Transparent Data Encryption (TDE).

The SQL command `ADMINISTER KEY MANAGEMENT SWITCHOVER TO LIBRARY` instructs the database to switch over from the current PKCS#11 library to a new PKCS#11 library, without incurring system downtime. After you issue this command, foreground and background processes are gradually switched over to the new library. You can use this view to monitor the PKCS#11 library being used by each process. When you determine that all processes have switched over to the new library, you can safely remove the old library from disk.

| Column          | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PID             | NUMBER          | ID of the process                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PNAME           | VARCHAR2 (5)    | Name of the process                                                                                                                                                                                                                                                                                                                                                                                                                             |
| PKCS11_LIB_PATH | VARCHAR2 (4000) | Full operating system path for the PKCS#11 library being used by the process                                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID          | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.125 V\$PLSQL\_DEBUGGABLE\_SESSIONS

V\$PLSQL\_DEBUGGABLE\_SESSIONS shows the current sessions of all users that the current user has privileges to debug with a PL/SQL debugger.

| Column                   | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID                      | NUMBER         | Session identifier                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SERIAL#                  | NUMBER         | Session serial number                                                                                                                                                                                                                                                                                                                                                                                                                           |
| LOGON_TIME               | DATE           | Time of logon                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| USER#                    | NUMBER         | Oracle user identifier                                                                                                                                                                                                                                                                                                                                                                                                                          |
| USERNAME                 | VARCHAR2 (128) | Oracle user name                                                                                                                                                                                                                                                                                                                                                                                                                                |
| OSUSER                   | VARCHAR2 (128) | Operating system client user name                                                                                                                                                                                                                                                                                                                                                                                                               |
| PROCESS                  | VARCHAR2 (24)  | Operating system client process ID                                                                                                                                                                                                                                                                                                                                                                                                              |
| MACHINE                  | VARCHAR2 (64)  | Operating system client machine name                                                                                                                                                                                                                                                                                                                                                                                                            |
| PORT                     | NUMBER         | Operating system client port number                                                                                                                                                                                                                                                                                                                                                                                                             |
| TERMINAL                 | VARCHAR2 (30)  | Operating system client terminal name                                                                                                                                                                                                                                                                                                                                                                                                           |
| PROGRAM                  | VARCHAR2 (84)  | Operating system client program name                                                                                                                                                                                                                                                                                                                                                                                                            |
| TYPE                     | VARCHAR2 (10)  | Session type                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SERVICE_NAME             | VARCHAR2 (64)  | Service name of the session                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PLSQL_DEBUGGER_CONNECTED | VARCHAR2 (5)   | Indicates whether the session is connected to a PL/SQL debugger.<br>Possible values: <ul style="list-style-type: none"> <li>TRUE</li> <li>FALSE</li> </ul>                                                                                                                                                                                                                                                                                      |
| CON_ID                   | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.126 V\$PMEM\_FILESTORE

V\$PMEM\_FILESTORE displays information about Persistent Memory Filestores (PMEM Filestores).

| Column         | Datatype       | Description                                                                                                                                                                                             |
|----------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME           | VARCHAR2 (65)  | PMEM Filestore name                                                                                                                                                                                     |
| MOUNT_POINT    | VARCHAR2 (513) | Operating system directory path for the mount point of the PMEM Filestore                                                                                                                               |
| BACKING_FILE   | VARCHAR2 (513) | Operating system file path for the backing file of the PMEM Filestore                                                                                                                                   |
| BLOCK_SIZE     | NUMBER         | Block size of the PMEM Filestore (in bytes)                                                                                                                                                             |
| TOTAL_BYTES    | NUMBER         | Current size of the PMEM Filestore (in bytes)                                                                                                                                                           |
| AUTOEXTENSIBLE | VARCHAR2 (4)   | Indicates whether the PMEM Filestore is autoextensible (YES) or not (NO)                                                                                                                                |
| INCREMENT_BY   | NUMBER         | If the PMEM Filestore is autoextensible, then this column displays the size of an autoextension increment (in bytes)<br>If the PMEM Filestore is not autoextensible, then the value of this column is 0 |

| Column          | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAX_BYTES       | NUMBER   | Maximum autoextend size (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                     |
| AVAILABLE_BYTES | NUMBER   | Amount of free space currently available in the PMEM Filestore (in bytes)                                                                                                                                                                                                                                                                                                                                                                              |
| USED_BYTES      | NUMBER   | Amount of space currently allocated to data and metadata in the PMEM Filestore (in bytes)                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID          | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.127 V\$PQ\_SESSTAT

V\$PQ\_SESSTAT lists session statistics for parallel queries.

After you have run a query or DML operation, you can use the information derived from V\$PQ\_SESSTAT to view the number of PX (Parallel Execution) servers used, and other information for the session and system.

| Column     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATISTIC  | VARCHAR2 (30) | <p>Name of the statistic:</p> <ul style="list-style-type: none"> <li>Allocation Height - Requested number of PX servers per instance</li> <li>Allocation Width - Requested number of instances</li> <li>DDL Parallelized - Number of DDL operations run in parallel</li> <li>DFO Trees - Number of executed DFO trees</li> <li>DML Parallelized - Number of DML operations run in parallel</li> <li>DOP - Degree of parallelism used for the last statement</li> <li>Distr Msgs Recv'd - Number of remote (inter-instance) messages received</li> <li>Distr Msgs Sent - Number of remote (inter-instance) messages sent</li> <li>Local Msgs Recv'd - Number of local (intra-instance) messages received</li> <li>Local Msgs Sent - Number of local (intra-instance) messages sent</li> <li>Queries Parallelized - Number of queries run in parallel</li> <li>Server Sets - Maximum number of PX server sets used at the same time for the last statement</li> <li>Server Sets Released Early - Total number of PX server sets released proactively</li> <li>Servers - Maximum number of PX servers used at the same time</li> <li>Servers Released Early - Total number of PX servers released proactively</li> <li>Total Servers Released - Total number of PX servers acquired and released</li> </ul> |
| LAST_QUERY | NUMBER        | Value of the statistic for the last operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |



| Column        | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SESSION_TOTAL | NUMBER   | Value of the statistic for the entire session to this point in time<br><br>The value of the statistic for the entire session to this point in time is not maintained for the DOP, Servers, Allocation Height, Allocation Width, Server Sets, Total Servers Released, Servers Released Early, and Server Sets Released Early statistics.                                                                                                               |
| CON_ID        | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.128 V\$PQ\_SLAVE

V\$PQ\_SLAVE lists statistics for each of the active PX (Parallel Execution) servers on an instance.



### Note:

This view is deprecated. Oracle recommends that you instead use the V\$PX\_SERVER view.



### See Also:

"V\$PX\_SERVER"

## 9.129 V\$PQ\_SYSSTAT

V\$PQ\_SYSSTAT lists system statistics for parallel queries.

After you have run a query or DML operation, you can use the information derived from V\$PQ\_SYSSTAT to view the number of PX (Parallel Execution) servers used, and other information for the system.

| Column    | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATISTIC | VARCHAR2 (30) | <p>Name of the statistic:</p> <ul style="list-style-type: none"> <li>DDL Initiated - Total number of parallel DDL operations that were initiated</li> <li>DDL Initiated (IPQ) - Total number of parallel DDL operations that were initiated for Internode Parallel Query</li> <li>DFO Trees - Total number of DFO trees executed on this instance</li> <li>DML Initiated - Total number of parallel DML operations that were initiated</li> <li>DML Initiated (IPQ) - Total number of parallel DML operations that were initiated for Internode Parallel Query</li> <li>Distr Msgs Recv'd - Total number of remote (inter-instance) messages received on this instance</li> <li>Distr Msgs Sent - Total number of remote (inter-instance) messages sent on this instance</li> <li>Local Msgs Recv'd - Total number of remote (inter-instance) messages received on this instance</li> <li>Local Msgs Sent - Total number of local (intra-instance) messages sent on this instance</li> <li>Queries Initiated - Total number of parallel queries initiated on this instance</li> <li>Queries Initiated (IPQ) - Total number of parallel queries initiated on this instance for Internode Parallel Query</li> <li>Queries Queued - Total number of queued queries on this instance</li> <li>Server Sessions - Total number of operations executed in all PX servers on this instance</li> <li>Servers Busy - Number of currently busy PX servers on this instance</li> <li>Servers Cleaned Up - Total number of PX servers on this instance cleaned up due to process death</li> <li>Servers Highwater - Number of active PX servers on this instance that have partaken in <math>\geq 1</math> operation so far</li> <li>Servers Idle - Number of currently idle PX servers on this instance</li> <li>Servers Shutdown - Total number of PX servers shutdown on this instance</li> <li>Servers Started - Total number of PX servers started on this instance</li> <li>Sessions Active - Total number of active sessions on this instance</li> </ul> |
| VALUE     | NUMBER        | Value of the statistic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID    | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><math>n</math>: Where <math>n</math> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## 9.130 V\$PQ\_TQSTAT

V\$PQ\_TQSTAT contains statistics on parallel execution operations.

The statistics are compiled after the query completes and only remain for the duration of the session. It displays the number of rows processed through each PX (Parallel Execution) server at each stage of the execution tree. This view can help determine skew problems in a query's execution. (Note that for PDML, information from V\$PQ\_TQSTAT is available only after a commit or rollback operation.)

| Column      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DFO_NUMBER  | NUMBER        | Data flow operator (DFO) tree number to differentiate queries                                                                                                                                                                                                                                                                                                                                                                               |
| TQ_ID       | NUMBER        | Table queue ID within the query, which represents the connection between two DFO nodes in the query execution tree                                                                                                                                                                                                                                                                                                                          |
| SERVER_TYPE | VARCHAR2 (10) | The role in table queue - producer/consumer/ranger                                                                                                                                                                                                                                                                                                                                                                                          |
| NUM_ROWS    | NUMBER        | The number of rows produced/consumed                                                                                                                                                                                                                                                                                                                                                                                                        |
| BYTES       | NUMBER        | The number of bytes produced/consumed                                                                                                                                                                                                                                                                                                                                                                                                       |
| OPEN_TIME   | NUMBER        | Time (seconds) the table queue remained open                                                                                                                                                                                                                                                                                                                                                                                                |
| AVG_LATENCY | NUMBER        | Time (minutes) for a message to be dequeued after it enters the queue                                                                                                                                                                                                                                                                                                                                                                       |
| WAITS       | NUMBER        | The number of waits encountered during dequeue                                                                                                                                                                                                                                                                                                                                                                                              |
| TIMEOUTS    | NUMBER        | The number of timeouts when waiting for a message                                                                                                                                                                                                                                                                                                                                                                                           |
| PROCESS     | VARCHAR2 (6)  | Process ID                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| INSTANCE    | NUMBER        | Instance ID                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.131 V\$PROCESS

V\$PROCESS displays information about the currently active processes.

| Column | Datatype      | Description                                                                                                                                        |
|--------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| ADDR   | RAW (4   8)   | Address of the process state object                                                                                                                |
| PID    | NUMBER        | Oracle process identifier                                                                                                                          |
| SOSID  | VARCHAR2 (24) | Operating system (process, thread) identifier.<br>This identifier is unique whether the Oracle multiprocess/multithread feature is enabled or not. |

| Column           | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SPID             | VARCHAR2 (24)  | Operating system process identifier.<br>The Oracle multiprocess/multithread feature is available for UNIX systems.<br>When the Oracle multiprocess/multithread feature is enabled, RDBMS processes are mapped to threads running in operating system processes, and the <code>SPID</code> identifier is not unique for RDBMS processes.<br>When the Oracle multiprocess/multithread feature is not enabled on UNIX systems, the <code>SPID</code> identifier is unique for RDBMS processes. |
| STID             | VARCHAR2 (24)  | Operating system thread identifier.<br>The Oracle multiprocess/multithread feature is available for UNIX systems.<br>When the Oracle multiprocess/multithread feature is enabled, RDBMS processes are mapped to threads running in operating system processes, and the <code>SPID</code> and <code>STID</code> together uniquely identify an RDBMS process.<br>The <code>STID</code> is not unique on Solaris. The <code>STID</code> is unique on Linux, AIX, and Microsoft Windows.        |
| EXECUTION_TYPE   | VARCHAR2 (10)  | Operating system execution type                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| PNAME            | VARCHAR2 (5)   | Name of this process                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| USERNAME         | VARCHAR2 (15)  | Operating system process username                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SERIAL#          | NUMBER         | Process serial number                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TERMINAL         | VARCHAR2 (30)  | Operating system terminal identifier                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PROGRAM          | VARCHAR2 (84)  | Program in progress                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TRACEID          | VARCHAR2 (255) | Trace file identifier                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TRACEFILE        | VARCHAR2 (513) | Trace file name of the process                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| BACKGROUND       | VARCHAR2 (1)   | 1 for a SYSTEM background process; NULL for foreground processes or non-SYSTEM background processes                                                                                                                                                                                                                                                                                                                                                                                         |
| ATTRIBUTES       | VARCHAR2 (512) | Attributes of the process, in JSON format                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LATCHWAIT        | VARCHAR2 (16)  | Address of the latch the process is waiting for; NULL if none                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LATCHSPIN        | VARCHAR2 (16)  | This column is obsolete                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PGA_USED_MEM     | NUMBER         | PGA memory currently used by the process (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PGA_ALLOC_MEM    | NUMBER         | PGA memory currently allocated by the process (including free PGA memory not yet released to the operating system by the server process), in bytes                                                                                                                                                                                                                                                                                                                                          |
| PGA_FREEABLE_MEM | NUMBER         | Allocated PGA memory which can be freed (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PGA_MAX_MEM      | NUMBER         | Maximum PGA memory ever allocated by the process (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| NUMA_DEFAULT     | NUMBER         | The NUMA processor group of this process at initialization time                                                                                                                                                                                                                                                                                                                                                                                                                             |
| NUMA_CURR        | NUMBER         | The NUMA processor group of this process currently                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CPU_USED         | NUMBER         | Tracks the CPU used by this process (in microseconds) from the time it was spawned                                                                                                                                                                                                                                                                                                                                                                                                          |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.132 V\$PROCESS\_MEMORY

V\$PROCESS\_MEMORY displays dynamic PGA memory usage by named component categories for each process.

| Column        | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PID           | NUMBER        | Oracle process identifier                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SERIAL#       | NUMBER        | Oracle process serial number                                                                                                                                                                                                                                                                                                                                                                                                                |
| CATEGORY      | VARCHAR2 (15) | Category name. Categories include "SQL", "PL/SQL", "OLAP" and "JAVA". Special categories are "Freeable" and "Other". Freeable memory has been allocated to the process by the operating system, but has not been allocated to a category. "Other" memory has been allocated to a category, but not to one of the named categories.                                                                                                          |
| ALLOCATED     | NUMBER        | Bytes of PGA memory allocated by the process for the category. For the "Freeable" category, it is the amount of free PGA memory eligible to be released to the operating system.                                                                                                                                                                                                                                                            |
| USED          | NUMBER        | Bytes of PGA memory used by the process for the category. For "Freeable", the value is zero. For "Other", the value is NULL for performance reasons.                                                                                                                                                                                                                                                                                        |
| MAX_ALLOCATED | NUMBER        | Maximum bytes of PGA memory ever allocated by the process for the category.                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID        | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.133 V\$PROCESS\_MEMORY\_DETAIL

V\$PROCESS\_MEMORY\_DETAIL provides detailed information on dynamic PGA memory usage for each automatically captured snapshot.

| Column    | Datatype | Description                          |
|-----------|----------|--------------------------------------|
| PID       | NUMBER   | Oracle process identifier            |
| SERIAL#   | NUMBER   | Oracle process serial number         |
| TIMESTAMP | DATE     | Time at which the snapshot was taken |

| Column                 | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQL_ID                 | VARCHAR2 (13) | Identifier for the relevant SQL statement                                                                                                                                                                                                                                                                                                                                                                                                             |
| TOTAL_MB               | NUMBER        | Total number of megabytes of PGA memory allocated at the time of the snapshot                                                                                                                                                                                                                                                                                                                                                                         |
| CATEGORY               | VARCHAR2 (15) | Category name. Categories include: <ul style="list-style-type: none"> <li>• SQL</li> <li>• PL/SQL</li> <li>• OLAP</li> <li>• JAVA</li> <li>• Freeable</li> <li>• Other</li> </ul>                                                                                                                                                                                                                                                                     |
| NAME                   | VARCHAR2 (26) | PGA memory allocation comment. Small allocations may be grouped together with NAME set to Miscellaneous for performance reasons.                                                                                                                                                                                                                                                                                                                      |
| HEAP_NAME              | VARCHAR2 (15) | Name of heap or heaps (if same name) containing the allocations                                                                                                                                                                                                                                                                                                                                                                                       |
| BYTES                  | NUMBER        | Bytes of PGA memory allocated in the process from heaps with the given heap name and with the given allocation comment                                                                                                                                                                                                                                                                                                                                |
| ALLOCATION_COUNT       | NUMBER        | Number of allocations with the comment found in the process inside heaps with the given heap name                                                                                                                                                                                                                                                                                                                                                     |
| HEAP_DESCRIPTOR        | RAW (4   8)   | If all the allocations are from one heap, then this is the address of the heap descriptor for that heap. Otherwise, this column is NULL.                                                                                                                                                                                                                                                                                                              |
| PARENT_HEAP_DESCRIPTOR | RAW (4   8)   | If all the allocations are from one heap, then this is the address of the parent heap descriptor for that heap. Otherwise, this column is NULL. If the heap has no parent, the value is zero.                                                                                                                                                                                                                                                         |
| MOST_RECENT            | NUMBER        | Oracle process identifier (PID) for most recent snapshot                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID                 | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.134 V\$PROCESS\_POOL

V\$PROCESS\_POOL provides information about process pools.

| Column      | Datatype       | Description                                                |
|-------------|----------------|------------------------------------------------------------|
| POOL_NAME   | VARCHAR2 (512) | Pool name                                                  |
| ENABLED     | VARCHAR2 (5)   | Indicates whether the pool is active (TRUE) or not (FALSE) |
| MIN_COUNT   | NUMBER         | The default or configured minimum value                    |
| BATCH_COUNT | NUMBER         | The default or configured batch count                      |
| INIT_COUNT  | NUMBER         | The default or configured initial count                    |
| CUR_COUNT   | NUMBER         | The number of spawned processes available in this pool     |

| Column    | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAX_COUNT | NUMBER   | When INIT_COUNT is set, MAX_COUNT shows the number of processes yet to be spawned. Note that the current process count (CUR_COUNT) cannot reach INIT_COUNT in cases where processes are consumed during the spawn.                                                                                                                                                                                                          |
| CON_ID    | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This row is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li>n: Where n is the applicable container ID for the rows containing data</li></ul> |

## 9.135 V\$PROPAGATION\_RECEIVER

V\$PROPAGATION\_RECEIVER displays information about buffer queue propagation schedules on the receiving (destination) side. The values are reset to zero when the database (or instance in an Oracle Real Application Clusters (Oracle RAC) environment) restarts, when propagation migrates to another instance, or when an unscheduled propagation is attempted.

| Column                | Datatype       | Description                                                                                           |
|-----------------------|----------------|-------------------------------------------------------------------------------------------------------|
| SRC_QUEUE_SCHEMA      | VARCHAR2 (128) | Name of the source schema                                                                             |
| SRC_QUEUE_NAME        | VARCHAR2 (128) | Name of the source queue                                                                              |
| SRC_DBNAME            | VARCHAR2 (395) | Name of the source database                                                                           |
| DST_QUEUE_SCHEMA      | VARCHAR2 (128) | Name of the destination schema                                                                        |
| DST_QUEUE_NAME        | VARCHAR2 (128) | Name of the destination queue                                                                         |
| STARTUP_TIME          | DATE           | Startup time of this schedule. This time changes when the source/destination database gets restarted. |
| HIGH_WATER_MARK       | NUMBER         | High watermark of the messages received                                                               |
| ACKNOWLEDGEMENT       | NUMBER         | Acknowledgement of the messages received by the receiver                                              |
| LAST_RECEIVED_MSG     | NUMBER         | Last received message                                                                                 |
| TOTAL_MSGS            | NUMBER         | Total number of messages                                                                              |
| ELAPSED_UNPICKLE_TIME | NUMBER         | Elapsed unpickle time                                                                                 |
| ELAPSED_RULE_TIME     | NUMBER         | Elapsed rule time                                                                                     |
| ELAPSED_ENQUEUE_TIME  | NUMBER         | Elapsed enqueue time                                                                                  |
| SESSION_ID            | NUMBER         | Session ID of the propagation receiver                                                                |
| SERIAL#               | NUMBER         | Serial number of the propagation receiver                                                             |
| SPID                  | VARCHAR2 (24)  | Process identification number of the propagation receiver                                             |
| PROPAGATION_NAME      | VARCHAR2 (128) | Name of the propagation on the source database                                                        |

| Column                     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATE                      | VARCHAR2 (43) | <p>State of the propagation receiver:</p> <ul style="list-style-type: none"> <li>• Initializing</li> <li>• Sending unapplied txns</li> <li>• Waiting for message from client</li> <li>• Receiving LCRs</li> <li>• Evaluating rules</li> <li>• Enqueueing LCRs</li> <li>• Waiting for memory</li> <li>• Waiting for apply to read</li> <li>• Waiting for message from propagation sender</li> </ul> <p>When the propagation schedule is not optimized, the state is <code>Normal</code>.</p> |
| LAST_RECEIVED_MSG_POSITION | RAW (64)      | Last received message position. Corresponds to <code>LAST_RECEIVED_MSG</code> , except the value is in position rather than SCN. Position is used by XStream to determine ordering.                                                                                                                                                                                                                                                                                                         |
| ACKNOWLEDGEMENT_POSITION   | RAW (64)      | Acknowledgement position of the messages received by the receiver. Corresponds to <code>ACKNOWLEDGEMENT</code> , except the value is in position rather than SCN. Position is used by XStream to determine ordering.                                                                                                                                                                                                                                                                        |
| CON_ID                     | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                |

## 9.136 V\$PROPAGATION\_SENDER

`V$PROPAGATION_SENDER` displays information about buffer queue propagation schedules on the sending (source) side. The values are reset to zero when the database (or instance in an Oracle Real Application Clusters (Oracle RAC) environment) restarts, when propagation migrates to another instance, or when an unscheduled propagation is attempted.

| Column           | Datatype       | Description                                              |
|------------------|----------------|----------------------------------------------------------|
| QUEUE_ID         | NUMBER         | Queue identifier of the queue                            |
| QUEUE_SCHEMA     | VARCHAR2 (128) | Schema of the queue                                      |
| QUEUE_NAME       | VARCHAR2 (128) | Name of the queue                                        |
| DST_QUEUE_SCHEMA | VARCHAR2 (128) | Destination schema of the queue                          |
| DST_QUEUE_NAME   | VARCHAR2 (128) | Name of the destination queue                            |
| STARTUP_TIME     | DATE           | Time at which the propagation started                    |
| DBLINK           | VARCHAR2 (395) | Name of the destination database link                    |
| HIGH_WATER_MARK  | NUMBER         | High watermark of the messages sent                      |
| ACKNOWLEDGEMENT  | NUMBER         | Acknowledgement of the messages received by the receiver |
| SCHEDULE_STATUS  | VARCHAR2 (128) | Status of the propagation schedule                       |
| TOTAL_MSGS       | NUMBER         | Total messages propagated                                |
| TOTAL_BYTES      | NUMBER         | Total bytes propagated                                   |



| Column                    | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ELAPSED_DEQUEUE_TIME      | NUMBER         | Elapsed dequeue time (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ELAPSED_PICKLE_TIME       | NUMBER         | Elapsed pickle time (time taken to linearize a logical change record (LCR) into a stream of bytes that can be sent over the network) (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ELAPSED_PROPAGATION_TIME  | NUMBER         | Elapsed propagation time (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| ELAPSED_RULE_TIME         | NUMBER         | Elapsed rule time (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| MAX_NUM_PER_WIN           | NUMBER         | Maximum bytes per window                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| MAX_SIZE                  | NUMBER         | Maximum bytes sent per window                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LAST_MSG_LATENCY          | NUMBER         | Last propagated message latency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| LAST_MSG_ENQUEUE_TIME     | TIMESTAMP (6)  | Last propagated message enqueue time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| LAST_MSG_PROPAGATION_TIME | TIMESTAMP (6)  | Last time when the message was propagated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| LAST_LCR_LATENCY          | NUMBER         | Last propagated LCR latency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LAST_LCR_CREATION_TIME    | DATE           | Last propagated LCR timestamp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LAST_LCR_PROPAGATION_TIME | DATE           | Last time when the LCR was propagated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DST_DATABASE_NAME         | VARCHAR2 (395) | Global name of the destination database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SESSION_ID                | NUMBER         | Session ID of the propagation sender process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SERIAL#                   | NUMBER         | Serial number of the propagation sender process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SPID                      | VARCHAR2 (24)  | Process identification number of the propagation sender process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PROPAGATION_NAME          | VARCHAR2 (128) | Name of the propagation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| STATE                     | VARCHAR2 (128) | State of the propagation sender process: <ul style="list-style-type: none"> <li>• Initializing</li> <li>• Initializing propagation receiver</li> <li>• Browsing LCRs</li> <li>• Evaluating rules</li> <li>• Dequeueing LCRs</li> <li>• Sending LCRs</li> <li>• Waiting for apply to be enabled</li> <li>• Waiting for apply database to start</li> <li>• Waiting for propagation to be enabled</li> <li>• Waiting for capture to terminate</li> <li>• Waiting for a subscriber to be added</li> <li>• Suspended due to a dropped subscriber</li> <li>• Suspended for auto split/merge</li> <li>• Waiting on empty queue</li> </ul> When the SCHEDULE_STATUS column is not SCHEDULE OPTIMIZED, the state is the value of the SCHEDULE_STATUS column. |
| CON_ID                    | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• n: Where n is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                             |

## 9.137 V\$PROXY\_ARCHIVEDLOG

V\$PROXY\_ARCHIVEDLOG contains descriptions of archived log backups that were taken using the proxy copy functionality.

In a proxy copy, the media manager takes over the operations of backing up and restoring data. Each row represents a backup of one control file.

| Column            | Datatype       | Description                                                                                                                                                          |
|-------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RECID             | NUMBER         | Proxy copy record identifier                                                                                                                                         |
| STAMP             | NUMBER         | Proxy copy stamp                                                                                                                                                     |
| DEVICE_TYPE       | VARCHAR2 (17)  | Type of media device that stores the proxy copy                                                                                                                      |
| HANDLE            | VARCHAR2 (513) | Name or "handle" for the proxy copy                                                                                                                                  |
| COMMENTS          | VARCHAR2 (81)  | Comments about the proxy copy                                                                                                                                        |
| MEDIA             | VARCHAR2 (65)  | A comment that contains further information about the media manager that created this backup                                                                         |
| MEDIA_POOL        | NUMBER         | Number of the media pool in which the proxy copy is stored                                                                                                           |
| TAG               | VARCHAR2 (32)  | Tag for the proxy copy                                                                                                                                               |
| STATUS            | VARCHAR2 (1)   | Status of the backup set: <ul style="list-style-type: none"> <li>• A - Available</li> <li>• U - Unavailable</li> <li>• X - Expired</li> <li>• D - Deleted</li> </ul> |
| DELETED           | VARCHAR2 (3)   | Indicates whether this record has been deleted (YES) or not (NO)                                                                                                     |
| THREAD#           | NUMBER         | Number of the redo thread                                                                                                                                            |
| SEQUENCE#         | NUMBER         | Log sequence number                                                                                                                                                  |
| RESETLOGS_CHANGE# | NUMBER         | RESETLOGS SCN of the database incarnation to which this archived log belongs                                                                                         |
| RESETLOGS_TIME    | DATE           | RESETLOGS time stamp of the database incarnation to which this archived log belongs                                                                                  |
| FIRST_CHANGE#     | NUMBER         | First SCN of this redo log                                                                                                                                           |
| FIRST_TIME        | DATE           | Time when Oracle switched into the redo log                                                                                                                          |
| NEXT_CHANGE#      | NUMBER         | First SCN of the next redo log in the thread                                                                                                                         |
| NEXT_TIME         | DATE           | First time stamp of the next redo log in the thread                                                                                                                  |
| BLOCKS            | NUMBER         | Size of this archived redo log (in operating system blocks)                                                                                                          |
| BLOCK_SIZE        | NUMBER         | Block size for the copy (in bytes)                                                                                                                                   |
| START_TIME        | DATE           | Time when the proxy copy was initiated                                                                                                                               |
| COMPLETION_TIME   | DATE           | Time when the proxy copy was completed                                                                                                                               |
| ELAPSED_SECONDS   | NUMBER         | Duration of the proxy copy                                                                                                                                           |
| RMAN_STATUS_RECID | NUMBER         | Owning V\$RMAN_STATUS record ID                                                                                                                                      |
| RMAN_STATUS_STAMP | NUMBER         | Owning V\$RMAN_STATUS stamp                                                                                                                                          |
| TERMINAL          | VARCHAR2 (3)   | Indicates whether this record corresponds to a terminal archived redo log, as defined in V\$ARCHIVED_LOG (YES) or not (NO)                                           |
| KEEP              | VARCHAR2 (3)   | Indicates whether this backup set has a retention policy that is different than the value for the configure retention policy (YES) or not (NO)                       |

| Column       | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KEEP_UNTIL   | DATE          | If specified, then this is the date after which the backup becomes obsolete. If this column is NULL, then the backup never expires.                                                                                                                                                                                                                                                                                                                                                                                                    |
| KEEP_OPTIONS | VARCHAR2 (11) | Additional retention options for this backup set: <ul style="list-style-type: none"> <li>LOGS - Indicates a long-term backup made with the LOGS keyword, which is now deprecated</li> <li>BACKUP_LOGS - Indicates that the backup was made in open mode, so archived log backups must be applied to make it consistent</li> <li>NOLOGS - Indicates a consistent backup made when the database was mounted</li> <li>NULL - Indicates that this backup has no KEEP options and becomes obsolete based on the retention policy</li> </ul> |
| CON_ID       | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul>                                                                                                      |

## 9.138 V\$PROXY\_ARCHIVELOG\_DETAILS

V\$PROXY\_ARCHIVELOG\_DETAILS contains information about all available archive log proxy copies.

| Column            | Datatype       | Description                                                                                                                               |
|-------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| SESSION_KEY       | NUMBER         | Session identifier                                                                                                                        |
| SESSION_RECID     | NUMBER         | Session recid                                                                                                                             |
| SESSION_STAMP     | NUMBER         | Session stamp                                                                                                                             |
| COPY_KEY          | NUMBER         | Copy identifier                                                                                                                           |
| THREAD#           | NUMBER         | Redo thread number                                                                                                                        |
| SEQUENCE#         | NUMBER         | Redo log sequence number                                                                                                                  |
| RESETLOGS_CHANGE# | NUMBER         | Resetlogs change number of the database when this log was written                                                                         |
| RESETLOGS_TIME    | DATE           | Resetlogs time of the database when this log was written                                                                                  |
| HANDLE            | VARCHAR2 (513) | Proxy copy handle identifies the copy for restore                                                                                         |
| MEDIA             | VARCHAR2 (65)  | Name of the media on which the copy resides. This value is informational only. It is not needed for restore.                              |
| MEDIA_POOL        | NUMBER         | Media pool in which the copy resides. This is the same value that was entered in the POOL operand of the Recovery Manager BACKUP command. |
| TAG               | VARCHAR2 (32)  | Proxy copy tag                                                                                                                            |
| FIRST_CHANGE#     | NUMBER         | First change number in the archived log                                                                                                   |
| NEXT_CHANGE#      | NUMBER         | First change number in the next log                                                                                                       |
| FIRST_TIME        | DATE           | Timestamp of the first change                                                                                                             |
| NEXT_TIME         | DATE           | Timestamp of the next change                                                                                                              |
| OUTPUT_BYTES      | NUMBER         | Total output bytes written                                                                                                                |

| Column               | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPLETION_TIME      | DATE            | Completion time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| OUTPUT_BYTES_DISPLAY | VARCHAR2 (3)    | Displayable format for output bytes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| KEEP                 | DATE            | Indicates whether this backup set has a retention policy that is different than the value for the configure retention policy (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                         |
| KEEP_UNTIL           | VARCHAR2 (11)   | If specified, then this is the date after which the backup becomes obsolete. If this column is NULL, then the backup never expires.                                                                                                                                                                                                                                                                                                                                                                                                    |
| KEEP_OPTIONS         | VARCHAR2 (4000) | Additional retention options for this backup set: <ul style="list-style-type: none"> <li>LOGS - Indicates a long-term backup made with the LOGS keyword, which is now deprecated</li> <li>BACKUP_LOGS - Indicates that the backup was made in open mode, so archived log backups must be applied to make it consistent</li> <li>NOLOGS - Indicates a consistent backup made when the database was mounted</li> <li>NULL - Indicates that this backup has no KEEP options and becomes obsolete based on the retention policy</li> </ul> |
| CON_ID               | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                        |

## 9.139 V\$PROXY\_ARCHIVELOG\_SUMMARY

V\$PROXY\_ARCHIVELOG\_SUMMARY provides summary information about the output proxy archive log file.

| Column                    | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM_FILES_BACKED          | NUMBER          | Number of archived log files backed up                                                                                                                                                                                                                                                                                                                                                                                                          |
| NUM_DISTINCT_FILES_BACKED | NUMBER          | Number of distinct archived log files backed up                                                                                                                                                                                                                                                                                                                                                                                                 |
| MIN_FIRST_CHANGE#         | NUMBER          | Minimum first change SCN                                                                                                                                                                                                                                                                                                                                                                                                                        |
| MAX_NEXT_CHANGE#          | NUMBER          | Maximum first change SCN                                                                                                                                                                                                                                                                                                                                                                                                                        |
| MIN_FIRST_TIME            | DATE            | Minimum first change time. Forms the redo range, along with MAX_NEXT_TIME.                                                                                                                                                                                                                                                                                                                                                                      |
| MAX_NEXT_TIME             | DATE            | Maximum next change time                                                                                                                                                                                                                                                                                                                                                                                                                        |
| OUTPUT_BYTES              | NUMBER          | Total output size, in bytes                                                                                                                                                                                                                                                                                                                                                                                                                     |
| OUTPUT_BYTES_DISPLAY      | VARCHAR2 (4000) | Displayable format for output bytes                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID                    | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.140 V\$PROXY\_COPY\_DETAILS

V\$PROXY\_COPY\_DETAILS contains information about all available control file and datafile proxy copies.

| Column               | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SESSION_KEY          | NUMBER          | Session identifier                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SESSION_RECID        | NUMBER          | Session recid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SESSION_STAMP        | NUMBER          | Session stamp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| COPY_KEY             | NUMBER          | Copy identifier                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| FILE#                | NUMBER          | Absolute datafile number, or 0 if this is a control file backup                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| HANDLE               | VARCHAR2 (513)  | Proxy copy handle identifies the copy for restore                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| MEDIA                | VARCHAR2 (65)   | Name of the media on which the copy resides. This value is informational only. It is not needed for restore.                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| MEDIA_POOL           | NUMBER          | Media pool in which the copy resides. This is the same value that was entered in the <code>POOL</code> operand of the Recovery Manager <code>BACKUP</code> command.                                                                                                                                                                                                                                                                                                                                                                                                       |
| TAG                  | VARCHAR2 (32)   | Proxy copy tag                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CREATION_CHANGE#     | NUMBER          | Datafile creation change number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CREATION_TIME        | DATE            | Datafile creation timestamp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CHECKPOINT_CHANGE#   | NUMBER          | Checkpoint change number of the datafile when the copy was made                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CHECKPOINT_TIME      | DATE            | Checkpoint timestamp of the datafile when the copy was made                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| OUTPUT_BYTES         | NUMBER          | Total output bytes written                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMPLETION_TIME      | DATE            | Completion time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CONTROLFILE_TYPE     | VARCHAR2 (1)    | Type of control file: <ul style="list-style-type: none"> <li>• B - Normal control file</li> <li>• S - Standby control file</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| KEEP                 | VARCHAR2 (3)    | Indicates whether this backup set has a retention policy that is different than the value for the configure retention policy (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                            |
| KEEP_UNTIL           | DATE            | If specified, then this is the date after which the backup becomes obsolete. If this column is NULL, then the backup never expires.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| KEEP_OPTIONS         | VARCHAR2 (11)   | Additional retention options for this backup set: <ul style="list-style-type: none"> <li>• LOGS - Indicates a long-term backup made with the <code>LOGS</code> keyword, which is now deprecated</li> <li>• BACKUP_LOGS - Indicates that the backup was made in open mode, so archived log backups must be applied to make it consistent</li> <li>• NOLOGS - Indicates a consistent backup made when the database was mounted.</li> <li>• NULL - Indicates that this backup has no <code>KEEP</code> options and becomes obsolete based on the retention policy</li> </ul> |
| OUTPUT_BYTES_DISPLAY | VARCHAR2 (4000) | Displayable format for output bytes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.141 V\$PROXY\_COPY\_SUMMARY

V\$PROXY\_COPY\_SUMMARY provides summary information about the output proxy datafile and control file.

| Column                 | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM_COPIES             | NUMBER          | Number of copies created                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NUM_DISTINCT_COPIES    | NUMBER          | Number of distinct copies (that contain datafiles with different checkpoints)                                                                                                                                                                                                                                                                                                                                                               |
| MIN_CHECKPOINT_CHANGE# | NUMBER          | Minimum checkpoint change SCN                                                                                                                                                                                                                                                                                                                                                                                                               |
| MAX_CHECKPOINT_CHANGE# | NUMBER          | Maximum checkpoint change SCN                                                                                                                                                                                                                                                                                                                                                                                                               |
| MIN_CHECKPOINT_TIME    | DATE            | Minimum checkpoint change time                                                                                                                                                                                                                                                                                                                                                                                                              |
| MAX_CHECKPOINT_TIME    | DATE            | Maximum checkpoint change time                                                                                                                                                                                                                                                                                                                                                                                                              |
| OUTPUT_BYTES           | NUMBER          | Total output bytes                                                                                                                                                                                                                                                                                                                                                                                                                          |
| OUTPUT_BYTES_DISPLAY   | VARCHAR2 (4000) | Displayable format for output bytes                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID                 | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.142 V\$PROXY\_DATAFILE

V\$PROXY\_DATAFILE contains descriptions of datafile and control file backups that are taken with Proxy Copy. Each row represents a backup of one database file.

| Column      | Datatype       | Description                                                                                                                    |
|-------------|----------------|--------------------------------------------------------------------------------------------------------------------------------|
| RECID       | NUMBER         | Proxy copy record ID                                                                                                           |
| STAMP       | NUMBER         | Proxy copy record stamp                                                                                                        |
| DEVICE_TYPE | VARCHAR2 (17)  | Type of the device on which the copy resides                                                                                   |
| HANDLE      | VARCHAR2 (513) | Proxy copy handle identifies the copy for restore                                                                              |
| COMMENTS    | VARCHAR2 (81)  | Comment returned by the operating system or storage subsystem. This value is informational only. It is not needed for restore. |

| Column                 | Datatype      | Description                                                                                                                                                                                                                                                                                                                              |
|------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MEDIA                  | VARCHAR2 (65) | Name of the media on which the copy resides. This value is informational only. It is not needed for restore.                                                                                                                                                                                                                             |
| MEDIA_POOL             | NUMBER        | Media pool in which the copy resides. This is the same value that was entered in the <code>POOL</code> operand of the Recovery Manager <code>BACKUP</code> command                                                                                                                                                                       |
| TAG                    | VARCHAR2 (32) | Proxy copy tag                                                                                                                                                                                                                                                                                                                           |
| STATUS                 | VARCHAR2 (1)  | Status of the backup set: <ul style="list-style-type: none"> <li>• A - Available</li> <li>• U - Unavailable</li> <li>• X - Expired</li> <li>• D - Deleted</li> </ul>                                                                                                                                                                     |
| DELETED                | VARCHAR2 (3)  | Indicates whether this record has been deleted (YES) or not (NO)                                                                                                                                                                                                                                                                         |
| FILE#                  | NUMBER        | Absolute datafile number, or 0 if this is a control file backup                                                                                                                                                                                                                                                                          |
| CREATION_CHANGE#       | NUMBER        | Datafile creation change number                                                                                                                                                                                                                                                                                                          |
| CREATION_TIME          | DATE          | Datafile creation Timestamp                                                                                                                                                                                                                                                                                                              |
| RESETLOGS_CHANGE#      | NUMBER        | Resetlogs change number of the datafile when the copy was made                                                                                                                                                                                                                                                                           |
| RESETLOGS_TIME         | DATE          | Resetlogs timestamp of the datafile when the copy was made                                                                                                                                                                                                                                                                               |
| CHECKPOINT_CHANGE#     | NUMBER        | Checkpoint change number of the datafile when the copy was made                                                                                                                                                                                                                                                                          |
| CHECKPOINT_TIME        | DATE          | Checkpoint timestamp of the datafile when the copy was made                                                                                                                                                                                                                                                                              |
| ABSOLUTE_FUZZY_CHANGE# | NUMBER        | Highest change in any block of the file, if known                                                                                                                                                                                                                                                                                        |
| RECOVERY_FUZZY_CHANGE# | NUMBER        | Highest change written to the file by media recovery                                                                                                                                                                                                                                                                                     |
| RECOVERY_FUZZY_TIME    | DATE          | Timestamp of the highest change written to the file by media recovery                                                                                                                                                                                                                                                                    |
| INCREMENTAL_LEVEL      | NUMBER        | If this backup is part of an incremental backup strategy, then 0. Otherwise null.                                                                                                                                                                                                                                                        |
| ONLINE_FUZZY           | VARCHAR2 (3)  | Indicates whether this copy was made after a crash or offline immediate (or is a copy of a copy which was taken improperly while the database was open) (YES) or not (NO). Recovery will need to apply all redo up to the next crash recovery marker to make the file consistent.                                                        |
| BACKUP_FUZZY           | VARCHAR2 (3)  | Indicates whether this is a copy taken using the <code>BEGIN BACKUP   END BACKUP</code> technique (YES) or not (NO). The <code>BEGIN BACKUP   END BACKUP</code> technique is used internally when proxy copies of open files are created. Recovery will need to apply all redo up to the end backup marker to make this copy consistent. |
| BLOCKS                 | NUMBER        | Size of the copy (in blocks). Also the size of the datafile when the copy was made.                                                                                                                                                                                                                                                      |
| BLOCK_SIZE             | NUMBER        | Block size of the datafile                                                                                                                                                                                                                                                                                                               |
| OLDEST_OFFLINE_RANGE   | NUMBER        | If the file number is 0 (that is, this is a control file backup), the RECID of the oldest offline range record in this control file copy. 0 for datafile copies.                                                                                                                                                                         |
| START_TIME             | DATE          | Starting time                                                                                                                                                                                                                                                                                                                            |
| COMPLETION_TIME        | DATE          | Completion time                                                                                                                                                                                                                                                                                                                          |
| ELAPSED_SECONDS        | NUMBER        | Number of elapsed seconds                                                                                                                                                                                                                                                                                                                |
| CONTROLFILE_TYPE       | VARCHAR2 (1)  | Type of control file: <ul style="list-style-type: none"> <li>• B - Normal control file</li> <li>• S - Standby control file</li> </ul>                                                                                                                                                                                                    |

| Column                   | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KEEP                     | VARCHAR2 (3)  | Indicates whether this backup set has a retention policy that is different than the value for the configure retention policy (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                          |
| KEEP_UNTIL               | DATE          | If specified, then this is the date after which the backup becomes obsolete. If this column is NULL, then the backup never expires.                                                                                                                                                                                                                                                                                                                                                                                                     |
| KEEP_OPTIONS             | VARCHAR2 (11) | Additional retention options for this backup set: <ul style="list-style-type: none"> <li>LOGS - Indicates a long-term backup made with the LOGS keyword, which is now deprecated</li> <li>BACKUP_LOGS - Indicates that the backup was made in open mode, so archived log backups must be applied to make it consistent</li> <li>NOLOGS - Indicates a consistent backup made when the database was mounted.</li> <li>NULL - Indicates that this backup has no KEEP options and becomes obsolete based on the retention policy</li> </ul> |
| RMAN_STATUS_RECID        | NUMBER        | Owning V\$RMAN_STATUS record ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| RMAN_STATUS_STAMP        | NUMBER        | Owning V\$RMAN_STATUS stamp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| FOREIGN_DBID             | NUMBER        | Foreign DBID of the database from which this datafile was transported. The value is 0 if the file backed up is not a foreign database file.                                                                                                                                                                                                                                                                                                                                                                                             |
| PLUGGED_READONLY         | VARCHAR2 (3)  | Indicates whether this is a proxy copy of a transported read-only foreign file (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PLUGIN_CHANGE#           | NUMBER        | SCN at which the foreign datafile was transported into the database. The value is 0 if this file is not a foreign database file.                                                                                                                                                                                                                                                                                                                                                                                                        |
| PLUGIN_RESETLOGS_CHANGE# | NUMBER        | SCN of the RESETLOGS operation for the incarnation into which this foreign file was transported. The value is 0 if this file is not a foreign database file.                                                                                                                                                                                                                                                                                                                                                                            |
| PLUGIN_RESETLOGS_TIME    | DATE          | Time of the RESETLOGS operation for the incarnation into which this foreign file was transported. The value is 0 if this file is not a foreign database file.                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID                   | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul>                                                                                                       |
| BACKED_BY_PDB            | VARCHAR2 (3)  | Recovery Manager (RMAN) allows a PDB to be backed up in two ways. The value in this column indicates how the PDB backup was taken: <ul style="list-style-type: none"> <li>YES: The backup was taken when connected to the PDB</li> <li>NO: The backup was taken when connected to the root container</li> </ul>                                                                                                                                                                                                                         |
| GUID                     | RAW (16)      | The GUID of the PDB to which the backup belongs. This is useful after the PDB is dropped to identify which PDB the backup belongs to.                                                                                                                                                                                                                                                                                                                                                                                                   |

## 9.143 V\$PROXY\_PDB\_TARGETS

V\$PROXY\_PDB\_TARGETS provides information about the target of a proxy PDB.



| Column         | Datatype       | Description                                                                                                                                      |
|----------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID         | NUMBER         | The ID of the container to which the data pertains. Possible values include:<br><i>n</i> : Where <i>n</i> is the container ID of a proxy PDB     |
| TARGET_PORT    | NUMBER         | Port number that the target of the proxy PDB has registered with the listener, and which will be used by the proxy PDB to connect to the target  |
| TARGET_HOST    | VARCHAR2 (128) | Host name where the target of the proxy PDB is running, and which will be used by the proxy PDB to connect to the target                         |
| TARGET_SERVICE | VARCHAR2 (128) | Service name that the target of the proxy PDB has registered with the listener, and which will be used by the proxy PDB to connect to the target |
| TARGET_USER    | VARCHAR2 (128) | User name used by the proxy PDB to connect to the target of the proxy PDB. If null, the name of the connected user will be used.                 |

**See Also:**

*Oracle Multitenant Administrator's Guide* for information about creating proxy PDBs

## 9.144 V\$PWFILERS\_USERS

V\$PWFILERS\_USERS lists all users in the password file, and indicates whether the user has been granted the SYSDBA, SYSOPER, SYSASM, SYSBACKUP, SYSDG, and SYSKM privileges.

| Column    | Datatype       | Description                                                                            |
|-----------|----------------|----------------------------------------------------------------------------------------|
| USERNAME  | VARCHAR2 (128) | Name of the user that is contained in the password file                                |
| SYSDBA    | VARCHAR2 (5)   | Indicates whether the user can connect with SYSDBA privileges (TRUE) or not (FALSE)    |
| SYSOPER   | VARCHAR2 (5)   | Indicates whether the user can connect with SYSOPER privileges (TRUE) or not (FALSE)   |
| SYSASM    | VARCHAR2 (5)   | Indicates whether the user can connect with SYSASM privileges (TRUE) or not (FALSE)    |
| SYSBACKUP | VARCHAR2 (5)   | Indicates whether the user can connect with SYSBACKUP privileges (TRUE) or not (FALSE) |
| SYSDG     | VARCHAR2 (5)   | Indicates whether the user can connect with SYSDG privileges (TRUE) or not (FALSE)     |
| SYSKM     | VARCHAR2 (5)   | Indicates whether the user can connect with SYSKM privileges (TRUE) or not (FALSE)     |

| Column              | Datatype                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACCOUNT_STATUS      | VARCHAR2 (30)                | <b>Account status:</b> <ul style="list-style-type: none"> <li>• OPEN</li> <li>• EXPIRED</li> <li>• EXPIRED (GRACE)</li> <li>• LOCKED (TIMED)</li> <li>• LOCKED</li> <li>• EXPIRED &amp; LOCKED (TIMED)</li> <li>• EXPIRED &amp; LOCKED</li> <li>• EXPIRED (GRACE) &amp; LOCKED</li> </ul>                                                                                                                                                                             |
| PASSWORD_PROFILE    | VARCHAR2 (128)               | <b>Password profile name</b>                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| LAST_LOGIN          | TIMESTAMP (9) WITH TIME ZONE | <b>The time of the last user login</b><br>This column is not populated when a user connects to the database with administrative privileges, that is, AS { SYSASM   SYSBACKUP   SYSDBA   SYSDBG   SYSOPER   SYSRAC   SYSKM }. The exception is as follows: If a user connects to the database with administrative privileges from a remote session, and the database password file format is 12.2 (V\$PASSWORDFILE_INFO.FORMAT = 12.2), then this column is populated. |
| LOCK_DATE           | DATE                         | Date the account was locked if account status was LOCKED                                                                                                                                                                                                                                                                                                                                                                                                              |
| EXPIRY_DATE         | DATE                         | Date of expiration of the account                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EXTERNAL_NAME       | VARCHAR2 (1024)              | Shows Certificate DN or Principal Name of externally authenticated users                                                                                                                                                                                                                                                                                                                                                                                              |
| AUTHENTICATION_TYPE | VARCHAR2 (8)                 | <b>Indicates the authentication mechanism for the user:</b> <ul style="list-style-type: none"> <li>• EXTERNAL - CREATE USER <i>user1</i> IDENTIFIED EXTERNALLY;</li> <li>• GLOBAL - CREATE USER <i>user2</i> IDENTIFIED GLOBALLY;</li> <li>• PASSWORD - CREATE USER <i>user3</i> IDENTIFIED BY <i>password</i>;</li> </ul>                                                                                                                                            |
| COMMON              | VARCHAR2 (3)                 | This column has a value of YES if an administrative privilege (for example, SYSDBA) was granted with CONTAINER=ALL. Otherwise, the column has a value of NO.                                                                                                                                                                                                                                                                                                          |
| PASSWORD_VERSIONS   | VARCHAR2 (12)                | Shows the list of versions of the password hashes (also known as "verifiers") existing for the account.<br>The values for this column can include: <ul style="list-style-type: none"> <li>• 11G: If a SHA-1 hash exists</li> <li>• 12C: If a de-optimized PBKDF2-based hash exists</li> </ul> For more information about the 12C verifier, see <i>Oracle Database Concepts</i> .<br>Note that any combination of these verifiers can exist for any given account.     |
| CON_ID              | NUMBER                       | <b>The ID of the container to which the data pertains. Possible values include:</b> <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>          |

## 9.145 V\$PX\_INSTANCE\_GROUP

V\$PX\_INSTANCE\_GROUP provides information about the instance groups being used for parallel operations by the current session.

| Column            | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QC_INSTANCE_GROUP | VARCHAR2 (64) | The instance group being used by this session for parallel operations. This value repeats for every row returned.                                                                                                                                                                                                                                                                                                                           |
| WHY               | VARCHAR2 (23) | Where the current instance group name comes from, as follows:<br>SERVICE - the instance group being used is from the session's service name<br>PARALLEL_INSTANCE_GROUP - the instance group being used is being used because the PARALLEL_INSTANCE_GROUP initialization parameter has been set.<br>The value repeats for every row returned.                                                                                                |
| INSTANCE_NUMBER   | NUMBER        | Instance number of the instance providing this instance group. There will be one row for each instance in the instance group that the Query Coordinator is using.                                                                                                                                                                                                                                                                           |
| CON_ID            | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



**See Also:**

["PARALLEL\\_INSTANCE\\_GROUP"](#)

## 9.146 V\$PX\_PROCESS

V\$PX\_PROCESS contains information about the sessions running parallel execution.

| Column      | Datatype      | Description                                           |
|-------------|---------------|-------------------------------------------------------|
| SERVER_NAME | VARCHAR2 (4)  | The name of the PX server (P000, P001, and so on)     |
| STATUS      | VARCHAR2 (9)  | The state of the PX server (IN USE or AVAILABLE)      |
| PID         | NUMBER        | The process identifier                                |
| SPID        | VARCHAR2 (24) | Operating system process ID                           |
| SID         | NUMBER        | The session ID of the PX server, if in use            |
| SERIAL#     | NUMBER        | The session serial number of the PX server, if in use |

| Column | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IS_GV  | VARCHAR2 (5) | Indicates whether a PX server process in parallel is a normal process or a GV\$ process.<br>Possible values: <ul style="list-style-type: none"><li>FALSE: The PX server process in parallel is a normal process</li><li>TRUE: The PX server process in parallel is a GV\$ process</li></ul>                                                                                                                                                 |
| CON_ID | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.147 V\$PX\_PROCESS\_DETAIL

V\$PX\_PROCESS\_DETAIL lists statistics for each of the active PX (Parallel Execution) servers on an instance.

| Column      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SPID        | VARCHAR2 (24) | Operating system process ID                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SERVER_NAME | VARCHAR2 (7)  | Name of the PX server (P000, P001, and so on)                                                                                                                                                                                                                                                                                                                                                                                               |
| STATISTIC   | VARCHAR2 (30) | Name of the statistic: <ul style="list-style-type: none"><li>Start Time</li><li>Cleanup Start Time</li><li>Cleanup End Time</li></ul>                                                                                                                                                                                                                                                                                                       |
| VALUE       | VARCHAR2 (64) | String representation of the value the statistic<br>For example, if the value of the statistic is a timestamp, this column displays a string containing the timestamp information.                                                                                                                                                                                                                                                          |
| CON_ID      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



### Note:

This view is available starting with Oracle Database 23ai.

## 9.148 V\$PX\_PROCESS\_SYSSTAT

V\$PX\_PROCESS\_SYSSTAT contains information about the sessions running parallel execution.

| Column    | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATISTIC | VARCHAR2 (30) | <p>Name of the statistic:</p> <ul style="list-style-type: none"> <li>• <b>Buffers Allocated</b> - Number of times a message buffer has been allocated</li> <li>• <b>Buffers Current</b> - Number of message buffers currently being used</li> <li>• <b>Buffers Freed</b> - Number of times a message buffer has been freed</li> <li>• <b>Buffers HWM</b> - Maximum number of concurrently allocated message buffers</li> <li>• <b>Chunk Lists</b> - Number of memory chunk lists</li> <li>• <b>Memory Chunks Allocated</b> - Number of large memory chunks allocated by PX servers</li> <li>• <b>Memory Chunks Current</b> - Number of large memory chunks currently being used</li> <li>• <b>Memory Chunks Freed</b> - Number of large memory chunks freed</li> <li>• <b>Memory Chunks HWM</b> - Maximum number of concurrently allocated chunks</li> <li>• <b>Memory Chunks Permanent</b> - Number of large memory chunks allocated permanently</li> <li>• <b>Server Sessions</b> - Total number of sessions created by all PX servers</li> <li>• <b>Servers Available</b> - Number of PX servers available to perform parallel operations</li> <li>• <b>Servers Cleaned Up</b> - Number of times PMON had to clean up a PX server. This should only happen during nonstandard termination of a parallel operation.<br/>If this number is large, then you should determine the cause.</li> <li>• <b>Servers Highwater</b> - Maximum number of concurrent PX server processes<br/>If this number is equal to the <code>PARALLEL_MAX_SERVERS</code> initialization parameter, then consider increasing the parameter. This could allow you to increase your throughput, especially if your system is under-utilized and the <code>V\$SYSTAT</code> statistic "Parallel operations downgraded to serial" is large.</li> <li>• <b>Servers In Use</b> - Number of PX servers currently performing parallel operations</li> <li>• <b>Servers Shutdown</b> - Number of times a PX server process has been shut down. A PX server process will be shut down if it has not been used recently.<br/>If this value is large, then consider increasing the parameter. This will improve performance by avoiding the latency of PX server process creation.</li> <li>• <b>Servers Started</b> - Number of times the system has had to create a PX server process</li> </ul> |
| VALUE     | NUMBER        | Value of the statistic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID    | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## 9.149 V\$PX\_SERVER

V\$PX\_SERVER lists statistics for each of the active PX (Parallel Execution) servers on an instance.

| Column          | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SERVER_NAME     | VARCHAR2 (4) | Name of the PX server                                                                                                                                                                                                                                                                                                                                                                                                                       |
| STATUS          | VARCHAR2 (4) | Current status of the PX server: <ul style="list-style-type: none"><li>BUSY</li><li>IDLE</li></ul>                                                                                                                                                                                                                                                                                                                                          |
| SESSIONS        | NUMBER       | Number of sessions that have used this PX server                                                                                                                                                                                                                                                                                                                                                                                            |
| IDLE_TIME_CUR   | NUMBER       | Amount of time spent idle while processing statements in the current session                                                                                                                                                                                                                                                                                                                                                                |
| BUSY_TIME_CUR   | NUMBER       | Amount of time spent busy while processing statements in the current session                                                                                                                                                                                                                                                                                                                                                                |
| CPU_SECS_CUR    | NUMBER       | Amount of CPU time (in seconds) spent on the current session                                                                                                                                                                                                                                                                                                                                                                                |
| MSG_SENT_CUR    | NUMBER       | Number of messages sent while processing statements for the current session                                                                                                                                                                                                                                                                                                                                                                 |
| MSG_RCVD_CUR    | NUMBER       | Number of messages received while processing statements for the current session                                                                                                                                                                                                                                                                                                                                                             |
| IDLE_TIME_TOTAL | NUMBER       | Total amount of time (in minutes) this PX server has been idle                                                                                                                                                                                                                                                                                                                                                                              |
| BUSY_TIME_TOTAL | NUMBER       | Total amount of time (in minutes) this PX server has been active                                                                                                                                                                                                                                                                                                                                                                            |
| CPU_SECS_TOTAL  | NUMBER       | Total amount of CPU time (in seconds) this PX server has used to process statements                                                                                                                                                                                                                                                                                                                                                         |
| MSG_SENT_TOTAL  | NUMBER       | Total number of messages this PX server has sent                                                                                                                                                                                                                                                                                                                                                                                            |
| MSG_RCVD_TOTAL  | NUMBER       | Total number of messages this PX server has received                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID          | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



### Note:

This view is available starting with Oracle Database 23ai.

## 9.150 V\$PX\_SESSION

V\$PX\_SESSION contains information about the sessions running parallel execution.

| Column       | Datatype    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SADDR        | RAW (4   8) | Session address                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SID          | NUMBER      | Session identifier                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SERIAL#      | NUMBER      | Session serial number                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| QCSID        | NUMBER      | Session identifier of the parallel coordinator                                                                                                                                                                                                                                                                                                                                                                                                         |
| QCSERIAL#    | NUMBER      | Session serial number of the parallel coordinator                                                                                                                                                                                                                                                                                                                                                                                                      |
| QCINST_ID    | NUMBER      | Instance number on which the parallel coordinator is running                                                                                                                                                                                                                                                                                                                                                                                           |
| SERVER_GROUP | NUMBER      | The logical group of PX servers to which this cluster database process belongs                                                                                                                                                                                                                                                                                                                                                                         |
| SERVER_SET   | NUMBER      | The logical set of PX servers to which this cluster database process belongs. A single PX server group will have at most two PX server sets.                                                                                                                                                                                                                                                                                                           |
| SERVER#      | NUMBER      | The logical number of the cluster database process within a PX server set                                                                                                                                                                                                                                                                                                                                                                              |
| DEGREE       | NUMBER      | The degree of parallelism being used by the PX server set                                                                                                                                                                                                                                                                                                                                                                                              |
| REQ_DEGREE   | NUMBER      | The degree of parallelism that was requested by the user when the statement was issued and before any resource, multiuser, or load balancing reductions                                                                                                                                                                                                                                                                                                |
| CON_ID       | NUMBER      | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.151 V\$PX\_SESSTAT

V\$PX\_SESSTAT contains information about the sessions running parallel execution.

| Column       | Datatype    | Description                                                                                                                                 |
|--------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| SADDR        | RAW (4   8) | Session address                                                                                                                             |
| SID          | NUMBER      | Session identifier                                                                                                                          |
| SERIAL#      | NUMBER      | Session serial number                                                                                                                       |
| QCSID        | NUMBER      | Session identifier of the parallel coordinator                                                                                              |
| QCSERIAL#    | NUMBER      | Session serial number of the parallel coordinator                                                                                           |
| QCINST_ID    | NUMBER      | Instance number on which the parallel coordinator is running                                                                                |
| SERVER_GROUP | NUMBER      | The logical group of PX servers to which this cluster database process belongs                                                              |
| SERVER_SET   | NUMBER      | The logical set of PX servers that this cluster database process belongs to. A single PX server group will have at most two PX server sets. |
| SERVER#      | NUMBER      | The logical number of the cluster database process within a PX server set                                                                   |
| DEGREE       | NUMBER      | The degree of parallelism being used by the PX server set                                                                                   |

| Column     | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REQ_DEGREE | NUMBER   | The degree of parallelism that was requested by the user when the statement was issued and before any resource, multiuser, or load balancing reductions                                                                                                                                                                                                                                                                                         |
| STATISTIC# | NUMBER   | Statistic number                                                                                                                                                                                                                                                                                                                                                                                                                                |
| VALUE      | NUMBER   | Statistic value                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID     | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.152 V\$QMON\_COORDINATOR\_STATS

V\$QMON\_COORDINATOR\_STATS displays statistics of the non-sharded queue primary process. There is one row per instance. The rows are deleted when the database (or instance in an Oracle RAC environment) restarts.

| Column                 | Datatype                     | Description                                                                                                                                                                               |
|------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QMNC_PID               | VARCHAR2 (24)                | Non-sharded queue primary process ID                                                                                                                                                      |
| STATUS                 | VARCHAR2 (24)                | Current status of the coordinator: <ul style="list-style-type: none"> <li>DEAD</li> <li>INITIALIZING</li> <li>RUNNING TASK COORDINATOR</li> <li>WAITING</li> <li>ADDING SERVER</li> </ul> |
| NUM_SERVERS            | NUMBER                       | Number of QMON servers currently running                                                                                                                                                  |
| LAST_SERVER_START_TIME | TIMESTAMP (3) WITH TIME ZONE | Last server startup time                                                                                                                                                                  |
| LAST_SERVER_PID        | VARCHAR2 (24)                | Process ID of the last server process (Qnnn) created                                                                                                                                      |
| NEXT_WAKEUP_TIME       | TIMESTAMP (3) WITH TIME ZONE | Next wakeup time of the coordinator                                                                                                                                                       |
| NEXT_READY_TIME        | TIMESTAMP (3) WITH TIME ZONE | Ready time of the first delayed task                                                                                                                                                      |
| NEXT_EXPIRY_TIME       | TIMESTAMP (3) WITH TIME ZONE | Expiry time of the next ready task                                                                                                                                                        |
| LAST_WAIT_TIME         | TIMESTAMP (3) WITH TIME ZONE | Time when the coordinator went to sleep                                                                                                                                                   |
| LAST_FAILURE           | VARCHAR2 (32)                | Last failure encountered                                                                                                                                                                  |
| LAST_FAILURE_TIME      | TIMESTAMP (3) WITH TIME ZONE | Last failure time                                                                                                                                                                         |
| MAX_TASK_LATENCY       | VARCHAR2 (40)                | Maximum task latency across all the servers (in seconds)                                                                                                                                  |
| MIN_TASK_LATENCY       | VARCHAR2 (40)                | Minimum task latency across all the servers (in seconds)                                                                                                                                  |
| TOTAL_TASK_LATENCY     | NUMBER                       | Cumulative latency across all the tasks (in seconds)                                                                                                                                      |
| TOTAL_TASKS_EXECUTED   | NUMBER                       | Cumulative number of tasks serviced by all the servers                                                                                                                                    |



| Column      | Datatype | Description                                                                                                                                          |
|-------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAX_SERVERS | NUMBER   | Maximum number of servers present at any point of time                                                                                               |
| CON_ID      | NUMBER   | The ID of the container to which the data pertains. The CON_ID value in this view is always 0. The rows pertain to the entire CDB or to the non-CDB. |

## 9.153 V\$QMON\_SERVER\_STATS

V\$QMON\_SERVER\_STATS displays information and statistics about the active queue monitor server processes. There is one row per live queue monitor server process. The rows are deleted when the database (or instance in an Oracle RAC environment) restarts.

| Column               | Datatype                     | Description                                                                                                                                                              |
|----------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QMNC_PID             | VARCHAR2 (24)                | Non-sharded queue primary process ID                                                                                                                                     |
| SERVER_PID           | VARCHAR2 (24)                | Process ID of the server                                                                                                                                                 |
| SERVER_NAME          | VARCHAR2 (48)                | Name of the server                                                                                                                                                       |
| STATUS               | VARCHAR2 (40)                | Current state of the server: <ul style="list-style-type: none"> <li>• UNUSED</li> <li>• RUNNING</li> <li>• IDLE WAIT</li> <li>• EXITING</li> <li>• NOT ACTIVE</li> </ul> |
| SERVER_START_TIME    | TIMESTAMP (3) WITH TIME ZONE | Start time of the server                                                                                                                                                 |
| TASK_NAME            | VARCHAR2 (32)                | Current executing task                                                                                                                                                   |
| TASK_NUMBER          | NUMBER                       | Unique task number of the running task                                                                                                                                   |
| TASK_START_TIME      | TIMESTAMP (3) WITH TIME ZONE | Start time of the running task                                                                                                                                           |
| LAST_WAIT_TIME       | TIMESTAMP (3) WITH TIME ZONE | Time when the server last waited                                                                                                                                         |
| MAX_LATENCY          | NUMBER                       | Maximum task latency for this server (in seconds)                                                                                                                        |
| MIN_LATENCY          | NUMBER                       | Minimum task latency for this server (in seconds)                                                                                                                        |
| TOTAL_LATENCY        | NUMBER                       | Cumulative task latency for this server (in seconds)                                                                                                                     |
| NUM_TASKS            | NUMBER                       | Number of tasks processed by the server                                                                                                                                  |
| LAST_FAILURE         | VARCHAR2 (128)               | Last failure encountered by the server                                                                                                                                   |
| LAST_FAILURE_TIME    | TIMESTAMP (3) WITH TIME ZONE | Last failure time                                                                                                                                                        |
| LAST_FAILURE_TASK    | VARCHAR2 (32)                | Task being run at the time of the last failure                                                                                                                           |
| LAST_FAILURE_TASKNUM | NUMBER                       | Unique task number of the failed task                                                                                                                                    |
| CON_ID               | NUMBER                       | The ID of the container to which the data pertains. The CON_ID value in this view is always 0. The rows pertain to the entire CDB or to the non-CDB.                     |

## 9.154 V\$QMON\_TASK\_STATS

V\$QMON\_TASK\_STATS displays information and statistics based on different queue monitor tasks in the system (spilling, time manager activity, and so on). There is one row per kind of task. The rows are deleted when the database (or instance in an Oracle RAC environment) restarts.

| Column               | Datatype                     | Description                                                                                                                                          |
|----------------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| TASK_NAME            | VARCHAR2 (32)                | Name of the task                                                                                                                                     |
| TASK_TYPE            | VARCHAR2 (40)                | Type of the task                                                                                                                                     |
| LAST_CREATED_TASKNUM | NUMBER                       | Unique task number last created for this task                                                                                                        |
| NUM_TASKS            | NUMBER                       | Number of tasks currently present                                                                                                                    |
| TOTAL_TASK_RUN_TIME  | NUMBER                       | Cumulative task run time                                                                                                                             |
| TOTAL_TASK_RUNS      | NUMBER                       | Cumulative task runs                                                                                                                                 |
| TOTAL_TASK_FAILURES  | NUMBER                       | Cumulative failures                                                                                                                                  |
| METRIC_TYPE          | VARCHAR2 (50)                | Type of metric gathered for this task type                                                                                                           |
| METRIC_VALUE         | NUMBER                       | Value of this metric                                                                                                                                 |
| LAST_FAILURE         | VARCHAR2 (32)                | Last failure encountered while executing this type of task                                                                                           |
| LAST_FAILURE_TIME    | TIMESTAMP (3) WITH TIME ZONE | Time when the last failure occurred                                                                                                                  |
| LAST_FAILURE_TASKNUM | NUMBER                       | Task number of the last failed task for this task                                                                                                    |
| REMARK               | VARCHAR2 (64)                | Remarks about the task                                                                                                                               |
| CON_ID               | NUMBER                       | The ID of the container to which the data pertains. The CON_ID value in this view is always 0. The rows pertain to the entire CDB or to the non-CDB. |

## 9.155 V\$QMON\_TASKS

V\$QMON\_TASKS displays information and statistics about all queue background tasks in the system, which would be served by queue monitor servers. There is one row per task. The rows are deleted when the database (or instance in an Oracle RAC environment) restarts.

| Column           | Datatype                     | Description                               |
|------------------|------------------------------|-------------------------------------------|
| TASK_NAME        | VARCHAR2 (32)                | Task name                                 |
| TASK_NUMBER      | NUMBER                       | Unique task number                        |
| TASK_TYPE        | VARCHAR2 (40)                | Task type                                 |
| TASK_SUBMIT_TIME | TIMESTAMP (3) WITH TIME ZONE | Task submit time                          |
| TASK_READY_TIME  | TIMESTAMP (3) WITH TIME ZONE | Task ready time                           |
| TASK_EXPIRY_TIME | TIMESTAMP (3) WITH TIME ZONE | Time when this task expires               |
| TASK_START_TIME  | TIMESTAMP (3) WITH TIME ZONE | Last actual start time for the task       |
| TASK_STATUS      | VARCHAR2 (32)                | Status of the task                        |
| SERVER_NAME      | VARCHAR2 (48)                | Name of the QMON server running this task |

| Column       | Datatype | Description                                                                                                                                                       |
|--------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAX_RETRIES  | NUMBER   | Maximum retry count for the task                                                                                                                                  |
| NUM_RUNS     | NUMBER   | Number of runs of the task if repeatable                                                                                                                          |
| NUM_FAILURES | NUMBER   | Number of failures encountered while running the task                                                                                                             |
| CON_ID       | NUMBER   | The ID of the container to which the data pertains. The <code>CON_ID</code> value in this view is always 0. The rows pertain to the entire CDB or to the non-CDB. |

## 9.156 V\$QUARANTINE

V\$QUARANTINE provides information about quarantined objects.

| Column    | Datatype                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT    | VARCHAR2 (64)                | Type of quarantined object (description of the memory)                                                                                                                                                                                                                                                                                                                                                                                      |
| ADDRESS   | RAW (8)                      | Address of the object                                                                                                                                                                                                                                                                                                                                                                                                                       |
| BYTES     | NUMBER                       | Amount of memory used by the object (this is the minimum amount; the actual amount may be unknown)                                                                                                                                                                                                                                                                                                                                          |
| ERROR     | VARCHAR2 (128)               | Oracle error causing quarantine                                                                                                                                                                                                                                                                                                                                                                                                             |
| TIMESTAMP | TIMESTAMP (6) WITH TIME ZONE | Time the object was quarantined                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID    | NUMBER                       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.157 V\$QUARANTINE\_SUMMARY

V\$QUARANTINE\_SUMMARY provides a summary of quarantine for each pluggable database (PDB).

| Column       | Datatype | Description                                                                              |
|--------------|----------|------------------------------------------------------------------------------------------|
| OBJECT_COUNT | NUMBER   | Number of objects in quarantine                                                          |
| OBJECT_LIMIT | NUMBER   | Limit on the number of objects that can be in quarantine before a termination will occur |
| MEMORY_TOTAL | NUMBER   | Number of bytes in quarantine                                                            |
| MEMORY_LIMIT | NUMBER   | Limit on the amount of memory that can be in quarantine before a termination will occur  |
| RECENT_COUNT | NUMBER   | Number of objects recently placed in quarantine (within the last hour)                   |
| RECENT_LIMIT | NUMBER   | Limit on the number of recently quarantined objects before a termination will occur      |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

"V\$QUARANTINE" for additional details on objects recently placed into quarantine

## 9.158 V\$QUEUE

V\$QUEUE contains information on the shared server message queues.

| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PADDR  | RAW (4   8)   | Address of the process that owns the queue                                                                                                                                                                                                                                                                                                                                                                                                             |
| TYPE   | VARCHAR2 (10) | <p>Type of queue:</p> <ul style="list-style-type: none"> <li>COMMON - Processed by servers</li> <li>DISPATCHER</li> </ul>                                                                                                                                                                                                                                                                                                                              |
| QUEUED | NUMBER        | Number of items in the queue                                                                                                                                                                                                                                                                                                                                                                                                                           |
| WAIT   | NUMBER        | Total time that all items in this queue have waited (in hundredths of a second). Divide by TOTALQ for average wait per item.                                                                                                                                                                                                                                                                                                                           |
| TOTALQ | NUMBER        | Total number of items that have ever been in the queue                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.159 V\$QUEUEING\_MTH

V\$QUEUEING\_MTH displays all available queuing resource allocation methods.

| Column | Datatype      | Description                                    |
|--------|---------------|------------------------------------------------|
| NAME   | VARCHAR2 (40) | Name of the queuing resource allocation method |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.160 V\$RECOVER\_FILE

V\$RECOVER\_FILE displays the status of files needing media recovery.

| Column        | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE#         | NUMBER        | File identifier number                                                                                                                                                                                                                                                                                                                                                                                                                            |
| ONLINE        | VARCHAR2 (7)  | This column is obsolete and maintained for backward compatibility. The value of this column is always equal to the value in ONLINE_STATUS.                                                                                                                                                                                                                                                                                                        |
| ONLINE_STATUS | VARCHAR2 (7)  | Online status (ONLINE, OFFLINE)                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ERROR         | VARCHAR2 (18) | Why the file must be recovered: NULL if reason unknown, or OFFLINE NORMAL if recovery not needed                                                                                                                                                                                                                                                                                                                                                  |
| CHANGE#       | NUMBER        | SCN where recovery must start                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TIME          | DATE          | Time of SCN when recovery must start                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID        | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.161 V\$RECOVERY\_AREA\_USAGE

V\$RECOVERY\_AREA\_USAGE displays usage information about recovery areas.

| Column                    | Datatype      | Description                                                                                                                                                                                                           |
|---------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE_TYPE                 | VARCHAR2 (23) | File type: <ul style="list-style-type: none"><li>• CONTROL FILE</li><li>• REDO LOG</li><li>• ARCHIVED LOG</li><li>• BACKUP PIECE</li><li>• IMAGE COPY</li><li>• FLASHBACK LOG</li><li>• REMOTE ARCHIVED LOG</li></ul> |
| PERCENT_SPACE_USED        | NUMBER        | Percent of the recovery area that is in use                                                                                                                                                                           |
| PERCENT_SPACE_RECLAIMABLE | NUMBER        | Percent of the recovery area that is reclaimable                                                                                                                                                                      |

| Column          | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUMBER_OF_FILES | NUMBER   | Number of files in the recovery area                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID          | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.162 V\$RECOVERY\_FILE\_DEST

V\$RECOVERY\_FILE\_DEST displays information about the disk quota and current disk usage in the fast recovery area.

| Column            | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME              | VARCHAR2 (513) | Location name. This is the value specified in the DB_RECOVERY_FILE_DEST initialization parameter.                                                                                                                                                                                                                                                                                                                                                 |
| SPACE_LIMIT       | NUMBER         | Maximum amount of disk space (in bytes) that the database can use for the fast recovery area. This is the value specified in the DB_RECOVERY_FILE_DEST_SIZE initialization parameter.                                                                                                                                                                                                                                                             |
| SPACE_USED        | NUMBER         | Amount of disk space (in bytes) used by fast recovery area files created in current and all previous fast recovery areas. Changing fast recovery areas does not reset SPACE_USED to 0.                                                                                                                                                                                                                                                            |
| SPACE_RECLAIMABLE | NUMBER         | Total amount of disk space (in bytes) that can be created by deleting obsolete, redundant, and other low priority files from the fast recovery area                                                                                                                                                                                                                                                                                               |
| NUMBER_OF_FILES   | NUMBER         | Number of files in the fast recovery area                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID            | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

### See Also:

- "DB\_RECOVERY\_FILE\_DEST"
- "DB\_RECOVERY\_FILE\_DEST\_SIZE"

## 9.163 V\$RECOVERY\_FILE\_STATUS

V\$RECOVERY\_FILE\_STATUS contains one row for each datafile for each RECOVER statement. This view contains useful information only for the Oracle process doing the recovery. When

Recovery Manager directs a server process to perform recovery, only Recovery Manager can view the relevant information in this view. V\$RECOVERY\_FILE\_STATUS will be empty to all other Oracle users.

| Column   | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILENUM  | NUMBER         | Number of the file being recovered                                                                                                                                                                                                                                                                                                                                                                                                                |
| FILENAME | VARCHAR2 (513) | Filename of the datafile being recovered                                                                                                                                                                                                                                                                                                                                                                                                          |
| STATUS   | VARCHAR2 (13)  | Status of the recovery: <ul style="list-style-type: none"><li>• IN RECOVERY</li><li>• CURRENT</li><li>• NOT RECOVERED</li></ul>                                                                                                                                                                                                                                                                                                                   |
| CON_ID   | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

*Oracle Database Backup and Recovery User's Guide*

## 9.164 V\$RECOVERY\_LOG

V\$RECOVERY\_LOG lists information about archived logs that are needed to complete media recovery. This information is derived from the log history view, V\$LOG\_HISTORY.

V\$RECOVERY\_LOG contains useful information only for the Oracle process doing the recovery. When Recovery Manager directs a server process to perform recovery, only Recovery Manager can view the relevant information in this view. V\$RECOVERY\_LOG will be empty to all other Oracle users.

| Column       | Datatype       | Description                                                                                                                                                       |
|--------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| THREAD#      | NUMBER         | Thread number of the archived log                                                                                                                                 |
| SEQUENCE#    | NUMBER         | Sequence number of the archived log                                                                                                                               |
| TIME         | DATE           | Time of the first entry (lowest SCN) in the log                                                                                                                   |
| ARCHIVE_NAME | VARCHAR2 (513) | Name of the file when archived, using the naming convention specified by the LOG_ARCHIVE_FORMAT initialization parameter<br><b>See Also:</b> "LOG_ARCHIVE_FORMAT" |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

"V\$LOG\_HISTORY" and *Oracle Database Backup and Recovery User's Guide*

## 9.165 V\$RECOVERY\_PROGRESS

V\$RECOVERY\_PROGRESS can be used to track database recovery operations to ensure that they are not stalled, and also to estimate the time required to complete the operation in progress.

On non-coordinator instances, V\$RECOVERY\_PROGRESS is not populated.

On the coordinator instance (the instance where MRP0 was started to start recovery), V\$RECOVERY\_PROGRESS has the same set of rows as before, except the following rows in the ITEM column are always 0 (not used) with Multi-Instance Redo Apply:

- Active Apply
- Maximum Apply Rate
- Apply Time per Log
- Checkpoint Time per Log
- Recovery ID

V\$RECOVERY\_PROGRESS is a subview of V\$SESSION\_LONGOPS.

**Note:**

This view is populated on the instance where the MRP0 process is started if recovery is running in Multi-Instance Redo Apply mode. Not all the columns will be populated.

| Column     | Datatype      | Description                                                                                                                                                       |
|------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| START_TIME | DATE          | Start time of the recovery operation                                                                                                                              |
| TYPE       | VARCHAR2 (64) | Type of recovery operation being performed: <ul style="list-style-type: none"><li>• CRASH RECOVERY</li><li>• INSTANCE RECOVERY</li><li>• MEDIA RECOVERY</li></ul> |



| Column    | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ITEM      | VARCHAR2 (32)  | <p>Item being measured.</p> <p>When TYPE is CRASH RECOVERY or INSTANCE RECOVERY, the possible values are:</p> <ul style="list-style-type: none"><li>• Log Files</li><li>• Redo Blocks</li></ul> <p>When TYPE is MEDIA RECOVERY, the possible values are:</p> <ul style="list-style-type: none"><li>• Active Apply Rate</li><li>• Average Apply Rate</li><li>• Maximum Apply Rate</li><li>• Redo Applied</li><li>• Log Files</li><li>• Last Applied Redo</li><li>• Active Time</li><li>• Elapsed Time</li><li>• Apply Time per Log</li><li>• Checkpoint Time per Log</li><li>• Standby Apply Lag</li><li>• Recovery ID</li></ul> |
| UNITS     | VARCHAR2 (32)  | The units of measurement for each item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SOFAR     | NUMBER         | Amount of work done so far                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TOTAL     | NUMBER         | Total amount of work expected                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TIMESTAMP | DATE           | Timestamp of the last redo record applied                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| COMMENTS  | VARCHAR2 (248) | Miscellaneous notes; currently displays the SCN for the last applied redo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID    | NUMBER         | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul>                                                                                                                                                                        |

**See Also:**

- ["V\\$SESSION\\_LONGOPS"](#)
- ["Background Processes"](#) for more information about the MRP0 process
- *Oracle Database Backup and Recovery User's Guide* for more information about performing database recovery

## 9.166 V\$RECOVERY\_SLAVE

V\$RECOVERY\_SLAVE is used to track database media recovery processes to monitor their performance statistics and analyze a media recovery session.



### Note:

This view is deprecated. Oracle recommends that you instead use the V\$RECOVERY\_WORKER view.



### See Also:

"V\$RECOVERY\_WORKER"

## 9.167 V\$RECOVERY\_STATUS

V\$RECOVERY\_STATUS contains statistics of the current recovery process. This view contains useful information only for the Oracle process doing the recovery. When Recovery Manager directs a server process to perform recovery, only Recovery Manager can view the relevant information in this view. V\$RECOVERY\_STATUS will be empty to all other Oracle users.

| Column              | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RECOVERY_CHECKPOINT | DATE           | Point in time to which the recovery has occurred. If no logs have been applied, this is the point in time the recovery starts.                                                                                                                                                                                                                                                                                                                  |
| THREAD              | NUMBER         | Number of the redo thread currently being processed                                                                                                                                                                                                                                                                                                                                                                                             |
| SEQUENCE_NEEDED     | NUMBER         | Log sequence number of the log needed by the recovery process. The value is 0 if no log is needed.                                                                                                                                                                                                                                                                                                                                              |
| SCN_NEEDED          | VARCHAR2 (16)  | Low SCN of the log needed by recovery. The value is 0 if unknown or no log is needed.                                                                                                                                                                                                                                                                                                                                                           |
| TIME_NEEDED         | DATE           | Time when the log was created. The value is midnight on 1/1/88 if the time is unknown or if no log is needed.                                                                                                                                                                                                                                                                                                                                   |
| PREVIOUS_LOG_NAME   | VARCHAR2 (513) | Filename of the log                                                                                                                                                                                                                                                                                                                                                                                                                             |
| PREVIOUS_LOG_STATUS | VARCHAR2 (13)  | Status of the previous log. Contains one of the following values: RELEASE; WRONG NAME; MISSING NAME; UNNEEDED NAME; NONE                                                                                                                                                                                                                                                                                                                        |
| REASON              | VARCHAR2 (13)  | Reason recovery is returning control to the user (NEED LOG LOG REUSED THREAD DISABLED)                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID              | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:***Oracle Database Backup and Recovery User's Guide*

## 9.168 V\$RECOVERY\_WORKER

V\$RECOVERY\_WORKER is used to track database media recovery processes to monitor their performance statistics and analyze a media recovery session.

| Column     | Datatype      | Description                                                                                                                                                                                                                            |
|------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| START_TIME | DATE          | Start time of the recovery process                                                                                                                                                                                                     |
| TYPE       | VARCHAR2 (64) | Type of recovery process being performed: <ul style="list-style-type: none"><li>• Media Recovery Applier #<br/>(where # represents the worker ID number)</li><li>• Media Recovery Log Merger</li><li>• Serial Media Recovery</li></ul> |

| Column   | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ITEM     | VARCHAR2 (32)  | <p>Item being measured.</p> <p>When TYPE is Media Recovery Applier #, the possible values are:</p> <ul style="list-style-type: none"><li>• Recovery ID</li><li>• Process ID</li><li>• Number of Redo Cache Full</li><li>• Number of Redo Cache Copy</li><li>• Number of CV Cached</li><li>• CV Applied OK</li><li>• CV Applied Stuck</li><li>• CV Applied Repair</li><li>• CV Applied Corrupt</li><li>• CV Applied Ckpt</li><li>• CV Applied Reapplied</li><li>• Total CV Processed Size</li><li>• Total CV Applied</li><li>• Number of Buffer Cache Full</li><li>• Number of Buffer Retries</li><li>• Number of Max Reads Issued</li><li>• Number of Unrcv Condition</li><li>• Number of Influx Buffer Flushed</li><li>• Number of Reap Request</li><li>• Number of Reap Wait IO</li><li>• Number of Reap No Buffer</li><li>• Number of Wait All Read</li><li>• Number of Buffer Pinged</li><li>• Buffer Ping Time</li><li>• Read Issue Time</li><li>• Number of Read Request Issued</li></ul> <p>When TYPE is Media Recovery Log Merger, the possible values are:</p> <ul style="list-style-type: none"><li>• Recovery ID</li><li>• Process ID</li><li>• Number of Redo Cache Full</li><li>• Number of Redo Cache Copy</li><li>• Number of CV Cached</li><li>• Total Redo Read Bytes</li><li>• Total CV Parsed</li></ul> <p>When TYPE is Serial Media Recovery, the possible values include values from the other two TYPES.</p> |
| UNITS    | VARCHAR2 (32)  | The units of measurement for each item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SOFAR    | NUMBER         | Amount of work done so far                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TOTAL    | NUMBER         | Total amount of work expected                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| COMMENTS | VARCHAR2 (248) | Miscellaneous notes, which may display the recovery ID and process ID for current recovery session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

*Oracle Database Backup and Recovery User's Guide*

## 9.169 V\$REDO\_DEST\_RESP\_HISTOGRAM

V\$REDO\_DEST\_RESP\_HISTOGRAM provides statistical information for each redo transport destination.

| Column    | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DEST_ID   | NUMBER        | A nonnegative integer value representing a SYNC standby destination                                                                                                                                                                                                                                                                                                                                                                               |
| TIME      | VARCHAR2 (20) | A text string that shows the last wall-clock time that a bucket was hit                                                                                                                                                                                                                                                                                                                                                                           |
| DURATION  | NUMBER        | A positive integer value that represents a bucket of seconds, 1, 2, 3, up to 300 seconds, followed by 5 additional buckets that represent 600, 1200, 2400, 4800, and 9600 (>= 4801) seconds                                                                                                                                                                                                                                                       |
| FREQUENCY | NUMBER        | A nonnegative integer that shows the number of times a particular bucket was hit by the destination specified by DEST_ID                                                                                                                                                                                                                                                                                                                          |
| CON_ID    | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.170 V\$REQDIST

V\$REQDIST lists statistics for the histogram of shared server dispatcher request times, divided into 12 buckets, or ranges of time. The time ranges grow exponentially as a function of the bucket number.

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BUCKET | NUMBER   | Bucket number: 0 – 11; the maximum time for each bucket is $(4 * 2^N) / 100$ seconds                                                                                                                                                                                                                                                                                                                                                                        |
| COUNT  | NUMBER   | Count of requests whose total time to complete (excluding wait time) falls in this range                                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><math>n</math>: Where <math>n</math> is the applicable container ID for the rows containing data</li> </ul> |

## 9.171 V\$RESERVED\_WORDS

V\$RESERVED\_WORDS displays a list of all SQL keywords. To determine whether a particular keyword is reserved in any way, check the RESERVED, RES\_TYPE, RES\_ATTR, and RES\_SEMI columns.

| Column    | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KEYWORD   | VARCHAR2 (128) | Name of the keyword                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LENGTH    | NUMBER         | Length of the keyword                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| RESERVED  | VARCHAR2 (1)   | Indicates whether the keyword cannot be used as an identifier (Y) or whether the keyword is not reserved (N)                                                                                                                                                                                                                                                                                                                                                |
| RES_TYPE  | VARCHAR2 (1)   | Indicates whether the keyword cannot be used as a type name (Y) or whether the keyword is not reserved (N)                                                                                                                                                                                                                                                                                                                                                  |
| RES_ATTR  | VARCHAR2 (1)   | Indicates whether the keyword cannot be used as an attribute name (Y) or whether the keyword is not reserved (N)                                                                                                                                                                                                                                                                                                                                            |
| RES_SEMI  | VARCHAR2 (1)   | Indicates whether the keyword is not allowed as an identifier in certain situations, such as in DML (Y) or whether the keyword is not reserved (N)                                                                                                                                                                                                                                                                                                          |
| DUPLICATE | VARCHAR2 (1)   | Indicates whether the keyword is a duplicate of another keyword (Y) or whether the keyword is not a duplicate (N)                                                                                                                                                                                                                                                                                                                                           |
| CON_ID    | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><math>n</math>: Where <math>n</math> is the applicable container ID for the rows containing data</li> </ul> |

## 9.172 V\$RESOURCE

V\$RESOURCE contains resource name and address information.

| Column | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADDR   | RAW (4   8)  | Address of the resource object                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TYPE   | VARCHAR2 (2) | Resource type; the resource types are listed in <a href="#">Table 9-1</a>                                                                                                                                                                                                                                                                                                                                                                       |
| ID1    | NUMBER       | Resource identifier #1                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ID2    | NUMBER       | Resource identifier #2                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.173 V\$RESOURCE\_LIMIT

V\$RESOURCE\_LIMIT displays information about global resource use for some of the system resources. Use this view to monitor the consumption of resources so that you can take corrective action, if necessary. Many of the resources correspond to initialization parameters listed in [Table 9-5](#).

Some resources, those used by DLM for example, have an initial allocation (soft limit), and the hard limit, which is theoretically infinite (although in practice it is limited by SGA size). During SGA reservation/initialization, a place is reserved in SGA for the INITIAL\_ALLOCATION of resources, but if this allocation is exceeded, additional resources are allocated up to the value indicated by LIMIT\_VALUE. The CURRENT\_UTILIZATION column indicates whether the initial allocation has been exceeded. When the initial allocation value is exceeded, the additional required resources are allocated from the shared pool, where they must compete for space with other resources.

A good choice for the value of INITIAL\_ALLOCATION will avoid the contention for space. For most resources, the value for INITIAL\_ALLOCATION is the same as the LIMIT\_VALUE. Exceeding LIMIT\_VALUE results in an error.

| Column              | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RESOURCE_NAME       | VARCHAR2 (128) | Name of the resource (see <a href="#">Table 9-5</a> )                                                                                                                                                                                                                                                                                                                                                                                           |
| CURRENT_UTILIZATION | NUMBER         | Number of (resources, locks, or processes) currently being used                                                                                                                                                                                                                                                                                                                                                                                 |
| MAX_UTILIZATION     | NUMBER         | Maximum consumption of this resource since the last instance start-up                                                                                                                                                                                                                                                                                                                                                                           |
| INITIAL_ALLOCATION  | VARCHAR2 (40)  | Initial allocation. This will be equal to the value specified for the resource in the initialization parameter file (UNLIMITED for infinite allocation).                                                                                                                                                                                                                                                                                        |
| LIMIT_VALUE         | VARCHAR2 (40)  | Unlimited for resources and locks. This can be greater than the initial allocation value (UNLIMITED for infinite limit).                                                                                                                                                                                                                                                                                                                        |
| CON_ID              | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Table 9-5 Values for the RESOURCE\_NAME Column**

| Resource Name        | Corresponds to                                                                                                                         |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| DML_LOCKS            | See " <a href="#">DML_LOCKS</a> "                                                                                                      |
| ENQUEUE_LOCKS        | This value is computed by the Oracle Database. See <a href="#">V\$ENQUEUE_LOCK</a> to obtain more information about the enqueue locks. |
| GES_LOCKS            | Global Enqueue Service locks                                                                                                           |
| GES_PROCS            | Global Enqueue Service processes                                                                                                       |
| GES_RESS             | Global Enqueue Service resources                                                                                                       |
| MAX_SHARED_SERVERS   | See " <a href="#">MAX_SHARED_SERVERS</a> "                                                                                             |
| PARALLEL_MAX_SERVERS | See " <a href="#">PARALLEL_MAX_SERVERS</a> "                                                                                           |
| PROCESSES            | See " <a href="#">PROCESSES</a> "                                                                                                      |
| SESSIONS             | See " <a href="#">SESSIONS</a> "                                                                                                       |
| SORT_SEGMENT_LOCKS   | This value is computed by the Oracle Database                                                                                          |
| TEMPORARY_LOCKS      | This value is computed by the Oracle Database                                                                                          |
| TRANSACTIONS         | See " <a href="#">TRANSACTIONS</a> "                                                                                                   |

## 9.174 V\$RESTORE\_POINT

V\$RESTORE\_POINT displays information about restore points.

| Column                           | Datatype       | Description                                                                                                                                                                                                                                                      |
|----------------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCN                              | NUMBER         | Database SCN when the restore point was created                                                                                                                                                                                                                  |
| DATABASE_INCARNATION#            | NUMBER         | Database incarnation number when the restore point was created                                                                                                                                                                                                   |
| GUARANTEE_FLASHBACK_DATA<br>BASE | VARCHAR2 (3)   | Indicates whether flashback log files will be kept to ensure a flashback to this point (YES) or not (NO)                                                                                                                                                         |
| STORAGE_SIZE                     | NUMBER         | Approximate number of bytes of disk space currently tied up supporting this restore point, and which would no longer be tied up if this restore point is the oldest restore point and it is dropped. This will always be zero for non-guaranteed restore points. |
| TIME                             | TIMESTAMP (9)  | Wall-clock time when the restore point was created                                                                                                                                                                                                               |
| RESTORE_POINT_TIME               | TIMESTAMP (9)  | Time that was specified when the restore point was created. If a time was not specified, this value is NULL.                                                                                                                                                     |
| PRESERVED                        | VARCHAR2 (3)   | Indicates whether the restore point must be explicitly deleted (YES) or not (NO)                                                                                                                                                                                 |
| NAME                             | VARCHAR2 (128) | Name of the restore point                                                                                                                                                                                                                                        |
| PDB_RESTORE_POINT                | VARCHAR2 (3)   | Indicates whether there is a PDB restore point for this PDB (YES) or not (NO)                                                                                                                                                                                    |
| CLEAN_PDB_RESTORE_POINT          | VARCHAR2 (3)   | Indicates whether there is a clean PDB restore point for this PDB (YES) or not (NO)                                                                                                                                                                              |
| PDB_INCARNATION#                 | NUMBER         | Pluggable database (PDB) incarnation number. This value is meaningful only for PDB restore points.                                                                                                                                                               |



| Column     | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REPLICATED | VARCHAR2 (3) | This column is useful in Oracle Data Guard environments. It indicates the method by which a restore point was created. Possible values: <ul style="list-style-type: none"> <li>• YES - The restore point was automatically replicated from the primary database to this database when this database was a standby database. The string <code>_PRIMARY</code> is appended to the name of such a restore point.</li> <li>• NO - The restore point was created by a user and was not replicated from the primary database.</li> </ul> |
| CON_ID     | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                              |

## 9.175 V\$RESULT\_CACHE\_DEPENDENCY

V\$RESULT\_CACHE\_DEPENDENCY displays the depends-on relationship between cached results and dependencies.

| Column    | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RESULT_ID | NUMBER   | Cached result                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| DEPEND_ID | NUMBER   | Dependency object                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| OBJECT_NO | NUMBER   | Dictionary object number of the dependency object                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID    | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.176 V\$RESULT\_CACHE\_MEMORY

V\$RESULT\_CACHE\_MEMORY displays all the memory blocks and their status.

| Column      | Datatype     | Description                                                                                                                    |
|-------------|--------------|--------------------------------------------------------------------------------------------------------------------------------|
| ID          | NUMBER       | Unique block identifier (that is, the block number)                                                                            |
| CHUNK       | NUMBER       | Chunk to which the block belongs, relative to the subcache in which the memory object resides (the upper 27 bits of the ID)    |
| OFFSET      | NUMBER       | Offset of the block within its chunk, relative to the subcache in which the memory object resides (the lower 5 bits of the ID) |
| SUBCACHE_ID | NUMBER       | Subcache ID                                                                                                                    |
| FREE        | VARCHAR2 (3) | Indicates whether the block is free (YES) or not (NO)                                                                          |

| Column    | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_ID | NUMBER   | Cache object to which the memory block belongs; NULL if the memory block is not allocated to a cache object (FREE = YES)                                                                                                                                                                                                                                                                                                                |
| POSITION  | NUMBER   | Position of the block in the cached object; NULL if the memory block is not allocated to a cache object (FREE = YES)                                                                                                                                                                                                                                                                                                                    |
| CON_ID    | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• n: Where n is the applicable container ID for the rows containing data</li> </ul> |

## 9.177 V\$RESULT\_CACHE\_OBJECTS

V\$RESULT\_CACHE\_OBJECTS displays all the objects (both cached results and dependencies) and their attributes.

| Column                    | Datatype       | Description                                                                                                                                                                                                                                                                                                                                    |
|---------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ID                        | NUMBER         | Identifier for the cache object (also the ID of the first block)                                                                                                                                                                                                                                                                               |
| TYPE                      | VARCHAR2 (10)  | Type of the cache object: <ul style="list-style-type: none"> <li>• Dependency</li> <li>• Result</li> <li>• Temp</li> </ul>                                                                                                                                                                                                                     |
| STATUS                    | VARCHAR2 (9)   | Status of the object: <ul style="list-style-type: none"> <li>• New - Result is still under construction</li> <li>• Published - Result is available for use</li> <li>• Bypass - Result will be bypassed from use</li> <li>• Expired - Result has exceeded expiration time</li> <li>• Invalid - Result is no longer available for use</li> </ul> |
| BUCKET_NO                 | NUMBER         | Internal hash bucket for the object                                                                                                                                                                                                                                                                                                            |
| HASH                      | NUMBER         | Hash value for the object                                                                                                                                                                                                                                                                                                                      |
| NAME                      | VARCHAR2 (387) | Name (for example, SQL prefix or PL/SQL function name)                                                                                                                                                                                                                                                                                         |
| NAMESPACE                 | VARCHAR2 (10)  | Namespace: <ul style="list-style-type: none"> <li>• SQL</li> <li>• PLSQL</li> <li>• KEY VECTOR</li> </ul>                                                                                                                                                                                                                                      |
| CREATION_TIMESTAMP        | DATE           | Time when the object was created                                                                                                                                                                                                                                                                                                               |
| CREATOR_UID               | NUMBER         | UID that created the object                                                                                                                                                                                                                                                                                                                    |
| DEPEND_COUNT              | NUMBER         | Number of dependencies (TYPE = Result) or dependents (TYPE = Dependency)                                                                                                                                                                                                                                                                       |
| BLOCK_COUNT               | NUMBER         | Total number of blocks in the cached object                                                                                                                                                                                                                                                                                                    |
| SCN                       | NUMBER         | Build SCN (TYPE = Result) or invalidation SCN (TYPE = Dependency)                                                                                                                                                                                                                                                                              |
| COLUMN_COUNT <sup>1</sup> | NUMBER         | Number of columns in the cached result                                                                                                                                                                                                                                                                                                         |
| PIN_COUNT <sup>1</sup>    | NUMBER         | Number of active scans on this result                                                                                                                                                                                                                                                                                                          |

| Column                      | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCAN_COUNT <sup>1</sup>     | NUMBER         | Total number of scans initiated on the cached result                                                                                                                                                                                                                                                                                                                                                                                    |
| ROW_COUNT <sup>1</sup>      | NUMBER         | Total number of rows in the cached result                                                                                                                                                                                                                                                                                                                                                                                               |
| ROW_SIZE_MAX <sup>1</sup>   | NUMBER         | Size of the largest row (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                      |
| ROW_SIZE_MIN <sup>1</sup>   | NUMBER         | Size of the smallest row (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                     |
| ROW_SIZE_AVG <sup>1</sup>   | NUMBER         | Average size of a row (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                        |
| BUILD_TIME <sup>1</sup>     | NUMBER         | Amount of time (in hundredths of a second) it took to build the cached result                                                                                                                                                                                                                                                                                                                                                           |
| LRU_NUMBER <sup>1</sup>     | NUMBER         | LRU list position (the larger the value, the more recent the usage)                                                                                                                                                                                                                                                                                                                                                                     |
| OBJECT_NO <sup>2</sup>      | NUMBER         | Dictionary object number of the dependency object                                                                                                                                                                                                                                                                                                                                                                                       |
| INVALIDATIONS <sup>2</sup>  | NUMBER         | Number of times the object has invalidated its dependents                                                                                                                                                                                                                                                                                                                                                                               |
| TIME_SAVED                  | NUMBER         | Amount of time (in microseconds) saved by reuse                                                                                                                                                                                                                                                                                                                                                                                         |
| INVALIDATION_COST           | NUMBER         | Amount of time (in microseconds) spent on invalidation                                                                                                                                                                                                                                                                                                                                                                                  |
| SPACE_OVERHEAD <sup>1</sup> | NUMBER         | Overhead (in bytes) for the result                                                                                                                                                                                                                                                                                                                                                                                                      |
| SPACE_UNUSED <sup>1</sup>   | NUMBER         | Unused space (in bytes) for the result                                                                                                                                                                                                                                                                                                                                                                                                  |
| CACHE_ID                    | VARCHAR2 (387) | CacheId for the result (object name if it's a dependency)                                                                                                                                                                                                                                                                                                                                                                               |
| CACHE_KEY                   | VARCHAR2 (387) | CacheKey for the result (object name if it's a dependency)                                                                                                                                                                                                                                                                                                                                                                              |
| CHECKSUM                    | NUMBER         | Checksum for the result object. The checksum is computed over all the blocks in the result cache object minus the object header.                                                                                                                                                                                                                                                                                                        |
| EDITION_ID                  | NUMBER         | Shows the edition's object ID that was in use when the result was calculated                                                                                                                                                                                                                                                                                                                                                            |
| DB_LINK                     | VARCHAR2 (3)   | Possible values: <ul style="list-style-type: none"> <li>• YES: The result cache object references a remote database object</li> <li>• NO: The result cache object does not reference a remote database object</li> </ul>                                                                                                                                                                                                                |
| GLOBAL                      | VARCHAR2 (3)   | Possible values: <ul style="list-style-type: none"> <li>• YES: The object was fetched from the result cache of a remote database instance</li> <li>• NO: The object was recomputed on this instance, either because it was not available on a remote database instance or because the system deemed it was inefficient to fetch the object from a remote database instance</li> </ul>                                                   |
| SUBCACHE_ID                 | NUMBER         | Subcache ID                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID                      | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• n: Where n is the applicable container ID for the rows containing data</li> </ul> |

<sup>1</sup> This column is valid only for TYPE = Result; otherwise, its value is NULL.

<sup>2</sup> This column is valid only for TYPE = Dependency; otherwise, its value is NULL.

## 9.178 V\$RESULT\_CACHE\_STATISTICS

V\$RESULT\_CACHE\_STATISTICS displays various result cache settings and usage statistics.

| Column | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ID     | NUMBER         | Statistic number                                                                                                                                                                                                                                                                                                                                                                                                                            |
| NAME   | VARCHAR2 (128) | Name of the statistic (see <a href="#">Table 9-6</a> )                                                                                                                                                                                                                                                                                                                                                                                      |
| VALUE  | VARCHAR2 (81)  | Value of the statistic                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CON_ID | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**Table 9-6 V\$RESULT\_CACHE\_STATISTICS and V\$RESULT\_SUBCACHE\_STATISTICS Statistics**

| Statistic Name               | Description                                                                                                                             |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Block Count Current          | Number of memory blocks currently allocated                                                                                             |
| Block Count Maximum          | Maximum number of memory blocks allowed                                                                                                 |
| Block Size (Bytes)           | Size of each memory block                                                                                                               |
| Create Count Failure         | Number of cache results that failed to create                                                                                           |
| Create Count Success         | Number of cache results successfully created                                                                                            |
| Delete Count Invalid         | Number of invalid cached results deleted                                                                                                |
| Delete Count Valid           | Number of valid cached results deleted                                                                                                  |
| Find Copy Count              | Number of results copied directly out of the cache                                                                                      |
| Find Count                   | Number of cached results that were successfully found                                                                                   |
| Global Load Rate             | Rate at which cached results were fetched from remote instances (in bytes per 10 milliseconds)                                          |
| Global Prune By Self Count   | Number of times this instance did not provide a cached result to a remote instance because this instance deemed it inefficient to do so |
| Global Prune Count           | Number of times this instance did not fetch a cached result from a remote instance because it was deemed inefficient to do so           |
| Hash Chain Length            | Average length of items in the hash chain                                                                                               |
| Invalidation Count           | Total number of invalidations                                                                                                           |
| Result Size Maximum (Blocks) | Maximum number of blocks allowed for a single result                                                                                    |
| Subcache Count               | Number of subcaches in the result cache                                                                                                 |



**See Also:**

["V\\$RESULT\\_SUBCACHE\\_STATISTICS"](#)

## 9.179 V\$RESULT\_SUBCACHE\_STATISTICS

V\$RESULT\_SUBCACHE\_STATISTICS displays various result cache settings and usage statistics on a per subcache basis.

| Column      | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ID          | NUMBER         | Statistic number                                                                                                                                                                                                                                                                                                                                                                                                              |
| NAME        | VARCHAR2 (128) | Name of the statistic<br><br>This view displays the same statistics as the V\$RESULT_CACHE_STATISTICS view. See <a href="#">Table 9-6</a> in the documentation for V\$RESULT_CACHE_STATISTICS.                                                                                                                                                                                                                                |
| VALUE       | VARCHAR2 (81)  | Value of the statistic                                                                                                                                                                                                                                                                                                                                                                                                        |
| SUBCACHE_ID | NUMBER         | Subcache ID                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID      | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li>n: Where n is the applicable container ID for the rows containing data</li></ul> |



**See Also:**

["V\\$RESULT\\_CACHE\\_STATISTICS"](#)

## 9.180 V\$RMAN\_BACKUP\_JOB\_DETAILS

V\$RMAN\_BACKUP\_JOB\_DETAILS displays details about backup jobs.

| Column           | Datatype      | Description                                                                                            |
|------------------|---------------|--------------------------------------------------------------------------------------------------------|
| SESSION_KEY      | NUMBER        | Session identifier                                                                                     |
| SESSION_RECID    | NUMBER        | Together, with SESSION_KEY and SESSION_STAMP, used to uniquely identify job output from V\$RMAN_OUTPUT |
| SESSION_STAMP    | NUMBER        | Together, with SESSION_KEY and SESSION_RECID, used to uniquely identify job output from V\$RMAN_OUTPUT |
| COMMAND_ID       | VARCHAR2 (33) | Either a user-specified SET COMMAND ID or a unique command ID generated by RMAN                        |
| START_TIME       | DATE          | Start time of the first BACKUP command in the job                                                      |
| END_TIME         | DATE          | End time of the last BACKUP command in the job                                                         |
| INPUT_BYTES      | NUMBER        | Sum of all input file sizes backed up by this job                                                      |
| OUTPUT_BYTES     | NUMBER        | Output size of all pieces generated by this job                                                        |
| STATUS_WEIGHT    | NUMBER        | Used internally by Enterprise Manager                                                                  |
| OPTIMIZED_WEIGHT | NUMBER        | Used internally by Enterprise Manager                                                                  |

| Column                       | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_TYPE_WEIGHT           | NUMBER          | Used internally by Enterprise Manager                                                                                                                                                                                                                                                                                                                            |
| OUTPUT_DEVICE_TYPE           | VARCHAR2 (17)   | Can be DISK, SBT, or *. An * indicates more than one device (in most cases, it will be DISK or SBT).                                                                                                                                                                                                                                                             |
| AUTOBACKUP_COUNT             | NUMBER          | Number of autobackups performed by this job                                                                                                                                                                                                                                                                                                                      |
| BACKED_BY_OSB                | VARCHAR2 (3)    | A value of YES means the backup was done to Oracle Secure Backup. Otherwise, backed up by other third party tape library.                                                                                                                                                                                                                                        |
| AUTOBACKUP_DONE              | VARCHAR2 (3)    | YES or NO, depending upon whether or not a control file autobackup was done as part of this backup job                                                                                                                                                                                                                                                           |
| STATUS                       | VARCHAR2 (23)   | One of the following values: <ul style="list-style-type: none"> <li>RUNNING WITH WARNINGS</li> <li>RUNNING WITH ERRORS</li> <li>COMPLETED</li> <li>COMPLETED WITH WARNINGS</li> <li>COMPLETED WITH ERRORS</li> <li>FAILED</li> </ul>                                                                                                                             |
| INPUT_TYPE                   | VARCHAR2 (13)   | Contains one of the following values. If the user command does not satisfy one of them, then preference is given in order, from top to bottom of the list. <ul style="list-style-type: none"> <li>DB FULL</li> <li>RECVR AREA</li> <li>DB INCR</li> <li>DATAFILE FULL</li> <li>DATAFILE INCR</li> <li>ARCHIVELOG</li> <li>CONTROLFILE</li> <li>SPFILE</li> </ul> |
| OPTIMIZED                    | VARCHAR2 (3)    | YES or NO, depending on whether optimization was applied. Applicable to backup jobs only.                                                                                                                                                                                                                                                                        |
| ELAPSED_SECONDS              | NUMBER          | Number of elapsed seconds                                                                                                                                                                                                                                                                                                                                        |
| COMPRESSION_RATIO            | NUMBER          | Compression ratio                                                                                                                                                                                                                                                                                                                                                |
| INPUT_BYTES_PER_SEC          | NUMBER          | Input read-rate-per-second                                                                                                                                                                                                                                                                                                                                       |
| OUTPUT_BYTES_PER_SEC         | NUMBER          | Output write-rate-per-second                                                                                                                                                                                                                                                                                                                                     |
| INPUT_BYTES_DISPLAY          | VARCHAR2 (4000) | Values in user-displayable form. They will be converted to a format of nM, nG, nT, nP, and so on.                                                                                                                                                                                                                                                                |
| OUTPUT_BYTES_DISPLAY         | VARCHAR2 (4000) | Values in user-displayable form. They will be converted to a format of nM, nG, nT, nP, and so on                                                                                                                                                                                                                                                                 |
| INPUT_BYTES_PER_SEC_DISPLAY  | VARCHAR2 (4000) | Input read-rate-per-second. These values are in user-displayable form. They will be converted to a format of nM, nG, nT, nP, and so on.                                                                                                                                                                                                                          |
| OUTPUT_BYTES_PER_SEC_DISPLAY | VARCHAR2 (4000) | Output write-rate-per-second. These values are in user-displayable form. They will be converted to a format of nM, nG, nT, nP, and so on.                                                                                                                                                                                                                        |
| TIME_TAKEN_DISPLAY           | VARCHAR2 (4000) | Time taken, shown in user-displayable format <nn>h:<nn>m:<nn>s                                                                                                                                                                                                                                                                                                   |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.181 V\$RMAN\_BACKUP\_SUBJOB\_DETAILS

V\$RMAN\_BACKUP\_SUBJOB\_DETAILS merges similar operations within an RMAN session into a single row. For example, if there are four BACKUP DATAFILE <n> commands, three RECOVERY COPY OF DATAFILE commands, and one BACKUP RECOVERY AREA command, this view will contain three rows - one each for BACKUP, ROLLFORWARD, and COPY\_DISK\_TO\_TAPE operation.

| Column             | Datatype      | Description                                                                                                                              |
|--------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------|
| SESSION_KEY        | NUMBER        | Session identifier                                                                                                                       |
| SESSION_RECID      | NUMBER        | Together with SESSION_KEY and SESSION_STAMP, used to uniquely identify job output from V\$RMAN_OUTPUT                                    |
| SESSION_STAMP      | NUMBER        | Together with SESSION_KEY and SESSION_RECID, used to uniquely identify job output from V\$RMAN_OUTPUT                                    |
| OPERATION          | VARCHAR2 (33) | Can be BACKUP, ROLLFORWARD, VALIDATE, or COPY_DISK_TO_TAPE. A row for each suboperation type for the session will be in the output view. |
| COMMAND_ID         | VARCHAR2 (33) | Either a user-specified SET COMMAND ID or a unique command ID generated by RMAN                                                          |
| START_TIME         | DATE          | Start time of the first BACKUP command in the job                                                                                        |
| END_TIME           | DATE          | End time of the last BACKUP command in the job                                                                                           |
| INPUT_BYTES        | NUMBER        | Sum of all input file sizes backed up by this job                                                                                        |
| OUTPUT_BYTES       | NUMBER        | Output size of all pieces generated by this job                                                                                          |
| STATUS_WEIGHT      | NUMBER        | Used internally by Enterprise Manager                                                                                                    |
| OBJECT_TYPE_WEIGHT | NUMBER        | Used internally by Enterprise Manager                                                                                                    |
| OPTIMIZED_WEIGHT   | NUMBER        | Used internally by Enterprise Manager                                                                                                    |
| OUTPUT_DEVICE_TYPE | VARCHAR2 (17) | Can be DISK, SBT, or *. An * indicates more than one device (in most cases, it will be DISK or SBT).                                     |
| BACKED_BY_OSB      | VARCHAR2 (3)  | A value of YES means the backup was done to Oracle Secure Backup. Otherwise, backed up by other third party tape library.                |
| AUTOBACKUP_DONE    | VARCHAR2 (3)  | YES or NO, depending upon whether or not a control file autobackup was done as part of this job                                          |

| Column               | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS               | VARCHAR2 (23)   | One of the following values: <ul style="list-style-type: none"> <li>RUNNING WITH WARNINGS</li> <li>RUNNING WITH ERRORS</li> <li>COMPLETED</li> <li>COMPLETED WITH WARNINGS</li> <li>COMPLETED WITH ERRORS</li> <li>FAILED</li> </ul>                                                                                                                                                                                                            |
| INPUT_TYPE           | VARCHAR2 (13)   | Contains one of the following values. If the user command does not satisfy one of them, then preference is given in order, from top to bottom of the list. <ul style="list-style-type: none"> <li>DB FULL</li> <li>RECVR AREA</li> <li>DB INCR</li> <li>DATAFILE FULL</li> <li>DATAFILE INCR</li> <li>ARCHIVELOG</li> <li>CONTROLFILE</li> <li>SPFILE</li> </ul>                                                                                |
| OPTIMIZED            | VARCHAR2 (3)    | YES or NO, depending on whether optimization was applied. Applicable to backup jobs only.                                                                                                                                                                                                                                                                                                                                                       |
| AUTOBACKUP_COUNT     | NUMBER          | Number of autobackups performed by this job                                                                                                                                                                                                                                                                                                                                                                                                     |
| COMPRESSION_RATIO    | NUMBER          | Compression ratio                                                                                                                                                                                                                                                                                                                                                                                                                               |
| INPUT_BYTES_DISPLAY  | VARCHAR2 (4000) | Values in user-displayable form. They will be converted to a format of nM, nG, nT, nP, and so on.                                                                                                                                                                                                                                                                                                                                               |
| OUTPUT_BYTES_DISPLAY | VARCHAR2 (4000) | Values in user-displayable form. They will be converted to a format of nM, nG, nT, nP, and so on.                                                                                                                                                                                                                                                                                                                                               |
| CON_ID               | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.182 V\$RMAN\_BACKUP\_TYPE

V\$RMAN\_BACKUP\_TYPE displays information about RMAN backup types.

| Column     | Datatype      | Description                                                                    |
|------------|---------------|--------------------------------------------------------------------------------|
| WEIGHT     | NUMBER        | Used to set precedence order of different backup types in reports.             |
| INPUT_TYPE | VARCHAR2 (13) | Used to represent possible filters used in creating various reporting screens. |



| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.183 V\$RMAN\_COMPRESSION\_ALGORITHM

V\$RMAN\_COMPRESSION\_ALGORITHM provides descriptions of supported compression algorithms. It is used by the RMAN client.

| Column                  | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALGORITHM_ID            | NUMBER        | Algorithm ID                                                                                                                                                                                                                                                                                                                                                                                                                                |
| ALGORITHM_NAME          | VARCHAR2 (64) | Name of the algorithm (for example, LOW, MEDIUM, DEFAULT, or HIGH)                                                                                                                                                                                                                                                                                                                                                                          |
| INITIAL_RELEASE         | VARCHAR2 (18) | First Oracle Database release when this compression algorithm was available                                                                                                                                                                                                                                                                                                                                                                 |
| TERMINAL_RELEASE        | VARCHAR2 (18) | Last Oracle Database release that supported using this compression algorithm to create new backups. Existing backups can always be restored, even if they use a deprecated compression algorithm.                                                                                                                                                                                                                                           |
| ALGORITHM_DESCRIPTION   | VARCHAR2 (64) | Description of the algorithm                                                                                                                                                                                                                                                                                                                                                                                                                |
| ALGORITHM_COMPATIBILITY | VARCHAR2 (18) | Required database compatibility level for the algorithm (for example, 11.2.0 for DEFAULT)                                                                                                                                                                                                                                                                                                                                                   |
| IS_VALID                | VARCHAR2 (3)  | Indicates whether the algorithm is valid with regard to the compatibility setting (YES) or not (NO). The value is YES if ALGORITHM_COMPATIBILITY <= DATABASE_COMPATIBILITY.                                                                                                                                                                                                                                                                 |
| REQUIRES_ACO            | VARCHAR2 (3)  | Indicates whether the algorithm requires the Advanced Compression Option (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                  |
| IS_DEFAULT              | VARCHAR2 (3)  | Indicates whether the algorithm is the default compression algorithm that RMAN uses to create compressed backup sets (YES) or not (NO)                                                                                                                                                                                                                                                                                                      |
| CON_ID                  | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.184 V\$RMAN\_CONFIGURATION

V\$RMAN\_CONFIGURATION lists information about RMAN persistent configuration settings.

| Column | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CONF#  | NUMBER          | A unique key identifying this configuration record within the target database that owns it.                                                                                                                                                                                                                                                                                                                                                     |
| NAME   | VARCHAR2 (65)   | The type of configuration. All options of the <code>CONFIGURE</code> command are valid types except: <ul style="list-style-type: none"> <li>CONFIGURE EXCLUDE (described in <code>RC_TABLESPACE</code>)</li> <li>CONFIGURE AUXNAME (described in <code>RC_DATAFILE</code>)</li> <li>CONFIGURE SNAPSHOT CONTROLFILE (stored only in control file)</li> </ul>                                                                                     |
| VALUE  | VARCHAR2 (1025) | The <code>CONFIGURE</code> command setting. Example: <code>RETENTION POLICY TO RECOVERY WINDOW OF 10 DAYS</code>                                                                                                                                                                                                                                                                                                                                |
| CON_ID | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.185 V\$RMAN\_ENCRYPTION\_ALGORITHMS

`V$RMAN_ENCRYPTION_ALGORITHMS` displays supported encryption algorithms. It is used by the RMAN client to validate user-requested algorithms.

This view lists AES128, AES192, and AES256 encryption algorithms for the current release. The default algorithm is AES256.

| Column                | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALGORITHM_ID          | NUMBER        | Number to identify the algorithm                                                                                                                                                                                                                                                                                                                                                                                                                               |
| ALGORITHM_NAME        | VARCHAR2 (64) | Name of the algorithm (for example, AES128, AES192, or AES256)                                                                                                                                                                                                                                                                                                                                                                                                 |
| ALGORITHM_DESCRIPTION | VARCHAR2 (64) | Description of the algorithm                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| IS_DEFAULT            | VARCHAR2 (3)  | Indicates whether this is the default encryption algorithm for CFB encryption mode (YES) or not (NO).<br><br>CFB encryption mode is used when the <code>COMPATIBLE</code> initialization parameter is set to a value less than 23.0.0.0. Otherwise, refer to the <code>IS_DEFAULTXTS</code> column.<br><br>This value is set by Oracle Database and may vary for each Release (that is, it is not dependent on user-specified RMAN configuration).             |
| RESTORE_ONLY          | VARCHAR2 (3)  | Indicates whether this algorithm can be used for restore only (YES) or not (NO). If the value is NO, then the algorithm is also allowed for backup. This column is useful in determining whether an encryption algorithm is deprecated for backup purpose.                                                                                                                                                                                                     |
| IS_DEFAULTXTS         | VARCHAR2 (3)  | Indicates whether this is the default encryption algorithm for XTS encryption mode (YES) or not (NO).<br><br>XTS encryption mode is used when the <code>COMPATIBLE</code> initialization parameter is set to a value greater than or equal to 23.0.0.0. Otherwise, refer to the <code>IS_DEFAULT</code> column.<br><br>This value is set by Oracle Database and may vary for each Release (that is, it is not dependent on user-specified RMAN configuration). |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.186 V\$RMAN\_OUTPUT

V\$RMAN\_OUTPUT displays messages reported by RMAN.

This is an in-memory view and is not recorded in the controlfile. The view can hold 32768 rows.

| Column            | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID               | NUMBER         | Session ID of the session which is running this RMAN operation                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| RECID             | NUMBER         | Record ID of the corresponding V\$RMAN_STATUS row                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| STAMP             | NUMBER         | Timestamp of the corresponding V\$RMAN_STATUS row                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SESSION_RECID     | NUMBER         | Record ID of the session (corresponding V\$RMAN_STATUS row with ROW_LEVEL = 0)                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SESSION_STAMP     | NUMBER         | Timestamp of the session (corresponding V\$RMAN_STATUS row with ROW_LEVEL = 0)                                                                                                                                                                                                                                                                                                                                                                                                                          |
| OUTPUT            | VARCHAR2 (130) | Output text reported by RMAN                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| RMAN_STATUS_RECID | NUMBER         | Owning V\$RMAN_STATUS record ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| RMAN_STATUS_STAMP | NUMBER         | Owning V\$RMAN_STATUS record stamp                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SESSION_KEY       | NUMBER         | Session identifier                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| GUID              | NUMBER         | <p>The guid of the pluggable database (PDB) that did the RMAN operation. V\$RMAN_OUTPUT captures the rman output.</p> <p>If a PDB sysdba did the backup, the guid of the PDB is displayed in V\$RMAN_OUTPUT. If root did the backup, then guid of the root is displayed in V\$RMAN_OUTPUT. Root</p> <p>A root user can see all of V\$RMAN_OUTPUT rows (that is, the rows owned by all PDBs), but a PDB user can only see that PDB's V\$RMAN_OUTPUT rows (that is, no rows from root or other PDBs).</p> |
| CON_ID            | NUMBER         | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                  |

## 9.187 V\$RMAN\_STATUS

V\$RMAN\_STATUS displays the finished and on-going RMAN jobs. For on-going jobs, this view displays progress and status. The jobs which are in progress are stored only in memory while the finished jobs are stored in the controlfile.

| Column             | Datatype      | Description                                                                                                                                                                                                                                       |
|--------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID                | NUMBER        | Session ID of the session which is running this RMAN operation                                                                                                                                                                                    |
| RECID              | NUMBER        | Record ID of the row in the controlfile                                                                                                                                                                                                           |
| STAMP              | NUMBER        | Timestamp of the row (RECID + STAMP is unique)                                                                                                                                                                                                    |
| PARENT_RECID       | NUMBER        | Record ID of the parent row of this row (corresponding V\$RMAN_STATUS row with ROW_LEVEL = ROW_LEVEL - 1)                                                                                                                                         |
| PARENT_STAMP       | NUMBER        | Timestamp of the parent row of this row (corresponding V\$RMAN_STATUS row with ROW_LEVEL = ROW_LEVEL - 1)                                                                                                                                         |
| SESSION_RECID      | NUMBER        | Record ID of the session (corresponding V\$RMAN_STATUS row with ROW_LEVEL = 0)                                                                                                                                                                    |
| SESSION_STAMP      | NUMBER        | Timestamp of the session (corresponding V\$RMAN_STATUS row with ROW_LEVEL = 0)                                                                                                                                                                    |
| ROW_LEVEL          | NUMBER        | Level of the row. The session has level 0.                                                                                                                                                                                                        |
| ROW_TYPE           | VARCHAR2 (19) | Type of the row: <ul style="list-style-type: none"> <li>SESSION</li> <li>COMMAND</li> <li>RECURSIVE OPERATION</li> </ul>                                                                                                                          |
| COMMAND_ID         | VARCHAR2 (33) | Command ID set by the RMAN SET COMMAND ID command. If not set, then RMAN will create a unique number.                                                                                                                                             |
| OPERATION          | VARCHAR2 (33) | Name of the command in the execution explained by this row                                                                                                                                                                                        |
| STATUS             | VARCHAR2 (23) | Status of the operation: <ul style="list-style-type: none"> <li>RUNNING</li> <li>RUNNING WITH WARNINGS</li> <li>RUNNING WITH ERRORS</li> <li>COMPLETED</li> <li>COMPLETED WITH WARNINGS</li> <li>COMPLETED WITH ERRORS</li> <li>FAILED</li> </ul> |
| MBYTES_PROCESSED   | NUMBER        | Percentage of the job completed; null if not applicable for the operation                                                                                                                                                                         |
| START_TIME         | DATE          | Start time of the job                                                                                                                                                                                                                             |
| END_TIME           | DATE          | End time of the job                                                                                                                                                                                                                               |
| INPUT_BYTES        | NUMBER        | Number of input bytes read                                                                                                                                                                                                                        |
| OUTPUT_BYTES       | NUMBER        | Number of output bytes written                                                                                                                                                                                                                    |
| OPTIMIZED          | VARCHAR2 (3)  | YES, if backup optimization was applied during the backup job. Otherwise, NO.                                                                                                                                                                     |
| OBJECT_TYPE        | VARCHAR2 (13) | Identifies types of objects backed up                                                                                                                                                                                                             |
| OUTPUT_DEVICE_TYPE | VARCHAR2 (17) | DISK, SBT_TAPE, or *. An * indicates that output was written to more than one device type.                                                                                                                                                        |
| OSB_ALLOCATED      | VARCHAR2 (3)  | A value of YES means an Oracle Secure Backup channel was allocated during the specified operation identified by the V\$RMAN_STATUS view.                                                                                                          |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.188 V\$RO\_USER\_ACCOUNT

V\$RO\_USER\_ACCOUNT is populated only on Oracle databases that are open in read-only mode. When a database is read-only, security data cannot be stored in normal catalogue tables. Instead, the security data is stored in an in-memory table that is queried through this view. In an Oracle Data Guard environment, some of the security information for user accounts on the standby is inherited from the primary server. For example, if the account is locked out unlimited on the primary, then it will be locked on the standby database(s). The information stored on the standby is volatile information that user actions on the standby database(s) can affect, such as the number of failed logins, and the time the account was locked on the standby due to failed access attempts. Note that failed login attempts on standbys do not affect the account status on primaries.

If this view is queried from the root in a multitenant container database (CDB), then only common users and the SYS user are returned.

If this view is queried from a pluggable database (PDB), only rows that pertain to the current PDB are returned.

| Column                 | Datatype      | Description                                                                                                        |
|------------------------|---------------|--------------------------------------------------------------------------------------------------------------------|
| USERID                 | NUMBER        | User ID number                                                                                                     |
| PASSW_EXPIRED          | NUMBER        | Indicates whether the password has expired (1) or not (0)                                                          |
| PASSW_IN_GRACE         | NUMBER        | Indicates whether the account is in grace (1) or not (0)                                                           |
| PASSW_LOCKED           | NUMBER        | Indicates whether the account is locked (1) or not (0)                                                             |
| PASSW_LOCK_UNLIM       | NUMBER        | Indicates whether the account is locked for an unlimited time (1) or not (0)                                       |
| FAILED_LOGINS          | NUMBER        | The number of failed login attempts. The count is not cumulative; it is reset upon successful logon to the account |
| EXPIRATION_AFTER_GRACE | TIMESTAMP (3) | The expiration time after grace                                                                                    |
| PASSW_LOCK_TIME        | TIMESTAMP (3) | The time the account was locked out                                                                                |

| Column   | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID   | NUMBER         | <p>The ID of the container where the failed login occurred.</p> <p>For users that are not common users, the CON_ID is the PDB ID where the failed login attempt occurred.</p> <p>For common users, the CON_ID is 0.</p> <p>The login attempts that occurred on a PDB are not displayed when you query V\$RO_USER_ACCOUNT from another PDB. You only see the failed login attempts of any users (that are not common users) if those failed login attempts occurred on the same PDB from which you are querying V\$RO_USER_ACCOUNT.</p> <p>The failed login attempts of common users (and of the SYS user) are only displayed when V\$RO_USER_ACCOUNT is queried from the root of a CDB, not when it is queried from a PDB.</p> <p>In a non-CDB, the value is always 0.</p> |
| USERNAME | VARCHAR2 (128) | User name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## 9.189 V\$ROLLNAME

V\$ROLLNAME lists the names of all online rollback segments. It can only be accessed when the database is open.

| Column | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USN    | NUMBER        |          | Rollback (undo) segment number                                                                                                                                                                                                                                                                                                                                                                                                                         |
| NAME   | VARCHAR2 (30) | NOT NULL | Rollback segment name                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID | NUMBER        |          | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.190 V\$ROLLSTAT

V\$ROLLSTAT contains rollback segment statistics.

| Column  | Datatype | Description                                                                                                                                                                                                                                                                                                       |
|---------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USN     | NUMBER   | Rollback segment number                                                                                                                                                                                                                                                                                           |
| LATCH   | NUMBER   | Latch for the rollback segment                                                                                                                                                                                                                                                                                    |
| EXTENTS | NUMBER   | Number of extents in the rollback segment                                                                                                                                                                                                                                                                         |
| RSSIZE  | NUMBER   | <p>Size (in bytes) of the rollback segment. This value differs by the number of bytes in one database block from the value of the BYTES column of the *_SEGMENTS view.</p> <p><b>See Also:</b> <i>Oracle Database Administrator's Guide</i> for more information about space management for rollback segments</p> |
| WRITES  | NUMBER   | Number of bytes written to the rollback segment                                                                                                                                                                                                                                                                   |

| Column    | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| XACTS     | NUMBER        | Number of active transactions                                                                                                                                                                                                                                                                                                                                                                                                                         |
| GETS      | NUMBER        | Number of header gets                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| WAITS     | NUMBER        | Number of header waits                                                                                                                                                                                                                                                                                                                                                                                                                                |
| OPTSIZE   | NUMBER        | Optimal size of the rollback segment                                                                                                                                                                                                                                                                                                                                                                                                                  |
| HWMSIZE   | NUMBER        | High watermark of the rollback segment size                                                                                                                                                                                                                                                                                                                                                                                                           |
| SHRINKS   | NUMBER        | Number of times the size of a rollback segment decreases                                                                                                                                                                                                                                                                                                                                                                                              |
| WRAPS     | NUMBER        | Number of times rollback segment is wrapped                                                                                                                                                                                                                                                                                                                                                                                                           |
| EXTENDS   | NUMBER        | Number of times rollback segment size is extended                                                                                                                                                                                                                                                                                                                                                                                                     |
| AVESHRINK | NUMBER        | Average shrink size                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| AVEACTIVE | NUMBER        | Current size of active extents, averaged over time.                                                                                                                                                                                                                                                                                                                                                                                                   |
| STATUS    | VARCHAR2 (15) | Rollback segment status: <ul style="list-style-type: none"> <li>• ONLINE</li> <li>• PENDING OFFLINE</li> <li>• OFFLINE</li> <li>• FULL</li> </ul>                                                                                                                                                                                                                                                                                                     |
| CUREXT    | NUMBER        | Current extent                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CURBLK    | NUMBER        | Current block                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID    | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.191 V\$ROWCACHE

V\$ROWCACHE displays statistics for data dictionary activity. Each row contains statistics for one data dictionary cache.

| Column       | Datatype      | Description                                                                                             |
|--------------|---------------|---------------------------------------------------------------------------------------------------------|
| CACHE#       | NUMBER        | Row cache ID number                                                                                     |
| TYPE         | VARCHAR2 (11) | Parent or subordinate row cache type                                                                    |
| SUBORDINATE# | NUMBER        | Subordinate set number                                                                                  |
| PARAMETER    | VARCHAR2 (32) | Name of the initialization parameter that determines the number of entries in the data dictionary cache |
| COUNT        | NUMBER        | Total number of entries in the cache                                                                    |
| USAGE        | NUMBER        | Number of cache entries that contain valid data                                                         |
| FIXED        | NUMBER        | Number of fixed entries in the cache                                                                    |
| GETS         | NUMBER        | Total number of requests for information on the data object                                             |
| FASTGETS     | NUMBER        | Reserved for internal use                                                                               |
| GETMISSES    | NUMBER        | Number of data requests resulting in cache misses                                                       |
| SCANS        | NUMBER        | Number of scan requests                                                                                 |

| Column        | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCANMISSES    | NUMBER   | Number of times a scan failed to find the data in the cache                                                                                                                                                                                                                                                                                                                                                                                           |
| SCANCOMPLETES | NUMBER   | For a list of subordinate entries, the number of times the list was scanned completely                                                                                                                                                                                                                                                                                                                                                                |
| MODIFICATIONS | NUMBER   | Number of inserts, updates, and deletions                                                                                                                                                                                                                                                                                                                                                                                                             |
| FLUSHES       | NUMBER   | Number of times flushed to disk                                                                                                                                                                                                                                                                                                                                                                                                                       |
| DLM_REQUESTS  | NUMBER   | Number of DLM requests                                                                                                                                                                                                                                                                                                                                                                                                                                |
| DLM_CONFLICTS | NUMBER   | Number of DLM conflicts                                                                                                                                                                                                                                                                                                                                                                                                                               |
|               |          | This column is obsolete and is maintained for backward compatibility.                                                                                                                                                                                                                                                                                                                                                                                 |
| DLM_RELEASES  | NUMBER   | Number of DLM releases                                                                                                                                                                                                                                                                                                                                                                                                                                |
|               |          | This column is obsolete and is maintained for backward compatibility.                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID        | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.192 V\$ROWCACHE\_PARENT

V\$ROWCACHE\_PARENT displays information for parent objects in the data dictionary. There is one row per lock owner, and one waiter for each object. This row shows the mode held or requested. For objects with no owners or waiters, a single row is displayed.

| Column            | Datatype      | Description                                                                                                 |
|-------------------|---------------|-------------------------------------------------------------------------------------------------------------|
| INDX              | NUMBER        | Index of the row                                                                                            |
| HASH              | NUMBER        | Hash value                                                                                                  |
| ADDRESS           | RAW (4   8)   | Address of the parent object                                                                                |
| CACHE#            | NUMBER        | Parent cache ID                                                                                             |
| CACHE_NAME        | VARCHAR2 (64) | Parent cache name                                                                                           |
| EXISTENT          | VARCHAR2 (1)  | Indicates whether the object is an existing object                                                          |
| LOCK_MODE         | NUMBER        | Mode the lock is held in                                                                                    |
| LOCK_REQUEST      | NUMBER        | Mode the lock is requested in                                                                               |
| TXN               | RAW (4   8)   | Transaction currently locking the object                                                                    |
| SADDR             | RAW (4   8)   | Address of the session                                                                                      |
| INST_LOCK_REQUEST | NUMBER        | Mode in which instance lock is being requested. This column is only relevant for Real Application Clusters. |
| INST_LOCK_RELEASE | NUMBER        | Whether the instance lock needs to be released. This column is only relevant for Real Application Clusters. |
| INST_LOCK_TYPE    | VARCHAR2 (2)  | Type of instance lock. This column is only relevant for Real Application Clusters.                          |
| INST_LOCK_ID1     | RAW (4)       | ID associated with the instance lock. This column is only relevant for Real Application Clusters.           |



| Column        | Datatype  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INST_LOCK_ID2 | RAW (4)   | ID associated with the instance lock. This column is only relevant for Real Application Clusters.                                                                                                                                                                                                                                                                                                                                           |
| KEY           | RAW (100) | Contents of the key. This column is only relevant for Real Application Clusters.                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID        | NUMBER    | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.193 V\$ROWCACHE\_SUBORDINATE

V\$ROWCACHE\_SUBORDINATE displays information for subordinate objects in the data dictionary.

| Column        | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INDX          | NUMBER        | The index                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| HASH          | NUMBER        | The hash value                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ADDRESS       | RAW (4   8)   | Address of the subordinate object                                                                                                                                                                                                                                                                                                                                                                                                           |
| CACHE#        | NUMBER        | The parent cache ID                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SUBCACHE#     | NUMBER        | The subcache ID                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SUBCACHE_NAME | VARCHAR2 (64) | The subcache name                                                                                                                                                                                                                                                                                                                                                                                                                           |
| EXISTENT      | VARCHAR2 (1)  | Whether the object is an existing object                                                                                                                                                                                                                                                                                                                                                                                                    |
| PARENT        | RAW (4   8)   | Address of the parent object                                                                                                                                                                                                                                                                                                                                                                                                                |
| KEY           | RAW (100)     | The contents of the key                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID        | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 9.194 V\$RSRC\_CONS\_GROUP\_HISTORY

V\$RSRC\_CONS\_GROUP\_HISTORY displays a history of consumer group statistics for each entry in V\$RSRC\_PLAN\_HISTORY that has a non-NULL plan.

When the STATISTICS\_LEVEL is set to TYPICAL or ALL, this view contains information about CPU utilization and wait times even when no Resource Manager plan is set or when the Resource Manager plan does not monitor CPU or session resources.

A new window is created in V\$RSRC\_CONS\_GROUP\_HISTORY when a pluggable database (PDB) changes its resource plan. The plan windows inside a PDB are not impacted by a multitenant container database (CDB) resource plan change.

Since PDB plans can be set independently across different PDBs, V\$RSRC\_CONS\_GROUP\_HISTORY will not cover the same time period across different PDBs. Therefore, this view is not useful for comparing statistics across different PDBs.

| Column                    | Datatype      | Description                                                                                                                                                                                                                                                                                                                 |
|---------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SEQUENCE#                 | NUMBER        | A sequential counter that uniquely describes the V\$RSRC_PLAN_HISTORY entry to which these consumer group statistics apply. When the instance is restarted, this value is reset to zero.                                                                                                                                    |
| ID                        | NUMBER        | Consumer group object ID (a unique number, consistent across database shutdowns and startups)                                                                                                                                                                                                                               |
| NAME                      | VARCHAR2 (30) | Name of the consumer group                                                                                                                                                                                                                                                                                                  |
| REQUESTS                  | NUMBER        | Cumulative number of requests that were executed in the consumer group                                                                                                                                                                                                                                                      |
| CPU_WAIT_TIME             | NUMBER        | Cumulative amount of time that sessions waited for CPU on the resmgr: cpu quantum wait event because of resource management (in milliseconds). This does not include waits due to latch or enqueue contention, I/O waits, and so on. When CPU resources are not being actively managed, this value is set to zero.          |
| CPU_WAITS                 | NUMBER        | Cumulative number of times all sessions in the consumer group had to wait for CPU on the resmgr: cpu quantum wait event because of resource management. This does not include waits due to latch or enqueue contention, I/O waits, and so on. When CPU resources are not being actively managed, this value is set to zero. |
| CONSUMED_CPU_TIME         | NUMBER        | Cumulative amount of CPU time consumed by all sessions in the consumer group (in milliseconds)                                                                                                                                                                                                                              |
| YIELDS                    | NUMBER        | Cumulative number of times that sessions in the consumer group had to yield CPU to other sessions because of quantum expiration. When CPU resources are not being actively managed, this value is set to zero.                                                                                                              |
| CPU_DECISIONS             | NUMBER        | Percentage of CPU decisions for which the consumer group was present. When CPU resources are not being actively managed, this value is set to zero.                                                                                                                                                                         |
| CPU_DECISIONS_EXCLUSIVE   | NUMBER        | Percentage of the CPU decisions for which the consumer group was present and was the only consumer group present. When CPU resources are not being actively managed, this value is set to zero.                                                                                                                             |
| CPU_DECISIONS_WON         | NUMBER        | Percentage of the CPU decisions that the consumer group won. When CPU resources are not being actively managed, this value is set to zero.                                                                                                                                                                                  |
| ACTIVE_SESS_LIMIT_HIT     | NUMBER        | Number of times that sessions in the consumer group were queued because the consumer group reached its active session limit                                                                                                                                                                                                 |
| UNDO_LIMIT_HIT            | NUMBER        | Number of times that queries in the consumer group were canceled because the consumer group reached its UNDO_POOL limit                                                                                                                                                                                                     |
| SWITCHES_IN_CPU_TIME      | NUMBER        | Number of switches into the consumer group because of the Resource Manager plan's SWITCH_TIME limit                                                                                                                                                                                                                         |
| SWITCHES_OUT_CPU_TIME     | NUMBER        | Number of switches out of the consumer group because of the Resource Manager plan's SWITCH_TIME limit                                                                                                                                                                                                                       |
| SWITCHES_IN_IO_MEGABYTES  | NUMBER        | Number of switches into the consumer group because of the Resource Manager plan's SWITCH_IO_MEGABYTES limit                                                                                                                                                                                                                 |
| SWITCHES_OUT_IO_MEGABYTES | NUMBER        | Number of switches out of the consumer group because of the Resource Manager plan's SWITCH_IO_MEGABYTES limit                                                                                                                                                                                                               |
| SWITCHES_IN_IO_REQUESTS   | NUMBER        | Number of switches into the consumer group because of the Resource Manager plan's SWITCH_IO_REQS limit                                                                                                                                                                                                                      |

| Column                    | Datatype | Description                                                                                                                                                                                                                    |
|---------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SWITCHES_OUT_IO_REQUESTS  | NUMBER   | Number of switches out of the consumer group because of the Resource Manager plan's SWITCH_IO_REQS limit                                                                                                                       |
| SWITCHES_IN_IO_LOGICAL    | NUMBER   | Number of switches into the consumer group because of the Resource Manager plan's SWITCH_IO_LOGICAL limit                                                                                                                      |
| SWITCHES_OUT_IO_LOGICAL   | NUMBER   | Number of switches out of the consumer group because of the Resource Manager plan's SWITCH_IO_LOGICAL limit                                                                                                                    |
| SWITCHES_IN_ELAPSED_TIME  | NUMBER   | Number of switches into the consumer group because of the Resource Manager plan's SWITCH_ELAPSED_TIME limit                                                                                                                    |
| SWITCHES_OUT_ELAPSED_TIME | NUMBER   | Number of switches out of the consumer group because of the Resource Manager plan's SWITCH_ELAPSED_TIME limit                                                                                                                  |
| SQL_CANCELED              | NUMBER   | Number of times that SQL queries running in the consumer group were terminated because they exceeded one of the Resource Manager plan's SWITCH limits and CANCEL_SQL was specified as the Resource Manager plan's SWITCH_GROUP |
| ACTIVE_SESS_KILLED        | NUMBER   | Number of times that sessions running in the consumer group were terminated because they exceeded one of the Resource Manager plan's SWITCH limits and KILL_SESSION was specified as the Resource Manager plan's SWITCH_GROUP  |
| IDLE_SESS_KILLED          | NUMBER   | Number of times that sessions in the consumer group were terminated because they were idle for too long (reached MAX_IDLE_TIME)                                                                                                |
| IDLE_BLK_R_SESS_KILLED    | NUMBER   | Number of times that sessions in the consumer group were terminated because they were idle too long (reached MAX_IDLE_BLOCKER_TIME) and were blocking other sessions                                                           |
| QUEUED_TIME               | NUMBER   | Total amount of time that sessions in the consumer group have spent in the QUEUED state because of the active session limit (in milliseconds)                                                                                  |
| QUEUE_TIME_OUTS           | NUMBER   | Number of times that requests from sessions in the consumer group timed out because they were queued for too long (reached QUEUEING_P1)                                                                                        |
| IO_SERVICE_TIME           | NUMBER   | Cumulative I/O wait time (in milliseconds)                                                                                                                                                                                     |
| IO_SERVICE_WAITS          | NUMBER   | Total number of wait requests                                                                                                                                                                                                  |
| SMALL_READ_MEGABYTES      | NUMBER   | Number of single block megabytes read                                                                                                                                                                                          |
| SMALL_WRITE_MEGABYTES     | NUMBER   | Number of single block megabytes written                                                                                                                                                                                       |
| LARGE_READ_MEGABYTES      | NUMBER   | Number of multiblock megabytes read                                                                                                                                                                                            |
| LARGE_WRITE_MEGABYTES     | NUMBER   | Number of multiblock megabytes written                                                                                                                                                                                         |
| SMALL_READ_REQUESTS       | NUMBER   | Number of single block read requests                                                                                                                                                                                           |
| SMALL_WRITE_REQUESTS      | NUMBER   | Number of single block write requests                                                                                                                                                                                          |
| LARGE_READ_REQUESTS       | NUMBER   | Number of multiblock read requests                                                                                                                                                                                             |
| LARGE_WRITE_REQUESTS      | NUMBER   | Number of multiblock write requests                                                                                                                                                                                            |
| PQS_COMPLETED             | NUMBER   | Total number of completed parallel statements in the consumer group                                                                                                                                                            |
| PQ_SERVERS_USED           | NUMBER   | Total number of parallel servers used by completed parallel statements in the consumer group                                                                                                                                   |
| PQS_QUEUED                | NUMBER   | Number of times that sessions in the consumer group were queued when trying to run parallel statements                                                                                                                         |
| PQ_ACTIVE_TIME            | NUMBER   | Cumulative sum of the parallel active times for all completed parallel statements in the consumer group (in milliseconds)                                                                                                      |

| Column                    | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PQ_QUEUED_TIME            | NUMBER   | Total amount of time that sessions in the consumer group were queued when trying to run parallel statements (in milliseconds)                                                                                                                                                                                                                                                                                                                     |
| PQ_QUEUE_TIME_OUTS        | NUMBER   | Number of times that parallel statements from sessions in the consumer group timed out because their queue time exceeded the Resource Manager plan's <code>PARALLEL_QUEUE_TIMEOUT</code> limit                                                                                                                                                                                                                                                    |
| PGA_LIMIT_SESSIONS_KILLED | NUMBER   | Number of times that sessions in the consumer group were terminated because their untunable PGA usage exceeded the <code>SESSION_PGA_LIMIT</code> limit                                                                                                                                                                                                                                                                                           |
| CON_ID                    | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

 **See Also:**

- "V\$RSRC\_PDB\_HISTORY"
- "V\$RSRC\_PLAN\_HISTORY"
- "STATISTICS\_LEVEL"

## 9.195 V\$RSRC\_CONSUMER\_GROUP

V\$RSRC\_CONSUMER\_GROUP displays data related to currently active resource consumer groups.

When the `STATISTICS_LEVEL` is set to `TYPICAL` or `ALL`, this view contains information about CPU utilization and wait times even when no Resource Manager plan is set or when the Resource Manager plan does not monitor CPU or session resources.

Statistics in V\$RSRC\_CONSUMER\_GROUP are reset when a pluggable database (PDB) changes its resource plan. They are not impacted by multitenant container database (CDB) resource plan changes.

Since PDB plans can be set independently across different PDBs, V\$RSRC\_CONSUMER\_GROUP will not cover the same time period across different PDBs. Therefore, this view is not useful for comparing statistics across different PDBs.

| Column            | Datatype      | Description                                                                                                   |
|-------------------|---------------|---------------------------------------------------------------------------------------------------------------|
| ID                | NUMBER        | Consumer group object ID (a unique number, consistent across database shutdowns and startups)                 |
| NAME              | VARCHAR2 (32) | Name of the consumer group                                                                                    |
| ACTIVE_SESSIONS   | NUMBER        | Number of currently active sessions in the consumer group                                                     |
| EXECUTION_WAITERS | NUMBER        | Number of currently active sessions waiting for an execution time slice in which they will be able to use CPU |

| Column                    | Datatype | Description                                                                                                                                                                                                                                                                                                                 |
|---------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REQUESTS                  | NUMBER   | Cumulative number of requests that were executed in the consumer group                                                                                                                                                                                                                                                      |
| CPU_WAIT_TIME             | NUMBER   | Cumulative amount of time that sessions waited for CPU on the resmgr: cpu quantum wait event because of resource management (in milliseconds). This does not include waits due to latch or enqueue contention, I/O waits, and so on. When CPU resources are not being actively managed, this value is set to zero.          |
| CPU_WAITS                 | NUMBER   | Cumulative number of times all sessions in the consumer group had to wait for CPU on the resmgr: cpu quantum wait event because of resource management. This does not include waits due to latch or enqueue contention, I/O waits, and so on. When CPU resources are not being actively managed, this value is set to zero. |
| CONSUMED_CPU_TIME         | NUMBER   | Cumulative amount of CPU time consumed by all sessions in the consumer group (in milliseconds)                                                                                                                                                                                                                              |
| YIELDS                    | NUMBER   | Cumulative number of times that sessions in the consumer group had to yield CPU to other sessions because of quantum expiration. When CPU resources are not being actively managed, this value is set to zero.                                                                                                              |
| CPU_DECISIONS             | NUMBER   | Percentage of CPU decisions for which the consumer group was present. When CPU resources are not being actively managed, this value is set to zero.                                                                                                                                                                         |
| CPU_DECISIONS_EXCLUSIVE   | NUMBER   | Percentage of the CPU decisions for which the consumer group was present and was the only consumer group present. When CPU resources are not being actively managed, this value is set to zero.                                                                                                                             |
| CPU_DECISIONS_WON         | NUMBER   | Percentage of the CPU decisions that the consumer group won. When CPU resources are not being actively managed, this value is set to zero.                                                                                                                                                                                  |
| QUEUE_LENGTH              | NUMBER   | Number of sessions waiting in the queue                                                                                                                                                                                                                                                                                     |
| CURRENT_UNDO_CONSUMPTION  | NUMBER   | Current amount (in KB) of undo consumed by the consumer group                                                                                                                                                                                                                                                               |
| ACTIVE_SESSION_LIMIT_HIT  | NUMBER   | Number of times that sessions in the consumer group were queued because the consumer group reached its active session limit                                                                                                                                                                                                 |
| UNDO_LIMIT_HIT            | NUMBER   | Number of times that queries in the consumer group were canceled because the consumer group reached its UNDO_POOL limit                                                                                                                                                                                                     |
| SWITCHES_IN_CPU_TIME      | NUMBER   | Number of switches into the consumer group because of the Resource Manager plan's SWITCH_TIME limit                                                                                                                                                                                                                         |
| SWITCHES_OUT_CPU_TIME     | NUMBER   | Number of switches out of the consumer group because of the Resource Manager plan's SWITCH_TIME limit                                                                                                                                                                                                                       |
| SWITCHES_IN_IO_MEGABYTES  | NUMBER   | Number of switches into the consumer group because of the Resource Manager plan's SWITCH_IO_MEGABYTES limit                                                                                                                                                                                                                 |
| SWITCHES_OUT_IO_MEGABYTES | NUMBER   | Number of switches out of the consumer group because of the Resource Manager plan's SWITCH_IO_MEGABYTES limit                                                                                                                                                                                                               |
| SWITCHES_IN_IO_REQUESTS   | NUMBER   | Number of switches into the consumer group because of the Resource Manager plan's SWITCH_IO_REQS limit                                                                                                                                                                                                                      |
| SWITCHES_OUT_IO_REQUESTS  | NUMBER   | Number of switches out of the consumer group because of the Resource Manager plan's SWITCH_IO_REQS limit                                                                                                                                                                                                                    |
| SWITCHES_IN_IO_LOGICAL    | NUMBER   | Number of switches into the consumer group because of the Resource Manager plan's SWITCH_IO_LOGICAL limit                                                                                                                                                                                                                   |
| SWITCHES_OUT_IO_LOGICAL   | NUMBER   | Number of switches out of the consumer group because of the Resource Manager plan's SWITCH_IO_LOGICAL limit                                                                                                                                                                                                                 |

| Column                    | Datatype | Description                                                                                                                                                                                                                    |
|---------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SWITCHES_IN_ELAPSED_TIME  | NUMBER   | Number of switches into the consumer group because of the Resource Manager plan's SWITCH_ELAPSED_TIME limit                                                                                                                    |
| SWITCHES_OUT_ELAPSED_TIME | NUMBER   | Number of switches out of the consumer group because of the Resource Manager plan's SWITCH_ELAPSED_TIME limit                                                                                                                  |
| SQL_CANCELED              | NUMBER   | Number of times that SQL queries running in the consumer group were terminated because they exceeded one of the Resource Manager plan's SWITCH limits and CANCEL_SQL was specified as the Resource Manager plan's SWITCH_GROUP |
| ACTIVE_SESSIONS_KILLED    | NUMBER   | Number of times that sessions running in the consumer group were terminated because they exceeded one of the Resource Manager plan's SWITCH limits and KILL_SESSION was specified as the Resource Manager plan's SWITCH_GROUP  |
| IDLE_SESSIONS_KILLED      | NUMBER   | Number of times that sessions in the consumer group were terminated because they were idle for too long (reached MAX_IDLE_TIME)                                                                                                |
| IDLE_BLK_SESSIONS_KILLED  | NUMBER   | Number of times that sessions in the consumer group were terminated because they were idle too long (reached MAX_IDLE_BLOCKER_TIME) and were blocking other sessions                                                           |
| QUEUED_TIME               | NUMBER   | Total amount of time that sessions in the consumer group have spent in the QUEUED state because of the active session limit (in milliseconds)                                                                                  |
| QUEUE_TIME_OUTS           | NUMBER   | Number of times that requests from sessions in the consumer group timed out because they were queued for too long (reached QUEUING_P1)                                                                                         |
| IO_SERVICE_TIME           | NUMBER   | Cumulative I/O wait time (in milliseconds)                                                                                                                                                                                     |
| IO_SERVICE_WAITS          | NUMBER   | Total number of wait requests                                                                                                                                                                                                  |
| SMALL_READ_MEGABYTES      | NUMBER   | Number of single block megabytes read                                                                                                                                                                                          |
| SMALL_WRITE_MEGABYTES     | NUMBER   | Number of single block megabytes written                                                                                                                                                                                       |
| LARGE_READ_MEGABYTES      | NUMBER   | Number of multiblock megabytes read                                                                                                                                                                                            |
| LARGE_WRITE_MEGABYTES     | NUMBER   | Number of multiblock megabytes written                                                                                                                                                                                         |
| SMALL_READ_REQUESTS       | NUMBER   | Number of single block read requests                                                                                                                                                                                           |
| SMALL_WRITE_REQUESTS      | NUMBER   | Number of single block write requests                                                                                                                                                                                          |
| LARGE_READ_REQUESTS       | NUMBER   | Number of multiblock read requests                                                                                                                                                                                             |
| LARGE_WRITE_REQUESTS      | NUMBER   | Number of multiblock write requests                                                                                                                                                                                            |
| CURRENT_PQS_ACTIVE        | NUMBER   | Number of active parallel statements in the consumer group. This value does not include parallel statements that are never queued, such as GV\$ queries.                                                                       |
| CURRENT_PQ_SERVERS_ACTIVE | NUMBER   | Number of active parallel servers in the consumer group. This value does not include servers running parallel statements that are never queued, such as GV\$ queries.                                                          |
| PQS_QUEUED                | NUMBER   | Number of times that sessions in the consumer group were queued when trying to run parallel statements                                                                                                                         |
| PQS_COMPLETED             | NUMBER   | Total number of completed parallel statements in the consumer group                                                                                                                                                            |
| PQ_SERVERS_USED           | NUMBER   | Total number of parallel servers used by completed parallel statements in the consumer group                                                                                                                                   |
| PQ_ACTIVE_TIME            | NUMBER   | Cumulative sum of the parallel active times for all completed parallel statements in the consumer group (in milliseconds)                                                                                                      |
| CURRENT_PQS_QUEUED        | NUMBER   | Number of sessions in the consumer group that are waiting in the parallel statement queue trying to run parallel statements                                                                                                    |

| Column                    | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PQ_QUEUED_TIME            | NUMBER   | Total amount of time that sessions in the consumer group were queued when trying to run parallel statements (in milliseconds)                                                                                                                                                                                                                                                                                                                     |
| PQ_QUEUE_TIME_OUTS        | NUMBER   | Number of times that parallel statements from sessions in the consumer group timed out because their queue time exceeded the Resource Manager plan's <code>PARALLEL_QUEUE_TIMEOUT</code> limit                                                                                                                                                                                                                                                    |
| PGA_LIMIT_SESSIONS_KILLED | NUMBER   | Number of times that sessions in the consumer group were terminated because their untunable PGA usage exceeded the <code>SESSION_PGA_LIMIT</code> limit                                                                                                                                                                                                                                                                                           |
| CON_ID                    | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

- ["STATISTICS\\_LEVEL"](#)
- ["V\\$RSRC\\_PDB"](#)
- *Oracle Database Administrator's Guide* for information on resource groups
- *Oracle Database PL/SQL Packages and Types Reference* for information on creating resource groups with the `DBMS_RESOURCE_MANAGER` package

## 9.196 V\$RSRC\_CONSUMER\_GROUP\_CPU\_MTH

V\$RSRC\_CONSUMER\_GROUP\_CPU\_MTH displays all resource allocation methods defined for resource consumer groups.

| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME   | VARCHAR2 (40) | Name of the CPU resource allocation method                                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



 **See Also:**

- *Oracle Database Administrator's Guide* for information on resource allocation methods
- *Oracle Database PL/SQL Packages and Types Reference* on defining resource allocation methods for consumer groups with the `DBMS_RESOURCE_MANAGER` package
- "[V\\$RSRC\\_PLAN\\_CPU\\_MTH](#)" for a listing of all resource allocation methods defined for resource plans

## 9.197 V\$RSRC\_PDB

`V$RSRC_PDB` displays data related to currently active resource consumer groups by pluggable database (PDB).

When the `STATISTICS_LEVEL` is set to `TYPICAL` or `ALL`, this view contains information about CPU utilization and wait times even when no Resource Manager plan is set or when the Resource Manager plan does not monitor CPU or session resources.

Statistics in `V$RSRC_PDB` are reset when a multitenant container database (CDB) changes its resource plan. They are not impacted by PDB resource plan changes.

`V$RSRC_PDB` covers the same time period for all PDBs. This view is specifically designed for comparing statistics across different PDBs.

Since `V$RSRC_PDB` does not contain information at the consumer group level, it is not useful for comparing consumer groups inside a PDB.

| Column                             | Datatype                   | Description                                                                                                                                                                                                                                                                           |
|------------------------------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>PDB_NAME</code>              | <code>VARCHAR2 (32)</code> | PDB name                                                                                                                                                                                                                                                                              |
| <code>CPU_WAIT_TIME</code>         | <code>NUMBER</code>        | Cumulative amount of time that sessions waited for CPU because of resource management. This does not include waits due to latch or enqueue contention, I/O waits, and so on. When CPU resources are not being actively managed, this value is set to zero.                            |
| <code>CPU_WAITS</code>             | <code>NUMBER</code>        | Cumulative number of times all sessions in the consumer group had to wait for CPU because of resource management. This does not include waits due to latch or enqueue contention, I/O waits, and so on. When CPU resources are not being actively managed, this value is set to zero. |
| <code>CONSUMED_CPU_TIME</code>     | <code>NUMBER</code>        | Cumulative amount of CPU time consumed by all sessions in the consumer group (in milliseconds)                                                                                                                                                                                        |
| <code>YIELDS</code>                | <code>NUMBER</code>        | Cumulative number of times that sessions in the consumer group had to yield CPU to other sessions because of quantum expiration. When CPU resources are not being actively managed, this value is set to zero.                                                                        |
| <code>IO_SERVICE_TIME</code>       | <code>NUMBER</code>        | Cumulative I/O wait time (in milliseconds)                                                                                                                                                                                                                                            |
| <code>IO_SERVICE_WAITS</code>      | <code>NUMBER</code>        | Total number of wait requests                                                                                                                                                                                                                                                         |
| <code>SMALL_READ_MEGABYTES</code>  | <code>NUMBER</code>        | Number of single block megabytes read                                                                                                                                                                                                                                                 |
| <code>SMALL_WRITE_MEGABYTES</code> | <code>NUMBER</code>        | Number of single block megabytes written                                                                                                                                                                                                                                              |
| <code>LARGE_READ_MEGABYTES</code>  | <code>NUMBER</code>        | Number of multiblock megabytes read                                                                                                                                                                                                                                                   |



| Column                    | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LARGE_WRITE_MEGABYTES     | NUMBER   | Number of multiblock megabytes written                                                                                                                                                                                                                                                                                                                                                                                                          |
| SMALL_READ_REQUESTS       | NUMBER   | Number of single block read requests                                                                                                                                                                                                                                                                                                                                                                                                            |
| SMALL_WRITE_REQUESTS      | NUMBER   | Number of single block write requests                                                                                                                                                                                                                                                                                                                                                                                                           |
| LARGE_READ_REQUESTS       | NUMBER   | Number of multiblock read requests                                                                                                                                                                                                                                                                                                                                                                                                              |
| LARGE_WRITE_REQUESTS      | NUMBER   | Number of multiblock write requests                                                                                                                                                                                                                                                                                                                                                                                                             |
| PQS_COMPLETED             | NUMBER   | Total number of completed parallel statements in the consumer group                                                                                                                                                                                                                                                                                                                                                                             |
| PQ_SERVERS_USED           | NUMBER   | Total number of parallel servers used by completed parallel statements in the consumer group                                                                                                                                                                                                                                                                                                                                                    |
| PQS_QUEUED                | NUMBER   | Number of times that sessions in the consumer group were queued when trying to run parallel statements                                                                                                                                                                                                                                                                                                                                          |
| PQ_ACTIVE_TIME            | NUMBER   | Cumulative sum of the parallel active times for all completed parallel statements in the consumer group (in milliseconds)                                                                                                                                                                                                                                                                                                                       |
| PQ_QUEUED_TIME            | NUMBER   | Total amount of time that sessions in the consumer group were queued when trying to run parallel statements (in milliseconds)                                                                                                                                                                                                                                                                                                                   |
| PQ_QUEUE_TIME_OUTS        | NUMBER   | Number of times that parallel statements from sessions in the consumer group timed out because their queue time exceeded the Resource Manager plan's PARALLEL_QUEUE_TIMEOUT limit                                                                                                                                                                                                                                                               |
| CURRENT_PQS_ACTIVE        | NUMBER   | Number of active parallel statements in the consumer group. This value does not include parallel statements that are never queued, such as GV\$ queries.                                                                                                                                                                                                                                                                                        |
| CURRENT_PQ_SERVERS_ACTIVE | NUMBER   | Number of active parallel servers in the consumer group. This value does not include servers running parallel statements that are never queued, such as GV\$ queries.                                                                                                                                                                                                                                                                           |
| CURRENT_PQS_QUEUED        | NUMBER   | Number of sessions in the consumer group that are waiting in the parallel statement queue trying to run parallel statements                                                                                                                                                                                                                                                                                                                     |
| SGA_BYTES                 | NUMBER   | The current SGA usage by this PDB in bytes                                                                                                                                                                                                                                                                                                                                                                                                      |
| BUFFER_CACHE_BYTES        | NUMBER   | The current usage of buffer cache by this PDB in bytes                                                                                                                                                                                                                                                                                                                                                                                          |
| SHARED_POOL_BYTES         | NUMBER   | The current usage of shared pool by this PDB in bytes                                                                                                                                                                                                                                                                                                                                                                                           |
| PGA_BYTES                 | NUMBER   | The current usage of PGA by this PDB in bytes                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID                    | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

"V\$RSRC\_CONSUMER\_GROUP"

## 9.198 V\$RSRC\_PDB\_HISTORY

V\$RSRC\_PDB\_HISTORY displays a history of consumer group statistics for each entry in V\$RSRC\_PDB that has a non-NULL plan by pluggable database (PDB).

When the STATISTICS\_LEVEL is set to TYPICAL or ALL, this view contains information about CPU utilization and wait times even when no Resource Manager plan is set or when the Resource Manager plan does not monitor CPU or session resources.

A new window is created in V\$RSRC\_PDB\_HISTORY when a multitenant container database (CDB) changes its resource plan. The plan windows for the CDB are not impacted by a PDB resource plan change.

V\$RSRC\_PDB\_HISTORY covers the same time period for all PDBs. This view is specifically designed for comparing statistics across different PDBs.

Since V\$RSRC\_PDB\_HISTORY does not contain information at the consumer group level, it is not useful for comparing consumer groups inside a PDB.

| Column                | Datatype      | Description                                                                                                                                                                                                                                                                           |
|-----------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SEQUENCE#             | NUMBER        | A sequential counter that uniquely describes the V\$RSRC_PDB entry to which these consumer group statistics apply. When the instance is restarted, this value is reset to zero.                                                                                                       |
| PDB_NAME              | VARCHAR2 (32) | PBD name                                                                                                                                                                                                                                                                              |
| CPU_WAIT_TIME         | NUMBER        | Cumulative amount of time that sessions waited for CPU because of resource management. This does not include waits due to latch or enqueue contention, I/O waits, and so on. When CPU resources are not being actively managed, this value is set to zero.                            |
| CPU_WAITS             | NUMBER        | Cumulative number of times all sessions in the consumer group had to wait for CPU because of resource management. This does not include waits due to latch or enqueue contention, I/O waits, and so on. When CPU resources are not being actively managed, this value is set to zero. |
| CONSUMED_CPU_TIME     | NUMBER        | Cumulative amount of CPU time consumed by all sessions in the consumer group (in milliseconds)                                                                                                                                                                                        |
| YIELDS                | NUMBER        | Cumulative number of times that sessions in the consumer group had to yield CPU to other sessions because of quantum expiration. When CPU resources are not being actively managed, this value is set to zero.                                                                        |
| IO_SERVICE_TIME       | NUMBER        | Cumulative I/O wait time (in milliseconds)                                                                                                                                                                                                                                            |
| IO_SERVICE_WAITS      | NUMBER        | Total number of wait requests                                                                                                                                                                                                                                                         |
| SMALL_READ_MEGABYTES  | NUMBER        | Number of single block megabytes read                                                                                                                                                                                                                                                 |
| SMALL_WRITE_MEGABYTES | NUMBER        | Number of single block megabytes written                                                                                                                                                                                                                                              |
| LARGE_READ_MEGABYTES  | NUMBER        | Number of multiblock megabytes read                                                                                                                                                                                                                                                   |
| LARGE_WRITE_MEGABYTES | NUMBER        | Number of multiblock megabytes written                                                                                                                                                                                                                                                |
| SMALL_READ_REQUESTS   | NUMBER        | Number of single block read requests                                                                                                                                                                                                                                                  |
| SMALL_WRITE_REQUESTS  | NUMBER        | Number of single block write requests                                                                                                                                                                                                                                                 |
| LARGE_READ_REQUESTS   | NUMBER        | Number of multiblock read requests                                                                                                                                                                                                                                                    |
| LARGE_WRITE_REQUESTS  | NUMBER        | Number of multiblock write requests                                                                                                                                                                                                                                                   |
| PQS_COMPLETED         | NUMBER        | Total number of completed parallel statements in the consumer group                                                                                                                                                                                                                   |

| Column             | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PQ_SERVERS_USED    | NUMBER   | Total number of parallel servers used by completed parallel statements in the consumer group                                                                                                                                                                                                                                                                                                                                                    |
| PQS_QUEUED         | NUMBER   | Number of times that sessions in the consumer group were queued when trying to run parallel statements                                                                                                                                                                                                                                                                                                                                          |
| PQ_ACTIVE_TIME     | NUMBER   | Cumulative sum of the parallel active times for all completed parallel statements in the consumer group (in milliseconds)                                                                                                                                                                                                                                                                                                                       |
| PQ_QUEUED_TIME     | NUMBER   | Total amount of time that sessions in the consumer group were queued when trying to run parallel statements (in milliseconds)                                                                                                                                                                                                                                                                                                                   |
| PQ_QUEUE_TIME_OUTS | NUMBER   | Number of times that parallel statements from sessions in the consumer group timed out because their queue time exceeded the Resource Manager plan's PARALLEL_QUEUE_TIMEOUT limit                                                                                                                                                                                                                                                               |
| CON_ID             | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$RSRC\_CONS\_GROUP\_HISTORY"

## 9.199 V\$RSRC\_PLAN

V\$RSRC\_PLAN displays the names of all currently active resource plans.

| Column      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ID          | NUMBER        | Resource plan ID (a unique number, consistent across database shutdowns and startups). This is also the data dictionary object ID.                                                                                                                                                                                                                                                                                                                                 |
| NAME        | VARCHAR2 (32) | Name of the resource plan                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| IS_TOP_PLAN | VARCHAR2 (5)  | Indicates whether the resource plan is the current top plan ( <b>TRUE</b> ) or whether the resource plan is a subplan of the current top plan ( <b>FALSE</b> )                                                                                                                                                                                                                                                                                                     |
| CPU_MANAGED | VARCHAR2 (3)  | Indicates whether the resource plan has parameters that specify a policy for how the Resource Manager should schedule sessions to manage CPU usage ( <b>ON</b> ) or whether Resource Manager is not managing CPU usage ( <b>OFF</b> )                                                                                                                                                                                                                              |
| CPU_SCOPE   | VARCHAR2 (13) | Scope of the policy for how the Resource Manager should schedule sessions to manage CPU usage. Possible values: <ul style="list-style-type: none"> <li><b>OFF</b> - Resource Manager is not managing CPU usage (CPU_MANAGED = OFF)</li> <li><b>INSTANCE_ONLY</b> - Resource Manager is managing CPU usage only within the database instance</li> <li><b>SERVER_WIDE</b> - Resource Manager is using server-level inter-instance CPU resource management</li> </ul> |

| Column                     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INSTANCE_CAGING            | VARCHAR2 (3)  | Indicates whether instance caging is enabled (ON) or disabled (OFF). Instance caging is enabled if the CPU_COUNT initialization parameter is explicitly modified to a value other than 0 and Resource Manager is enabled.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PARALLEL_SERVERS_ACTIVE    | NUMBER        | Total number of active parallel servers on the instance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PARALLEL_SERVERS_TOTAL     | NUMBER        | The value of PARALLEL_SERVERS_TARGET for the instance. Parallel statements are queued if the total number of active parallel servers exceeds this value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PARALLEL_EXECUTION_MANAGED | VARCHAR2 (32) | <p>State of parallel statement queuing:</p> <ul style="list-style-type: none"> <li>• OFF - Parallel statement queuing is disabled</li> <li>• STARTUP - Parallel statement queuing is enabled. This is a temporary state that can occur when an Oracle RAC database is undergoing configuration changes</li> <li>• FIFO - Parallel statement queuing is enabled. All parallel statements are managed in a single Oracle RAC FIFO queue</li> <li>• FULL - Parallel statement queuing is enabled. All parallel statements are managed in per-consumer group queues according to the current resource plan. This state is used when a resource plan that contains resource allocation directives (MGMT_P*) is enabled.</li> <li>• DISABLED - Parallel statement queuing is disabled. This state can occur when memory is unavailable for use by parallel statement queuing in the System Global Area (SGA). Restart the Oracle instance to re-enable parallel statement queuing.</li> </ul> <p>For an Oracle RAC database, only the instance running as primary Database Resource Manager (DBRM) shows the correct state of parallel statement queuing. All other instances default to the value FULL. A single instance database always shows the correct value for this field.</p> |
| CON_ID                     | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• n: Where n is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| DIRECTIVE_TYPE             | VARCHAR2 (32) | <p>The type of directive used by this PDB:</p> <ul style="list-style-type: none"> <li>• DEFAULT_DIRECTIVE: The default plan directive</li> <li>• PDB: A PDB directive</li> <li>• PROFILE: A profile directive</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SHARES                     | NUMBER        | Resource allocation for this PDB, expressed in shares                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| UTILIZATION_LIMIT          | NUMBER        | Maximum percentage of the container's resources allowed for this PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| PARALLEL_SERVER_LIMIT      | NUMBER        | Maximum percentage of the parallel target the PDB can use before queuing subsequent parallel queries                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| MEMORY_MIN                 | NUMBER        | <p>The percentage of Exadata Smart Flash Cache and Exadata PMEM cache that is guaranteed to the PDB</p> <p>This percentage is based on the total amount of space allocated to the CDB for Exadata Smart Flash Cache and Exadata PMEM cache.</p> <p>See <i>Oracle Exadata System Software User's Guide</i> for more information.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Column        | Datatype      | Description                                                                                                                                                                                                                                                                                                                 |
|---------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MEMORY_LIMIT  | NUMBER        | The maximum percentage of Exadata Smart Flash Cache and Exadata PMEM cache that the PDB can use<br><br>This percentage is based on the total amount of space allocated to the CDB for Exadata Smart Flash Cache and Exadata PMEM cache.<br><br>See <i>Oracle Exadata System Software User's Guide</i> for more information. |
| PROFILE       | VARCHAR2 (32) | The value of the DB_PERFORMANCE_PROFILE initialization parameter for this PDB                                                                                                                                                                                                                                               |
| CPU_COUNT     | NUMBER        | Value of the CPU_COUNT initialization parameter in the container to which the data pertains                                                                                                                                                                                                                                 |
| CPU_MIN_COUNT | NUMBER        | Value of the CPU_MIN_COUNT initialization parameter in the container to which the data pertains                                                                                                                                                                                                                             |

The resource plan with CON\_ID=ROOT is the CDB resource plan.



#### See Also:

- ["DBA\\_RSRC\\_PLANS"](#) for a listing of all plans in the database
- ["DBA\\_CDB\\_RSRC\\_PLANS"](#) for information about CDB resource plans
- ["DBA\\_CDB\\_RSRC\\_PLAN\\_DIRECTIVES"](#) for information about CDB resource plan directives
- ["DB\\_PERFORMANCE\\_PROFILE"](#)
- *Oracle Database Administrator's Guide* for information on resource plans
- *Oracle Database PL/SQL Packages and Types Reference* for information on defining resource allocation methods for consumer groups with the DBMS\_RESOURCE\_MANAGER package

## 9.200 V\$RSRC\_PLAN\_CPU\_MTH

V\$RSRC\_PLAN\_CPU\_MTH displays all available CPU resource allocation methods defined for resource plans.

| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME   | VARCHAR2 (40) | Name of the resource allocation method                                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

 **See Also:**

- "[V\\$RSRC\\_CONSUMER\\_GROUP\\_CPU\\_MTH](#)" for a listing of resource allocation methods defined for consumer groups
- *Oracle Database Administrator's Guide* for information on resource plans
- *Oracle Database PL/SQL Packages and Types Reference* for information on defining resource allocation methods for consumer plans with the `DBMS_RESOURCE_MANAGER` package

## 9.201 V\$RSRC\_PLAN\_HISTORY

`V$RSRC_PLAN_HISTORY` displays a history of when a resource plan was enabled, disabled, or modified on the instance. Up to 15 of the most recent entries are shown. Once the database is opened, this view shows at least one row. The row with the most recent `START_TIME` and with `END_TIME` equal to `NULL` gives information about the current resource plan.

| Column                     | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SEQUENCE#                  | NUMBER         | A sequential counter that uniquely describes a row. When the instance is restarted, this value is reset to zero.                                                                                                                                                                                                                                                                                                                                                                                        |
| ID                         | NUMBER         | Resource plan ID; <code>NULL</code> if the Resource Manager was disabled                                                                                                                                                                                                                                                                                                                                                                                                                                |
| NAME                       | VARCHAR2 (30)  | Resource plan name; <code>NULL</code> if the Resource Manager was disabled                                                                                                                                                                                                                                                                                                                                                                                                                              |
| START_TIME                 | DATE           | Time that the resource plan was enabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| END_TIME                   | DATE           | Time that the resource plan was disabled; <code>NULL</code> if the row contains the current resource plan information                                                                                                                                                                                                                                                                                                                                                                                   |
| ENABLED_BY_SCHEDULER       | VARCHAR2 (5)   | Indicates whether the plan was enabled by a Job Scheduler window ( <code>TRUE</code> ) or not ( <code>FALSE</code> )                                                                                                                                                                                                                                                                                                                                                                                    |
| WINDOW_NAME                | VARCHAR2 (128) | Job Scheduler window that triggered the resource plan event; <code>NULL</code> if a user triggered the resource plan event                                                                                                                                                                                                                                                                                                                                                                              |
| ALLOWED_AUTOMATED_SWITCHES | VARCHAR2 (5)   | Indicates whether automated plan switches were allowed after this resource plan event ( <code>TRUE</code> ) or whether automated plan switches were disabled after this resource plan event ( <code>FALSE</code> )<br><b>See Also:</b> the <code>SWITCH_PLAN</code> procedure                                                                                                                                                                                                                           |
| CPU_MANAGED                | VARCHAR2 (3)   | Indicates whether the resource plan has parameters that specify a policy for how the Resource Manager should schedule sessions to manage CPU usage ( <code>ON</code> ) or whether Resource Manager is not managing CPU usage ( <code>OFF</code> )                                                                                                                                                                                                                                                       |
| CPU_SCOPE                  | VARCHAR2 (13)  | Scope of the policy for how the Resource Manager should schedule sessions to manage CPU usage. Possible values: <ul style="list-style-type: none"> <li>• <code>OFF</code> - Resource Manager is not managing CPU usage (<code>CPU_MANAGED = OFF</code>)</li> <li>• <code>INSTANCE_ONLY</code> - Resource Manager is managing CPU usage only within the database instance</li> <li>• <code>SERVER_WIDE</code> - Resource Manager is using server-level inter-instance CPU resource management</li> </ul> |
| INSTANCE_CAGING            | VARCHAR2 (3)   | Indicates whether instance caging is enabled ( <code>ON</code> ) or disabled ( <code>OFF</code> ). Instance caging is enabled if the <code>CPU_COUNT</code> initialization parameter is explicitly modified to a value other than 0 and Resource Manager is enabled.                                                                                                                                                                                                                                    |

| Column                     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PARALLEL_EXECUTION_MANAGED | VARCHAR2 (32) | <p>State of parallel statement queuing:</p> <ul style="list-style-type: none"> <li>• OFF - Parallel statement queuing is disabled</li> <li>• STARTUP - Parallel statement queuing is enabled. This is a temporary state that can occur when an Oracle RAC database is undergoing configuration changes</li> <li>• FIFO - Parallel statement queuing is enabled. All parallel statements are managed in a single Oracle RAC FIFO queue</li> <li>• FULL - Parallel statement queuing is enabled. All parallel statements are managed in per-consumer group queues according to the current resource plan. This state is used when a resource plan that contains resource allocation directives (MGMT_P*) is enabled.</li> <li>• DISABLED - Parallel statement queuing is disabled. This state can occur when memory is unavailable for use by parallel statement queuing in the System Global Area (SGA). Restart the Oracle instance to re-enable parallel statement queuing.</li> </ul> <p>For an Oracle RAC database, only the instance running as primary Database Resource Manager (DBRM) shows the correct state of parallel statement queuing. All other instances default to the value FULL. A single instance database always shows the correct value for this field.</p> |
| CPU_COUNT                  | NUMBER        | Value of the CPU_COUNT initialization parameter in the container to which the data pertains                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CPU_MIN_COUNT              | NUMBER        | Value of the CPU_MIN_COUNT initialization parameter in the container to which the data pertains                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID                     | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• n: Where n is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## 9.202 V\$RSRC\_SESSION\_INFO

V\$RSRC\_SESSION\_INFO displays Resource Manager statistics per session.

| Column                    | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID                       | NUMBER        | Session identifier                                                                                                                                                                                                                                                                                                                                                                                                             |
| CURRENT_CONSUMER_GROUP_ID | NUMBER        | Object ID of the consumer group in which the session currently belongs; NULL if the session has not yet logged in                                                                                                                                                                                                                                                                                                              |
| CURRENT_CONSUMER_GROUP    | VARCHAR2 (32) | The name of the consumer group in which the session currently belongs                                                                                                                                                                                                                                                                                                                                                          |
| ORIG_CONSUMER_GROUP_ID    | NUMBER        | <p>Object ID of the consumer group in which the session was placed by the consumer group mappings; NULL if the session has not yet logged in</p> <p>This group may not be the current group because the SWITCH_GROUP directive in the current plan may have changed the session's current group. This group may not equal the MAPPED_CONSUMER_GROUP because the MAPPED_CONSUMER_GROUP may not be part of the current plan.</p> |

| Column                | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAPPING_ATTRIBUTE     | VARCHAR2 (32) | Session attribute that was used to map the session into its original consumer group; NULL if no mapping was used<br><b>See Also:</b> "DBA_RSRC_GROUP_MAPPINGS" for more details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| MAPPED_CONSUMER_GROUP | VARCHAR2 (32) | Consumer group to which the session was originally mapped; NULL if no mapping was used<br>This may not correspond to the original consumer group, because the mapped group may not be part of the current plan.<br><b>See Also:</b> "DBA_RSRC_GROUP_MAPPINGS" for more details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| STATE                 | VARCHAR2 (32) | Current state of the session: <ul style="list-style-type: none"> <li>NOT MANAGED - Session has not logged in or the current Resource Manager plan does not require the session to be managed at this point in time</li> <li>RUNNING - Session is currently running on the CPU</li> <li>WAITING FOR CPU - Session is ready to run. It is waiting for a CPU quantum to run.</li> <li>QUEUED - Session is queued because the active session limit was reached</li> <li>IDLE - Session is idle</li> <li>IDLE BLKR - Session is idle and blocking another session</li> <li>WAITING - Session is currently in a wait<br/><b>See Also:</b> "V\$SESSION_WAIT" for the wait type</li> <li>WAITING_FOR_IO - Session is waiting to submit an I/O request</li> <li>UNBOUND - Session is not bound to any process</li> <li>EXITING - Session is about to terminate</li> </ul> |
| ACTIVE                | VARCHAR2 (5)  | Indicates whether the session is currently active (TRUE) or not (FALSE). This includes when one of the following conditions is true: <ul style="list-style-type: none"> <li>Session is in the top call</li> <li>Session has a transaction in progress</li> <li>Session is using temporary space objects</li> <li>Session holds user enqueues</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CURRENT_IDLE_TIME     | NUMBER        | Number of seconds the session has been idle (in states IDLE or IDLE BLKR) while in this consumer group; NULL if the current Resource Manager plan does not require updating this statistic. This value is reset to zero when the session becomes active.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CURRENT_CPU_WAIT_TIME | NUMBER        | Amount of time (in milliseconds) the session has waited for CPU because of resource management (in state WAIT FOR CPU) while in the current consumer group; NULL if the current Resource Manager plan does not require updating this statistic. This does not include waits due to latch or enqueue contention, I/O waits, and so on. If SWITCH_TIME_IN_CALL is used, then this will be reset at the end of every call.                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CPU_WAIT_TIME         | NUMBER        | Cumulative amount of time (in milliseconds) the session has waited for CPU (in its lifetime) because of resource management. This does not include waits due to latch or enqueue contention, I/O waits, and so on.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CURRENT_CPU_WAITS     | NUMBER        | Number of times the session had to wait for CPU because of resource management while in this consumer group; NULL if the current Resource Manager plan does not require updating this statistic. This does not include waits due to latch or enqueue contention, I/O waits, and so on. If SWITCH_TIME_IN_CALL is used, then this will be reset at the end of every call.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |



| Column                        | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU_WAITS                     | NUMBER   | Cumulative number of times the session had to wait for CPU (in its lifetime) because of resource management. This does not include waits due to latch or enqueue contention, I/O waits, and so on.                                                                                                                                                                                                        |
| CURRENT_CONSUMED_CPU_TIME     | NUMBER   | Amount of CPU time (in milliseconds) consumed by the session while in the current consumer group; NULL if the current Resource Manager plan does not require updating this statistic. If SWITCH_TIME_IN_CALL is used, then this will be reset at the end of every call.                                                                                                                                   |
| CONSUMED_CPU_TIME             | NUMBER   | Cumulative amount of CPU time consumed by the session (in its lifetime) (in milliseconds)                                                                                                                                                                                                                                                                                                                 |
| CURRENT_ACTIVE_TIME           | NUMBER   | Amount of time (in milliseconds) the session has been active while in the current consumer group; NULL if the current Resource Manager plan does not require updating this statistic. Active time is time spent running and waiting while executing a call. It does not include the time a session waited for CPU resources. If SWITCH_TIME_IN_CALL is used, then this is reset at the end of every call. |
| ACTIVE_TIME                   | NUMBER   | Cumulative amount of active time (in milliseconds) consumed by the session (in its lifetime)                                                                                                                                                                                                                                                                                                              |
| CURRENT_QUEUED_TIME           | NUMBER   | Amount of time (in milliseconds) the current request from the session has been queued (in state QUEUED). If the session does not have a request currently queued up, then this number will be zero.                                                                                                                                                                                                       |
| QUEUED_TIME                   | NUMBER   | Total amount of time (in milliseconds) the session has spent in the QUEUED state (in its lifetime)                                                                                                                                                                                                                                                                                                        |
| CURRENT_YIELDS                | NUMBER   | Number of times the session had to yield the CPU to other sessions (due to quantum expiration) while in the current consumer group; NULL if the current Resource Manager plan does not require updating this statistic. If SWITCH_TIME_IN_CALL is used, then this is reset at the end of every call.                                                                                                      |
| YIELDS                        | NUMBER   | Cumulative number of times the session had to yield CPU to other sessions due to quantum expiration (in its lifetime)                                                                                                                                                                                                                                                                                     |
| CURRENT_UNDO_CONSUMPTION      | NUMBER   | Current amount (in KB) of undo consumed by the session; NULL if the current Resource Manager plan does not have an UNDO_POOL directive                                                                                                                                                                                                                                                                    |
| MAX_UNDO_CONSUMPTION          | NUMBER   | Maximum amount of undo consumed (in KB) during the session's lifetime. This value may not be updated because the current Resource Manager plan may not have an UNDO_POOL directive.                                                                                                                                                                                                                       |
| SQL_CANCELED                  | NUMBER   | Number of times SQL queries running in the session were canceled due to exceeding the Resource Manager plan's SWITCH_TIME limit.                                                                                                                                                                                                                                                                          |
| QUEUE_TIME_OUTS               | NUMBER   | Number of times requests from the session timed out because they queued longer than the Resource Manager plan's limit                                                                                                                                                                                                                                                                                     |
| ESTIMATED_EXECUTION_LIMIT_HIT | NUMBER   | Number of times requests from the session were not run because the optimizer's estimated time to execute the query exceeded the MAX_EST_EXEC_TIME limit                                                                                                                                                                                                                                                   |
| CURRENT_IO_SERVICE_TIME       | NUMBER   | Current I/O wait time of the session (in milliseconds) for the current SQL operation                                                                                                                                                                                                                                                                                                                      |
| IO_SERVICE_TIME               | NUMBER   | Cumulative amount of I/O wait time by the session (in its lifetime) (in milliseconds)                                                                                                                                                                                                                                                                                                                     |
| CURRENT_IO_SERVICE_WAITS      | NUMBER   | Current I/O waits by session for the current SQL operation                                                                                                                                                                                                                                                                                                                                                |
| IO_SERVICE_WAITS              | NUMBER   | Cumulative I/O waits by session (in its lifetime)                                                                                                                                                                                                                                                                                                                                                         |
| CURRENT_SMALL_READ_MEGABYTES  | NUMBER   | Number of single block megabytes read by the session for the current SQL operation                                                                                                                                                                                                                                                                                                                        |

| Column                        | Datatype | Description                                                                                                                                                                                                                                                  |
|-------------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SMALL_READ_MEGABYTES          | NUMBER   | Total number of single block megabytes read by the session (in its lifetime)                                                                                                                                                                                 |
| CURRENT_LARGE_READ_MEGABYTES  | NUMBER   | Number of multiblock megabytes read by the session for the current SQL operation                                                                                                                                                                             |
| LARGE_READ_MEGABYTES          | NUMBER   | Total number of multiblock megabytes read by the session (in its lifetime)                                                                                                                                                                                   |
| CURRENT_SMALL_WRITE_MEGABYTES | NUMBER   | Number of single block megabytes written by the session for the current SQL operation                                                                                                                                                                        |
| SMALL_WRITE_MEGABYTES         | NUMBER   | Total number of single block megabytes written by the session (in its lifetime)                                                                                                                                                                              |
| CURRENT_LARGE_WRITE_MEGABYTES | NUMBER   | Number of multiblock megabytes written by the session for the current SQL operation                                                                                                                                                                          |
| LARGE_WRITE_MEGABYTES         | NUMBER   | Total number of multiblock megabytes written by the session (in its lifetime)                                                                                                                                                                                |
| CURRENT_SMALL_READ_REQUESTS   | NUMBER   | Number of single block read requests by the session for the current SQL operation                                                                                                                                                                            |
| SMALL_READ_REQUESTS           | NUMBER   | Total number of single block read requests by the session (in its lifetime)                                                                                                                                                                                  |
| CURRENT_SMALL_WRITE_REQUESTS  | NUMBER   | Number of single block write requests by the session for the current SQL operation                                                                                                                                                                           |
| SMALL_WRITE_REQUESTS          | NUMBER   | Total number of single block write requests by the session (in its lifetime)                                                                                                                                                                                 |
| CURRENT_LARGE_READ_REQUESTS   | NUMBER   | Number of multiblock read requests by the session for the current SQL operation                                                                                                                                                                              |
| LARGE_READ_REQUESTS           | NUMBER   | Total number of multiblock read requests by the session (in its lifetime)                                                                                                                                                                                    |
| CURRENT_LARGE_WRITE_REQUESTS  | NUMBER   | Number of multiblock write requests by the session for the current SQL operation                                                                                                                                                                             |
| LARGE_WRITE_REQUESTS          | NUMBER   | Total number of multiblock write requests by the session (in its lifetime)                                                                                                                                                                                   |
| CURRENT_PQ_ACTIVE_TIME        | NUMBER   | Amount of time that the current active parallel statement has been executing for the current SQL operation, not including the amount of time that the statement has been queued (in milliseconds). If the parallel statement is queued, then the value is 0. |
| PQ_ACTIVE_TIME                | NUMBER   | Cumulative amount of time that parallel statements have been executed over the lifetime of the session (in milliseconds)                                                                                                                                     |
| DOP                           | NUMBER   | Degree of parallelism for the active or queued parallel statement, if there are any in the session                                                                                                                                                           |
| PQ_SERVERS                    | NUMBER   | The number of active parallel servers if the session is active and running the parallel query. If the query is queued, the number of parallel servers that this query is trying to run with is shown.                                                        |
| ESTIMATED_EXECUTION_TIME      | NUMBER   | Estimated execution time for the parallel statement, as estimated by the optimizer (in milliseconds). You can compare this value to <code>CURRENT_PQ_ACTIVE_TIME</code> to estimate how much longer the parallel statement will run.                         |
| CURRENT_PQ_QUEUED_TIME        | NUMBER   | Amount of time that the current parallel statement in the session has been queued (in milliseconds) for the current SQL operation. If the session does not have a queued parallel statement, then the value is 0.                                            |
| PQ_QUEUED_TIME                | NUMBER   | Total amount of time that the session has spent in the <code>PQ_QUEUED</code> state in its lifetime (in milliseconds)                                                                                                                                        |

| Column               | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PQ_QUEUED            | NUMBER        | Number of times that parallel statements in the session have been queued                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PQ_QUEUE_TIME_OUTS   | NUMBER        | Number of times that parallel statements in the session timed out because their queue time exceeded the Resource Manager plan's PARALLEL_QUEUE_TIMEOUT limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PQ_ACTIVE            | VARCHAR2 (5)  | Indicates whether the session is actively running a parallel statement (TRUE) or not (FALSE).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| PQ_STATUS            | VARCHAR2 (44) | <p>The status of the parallel statement running in this session:</p> <ul style="list-style-type: none"> <li>Active: The parallel statement is currently active and running</li> <li>Queued: The parallel statement is queued and is not a possible candidate to be run next</li> <li>Queue head: The parallel statement is queued due to the global systemwide limit and is the next parallel statement to be dequeued and run</li> <li>Queue head - waiting on CG limit: The parallel statement is queued due to the consumer group limit and is the one to be run next from the session's consumer group</li> <li>Queue head - waiting on service availability: The parallel statement is queued since there are not enough parallel servers available for the service this session is running on. This session is the one to be run next from the session's service</li> <li>Queue head - waiting on PDB limit: The parallel statement is queued due to the PDB limit and is the one to be run next from the session's PDB</li> <li>NULL: The session currently does not involve a parallel execution</li> </ul> |
| CURRENT_LOGICAL_IOS  | NUMBER        | Number of logical I/O requests by the session for the current SQL operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LOGICAL_IOS          | NUMBER        | Total number of logical I/O requests in this session's lifetime                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CURRENT_ELAPSED_TIME | NUMBER        | Elapsed time of the session's current SQL operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| ELAPSED_TIME         | NUMBER        | Total elapsed time for all of this session's SQL operations in its lifetime                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LAST_ACTION          | VARCHAR2 (48) | <p>The most recent action that was taken on this SQL operation by Resource Manager. Its value is one of the following:</p> <ul style="list-style-type: none"> <li>CANCEL_SQL</li> <li>KILL_SESSION</li> <li>LOG_ONLY</li> <li>SWITCH TO &lt;CG NAME&gt;</li> </ul> <p>For the last value, &lt;CG NAME&gt; is the name of the consumer group that the SQL operation was switched to. If the Resource Plan has since been changed then &lt;CG NAME&gt; is the ID of the consumer group.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| LAST_ACTION_REASON   | VARCHAR2 (30) | <p>The reason for the most recent action that was taken on this SQL operation by Resource Manager. Its value is one of the following:</p> <ul style="list-style-type: none"> <li>SWITCH_CPU_TIME</li> <li>SWITCH_IO_REQS</li> <li>SWITCH_IO_MBS</li> <li>SWITCH_ELAPSED_TIME</li> <li>SWITCH_IO_LOGICAL</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| LAST_ACTION_TIME     | DATE          | The time of the most recent action that was taken on this SQL operation by Resource Manager                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CURRENT_PGA          | NUMBER        | Amount of PGA memory (in bytes) used by the session for the current SQL operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 9.203 V\$RSRCMGRMETRIC

V\$RSRCMGRMETRIC displays information about resources consumed and wait times per consumer group.

When the STATISTICS\_LEVEL is set to TYPICAL or ALL, this view contains information about CPU utilization and wait times even when no Resource Manager plan is set or when the Resource Manager plan does not monitor CPU or session resources. Metrics are collected and stored every minute when CPU utilization is not being monitored.

| Column                 | Datatype      | Description                                                                                                                                                                                                                                                                     |
|------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BEGIN_TIME             | DATE          | Begin time of the interval                                                                                                                                                                                                                                                      |
| END_TIME               | DATE          | End time of the interval                                                                                                                                                                                                                                                        |
| INTSIZE_CSEC           | NUMBER        | Interval size (in hundredths of a second)                                                                                                                                                                                                                                       |
| SEQUENCE#              | NUMBER        | A sequential counter that uniquely describes the V\$RSRC_PLAN_HISTORY entry to which these consumer group statistics apply. When the instance is restarted, this value is reset to zero.                                                                                        |
| CONSUMER_GROUP_ID      | NUMBER        | Consumer group object ID (a unique number, consistent across database shutdowns and startups)                                                                                                                                                                                   |
| CONSUMER_GROUP_NAME    | VARCHAR2 (30) | Name of the consumer group                                                                                                                                                                                                                                                      |
| CPU_CONSUMED_TIME      | NUMBER        | Cumulative amount of CPU time consumed by all sessions in the consumer group, in milliseconds                                                                                                                                                                                   |
| CPU_WAIT_TIME          | NUMBER        | Cumulative amount of time that sessions waited for CPU because of resource management, in milliseconds. This does not include waits due to latch or enqueue contention, I/O waits, and so on. When CPU resources are not being actively managed, this value is set to zero.     |
| CPU_EXHAUSTED          | NUMBER        | Percentage of time that CPUs are exhausted, out of the total number of checks in the consumer group                                                                                                                                                                             |
| NUM_CPUS               | NUMBER        | Number of CPUs that the Resource Manager is utilizing. If instance caging is enabled, then this column is equal to the value of the CPU_COUNT initialization parameter. If instance caging is not enabled, then this column is equal to the total number of CPUs in the system. |
| RUNNING_SESSIONS_LIMIT | NUMBER        | Maximum number of sessions in the consumer group that can run simultaneously. The value of this column is NUM_CPUS multiplied by the consumer group's MAX_UTILIZATION_LIMIT directive in the current Resource Manager plan.                                                     |
| AVG_RUNNING_SESSIONS   | NUMBER        | Average number of sessions in the consumer group that are currently running                                                                                                                                                                                                     |

| Column                      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AVG_WAITING_SESSIONS        | NUMBER        | Average number of sessions in the consumer group that are waiting for CPU due to resource management. When CPU resources are not being actively managed, this value is set to zero.                                                                                                                                                                                                                                                             |
| CPU_UTILIZATION_LIMIT       | NUMBER        | Maximum percentage of CPU that the consumer group can use at any time, with respect to the total number of CPUs in the system. The value of this column is <code>RUNNING_SESSIONS_LIMIT</code> divided by the number of CPUs in the system. If instance caging is enabled, then this value is derived using the <code>CPU_COUNT</code> initialization parameter.                                                                                |
| AVG_CPU_UTILIZATION         | NUMBER        | Average percentage of CPU consumed by the consumer group, with respect to the total number of CPUs in the system                                                                                                                                                                                                                                                                                                                                |
| CPU_DECISIONS               | NUMBER        | Percentage of CPU decisions for which the consumer group was present. When CPU resources are not being actively managed, this value is set to zero. This column is deprecated.                                                                                                                                                                                                                                                                  |
| CPU_DECISIONS_EXCLUSIVE     | NUMBER        | Percentage of the CPU decisions for which the consumer group was present and was the only consumer group present. When CPU resources are not being actively managed, this value is set to zero. This column is deprecated.                                                                                                                                                                                                                      |
| CPU_DECISIONS_WON           | NUMBER        | Percentage of the CPU decisions that the consumer group won. When CPU resources are not being actively managed, this value is set to zero. This column is deprecated.                                                                                                                                                                                                                                                                           |
| IO_REQUESTS                 | NUMBER        | I/O requests                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| IO_MEGABYTES                | NUMBER        | I/O megabytes                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| AVG_ACTIVE_PARALLEL_STMTS   | NUMBER        | The average number of parallel statements that were running during the 1-minute metric window                                                                                                                                                                                                                                                                                                                                                   |
| AVG_QUEUED_PARALLEL_STMTS   | NUMBER        | The average number of parallel statements that were queued during the 1-minute metric window                                                                                                                                                                                                                                                                                                                                                    |
| AVG_ACTIVE_PARALLEL_SERVERS | NUMBER        | The average number of parallel servers that were actively running as part of a parallel statement during the 1-minute metric window                                                                                                                                                                                                                                                                                                             |
| AVG_QUEUED_PARALLEL_SERVERS | NUMBER        | The average number of parallel servers that were requested by queued parallel statements during the 1-minute metric window                                                                                                                                                                                                                                                                                                                      |
| PARALLEL_SERVERS_LIMIT      | NUMBER        | The number of parallel servers allowed to be used by this consumer group during the 1-minute metric window                                                                                                                                                                                                                                                                                                                                      |
| PLAN_NAME                   | VARCHAR2 (30) | Resource Manager plan name                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CON_ID                      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"[STATISTICS\\_LEVEL](#)"

## 9.204 V\$RSRCMGRMETRIC\_HISTORY

V\$RSRCMGRMETRIC\_HISTORY displays a history (the last one hour) of resource manager metrics, taken from V\$RSRCMGRMETRIC. When a resource plan is set, this history is cleared and restarted. This view provides information about resources consumed and wait times per consumer group. The columns for V\$RSRCMGRMETRIC\_HISTORY are the same as those for V\$RSRCMGRMETRIC.



**See Also:**

"V\$RSRCMGRMETRIC"

## 9.205 V\$SRPCPDBMETRIC

V\$SRPCPDBMETRIC displays information about resources consumed and wait times per PDB.

When the STATISTICS\_LEVEL is set to TYPICAL or ALL, this view contains information about CPU utilization and wait times even when no Resource Manager plan is set or when the Resource Manager plan does not monitor CPU or session resources. Metrics are collected and stored every minute when CPU utilization is not being monitored.

| Column                 | Datatype | Description                                                                                                                                                                                                                                                                     |
|------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BEGIN_TIME             | DATE     | Begin time of the interval                                                                                                                                                                                                                                                      |
| END_TIME               | DATE     | End time of the interval                                                                                                                                                                                                                                                        |
| INTSIZE_CSEC           | NUMBER   | Interval size (in hundredths of a second)                                                                                                                                                                                                                                       |
| SEQUENCE#              | NUMBER   | A sequential counter that uniquely describes the V\$RSRC_PLAN_HISTORY entry to which these PDB statistics apply. When the instance is restarted, this value is reset to zero.                                                                                                   |
| CPU_CONSUMED_TIME      | NUMBER   | Cumulative amount of CPU time consumed by all sessions in the PDB, in milliseconds                                                                                                                                                                                              |
| CPU_WAIT_TIME          | NUMBER   | Cumulative amount of time that sessions waited for CPU because of resource management, in milliseconds. This does not include waits due to latch or enqueue contention, I/O waits, and so on. When CPU resources are not being actively managed, this value is set to zero.     |
| CPU_EXHAUSTED          | NUMBER   | Percentage of time that CPUs are exhausted, out of the total number of checks in the PDB                                                                                                                                                                                        |
| NUM_CPUS               | NUMBER   | Number of CPUs that the Resource Manager is utilizing. If instance caging is enabled, then this column is equal to the value of the CPU_COUNT initialization parameter. If instance caging is not enabled, then this column is equal to the total number of CPUs in the system. |
| RUNNING_SESSIONS_LIMIT | NUMBER   | Maximum number of sessions in the PDB that can run simultaneously. The value of this column is NUM_CPUS multiplied by the PDB's MAX_UTILIZATION_LIMIT directive in the current Resource Manager plan.                                                                           |
| AVG_RUNNING_SESSIONS   | NUMBER   | Average number of sessions in the PDB that are currently running                                                                                                                                                                                                                |
| AVG_WAITING_SESSIONS   | NUMBER   | Average number of sessions in the PDB that are waiting for CPU due to resource management. When CPU resources are not being actively managed, this value is set to zero.                                                                                                        |

| Column                      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU_UTILIZATION_LIMIT       | NUMBER        | Maximum percentage of CPU that the PDB can use at any time, with respect to the total number of CPUs in the system. The value of this column is <code>RUNNING_SESSIONS_LIMIT</code> divided by the number of CPUs in the system. If instance caging is enabled, then this value is derived using the <code>CPU_COUNT</code> initialization parameter.                                                                                                                    |
| AVG_CPU_UTILIZATION         | NUMBER        | Average percentage of CPU consumed by the PDB, with respect to the total number of CPUs in the system                                                                                                                                                                                                                                                                                                                                                                    |
| IOPS                        | NUMBER        | I/O operations per second during the previous minute for this PDB                                                                                                                                                                                                                                                                                                                                                                                                        |
| IOMBPS                      | NUMBER        | I/O megabytes per second during the previous minute for this PDB                                                                                                                                                                                                                                                                                                                                                                                                         |
| IOPS_THROTTLE_EXEMPT        | NUMBER        | Indicates how much of the I/O per second in the current PDB was exempted from throttling.<br><br>For example, if the value in the <code>IOPS</code> column is 20 I/Os and the value in the <code>IOPS_THROTTLE_EXEMPT</code> column is 5 I/Os, then 5 I/Os of the 20 I/Os in that second were exempted from throttling.<br><br>I/O throttling is defined by the <code>MAX_IOPS</code> database initialization parameter.                                                 |
| IOMBPS_THROTTLE_EXEMPT      | NUMBER        | Indicates how many megabytes of I/O executed per second in the current PDB were exempted from throttling.<br><br>For example, if the value in the <code>IOMBPS</code> column is 200 megabytes and the value in the <code>IOMBPS_THROTTLE_EXEMPT</code> column is 50 megabytes, then 50 megabytes of the 200 megabytes were exempt from throttling.<br><br>I/O megabytes per second throttling is defined by the <code>MAX_MBPS</code> database initialization parameter. |
| AVG_IO_THROTTLE             | NUMBER        | Average throttle time per I/O operation in milliseconds during the previous minute for this PDB                                                                                                                                                                                                                                                                                                                                                                          |
| AVG_ACTIVE_PARALLEL_STMTS   | NUMBER        | The average number of parallel statements that were running during the 1-minute metric window                                                                                                                                                                                                                                                                                                                                                                            |
| AVG_QUEUED_PARALLEL_STMTS   | NUMBER        | The average number of parallel statements that were queued during the 1-minute metric window                                                                                                                                                                                                                                                                                                                                                                             |
| AVG_ACTIVE_PARALLEL_SERVERS | NUMBER        | The average number of parallel servers that were actively running as part of a parallel statement during the 1-minute metric window                                                                                                                                                                                                                                                                                                                                      |
| AVG_QUEUED_PARALLEL_SERVERS | NUMBER        | The average number of parallel servers that were requested by queued parallel statements during the 1-minute metric window                                                                                                                                                                                                                                                                                                                                               |
| PARALLEL_SERVERS_LIMIT      | NUMBER        | The number of parallel servers allowed to be used by this PDB during the 1-minute metric window                                                                                                                                                                                                                                                                                                                                                                          |
| SGA_BYTES                   | NUMBER        | The current SGA usage by this PDB in bytes                                                                                                                                                                                                                                                                                                                                                                                                                               |
| BUFFER_CACHE_BYTES          | NUMBER        | The current usage of the buffer cache by this PDB in bytes                                                                                                                                                                                                                                                                                                                                                                                                               |
| SHARED_POOL_BYTES           | NUMBER        | The current usage of the shared pool by this PDB in bytes                                                                                                                                                                                                                                                                                                                                                                                                                |
| PGA_BYTES                   | NUMBER        | The current PGA usage by this PDB in bytes                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PLAN_NAME                   | VARCHAR2 (30) | Resource Manager plan name                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID                      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>:<br/>Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                      |

**See Also:**["STATISTICS\\_LEVEL"](#)

## 9.206 V\$RSRCPDBMETRIC\_HISTORY

V\$RSRCPDBMETRIC\_HISTORY displays a history (the last one hour) of resource manager metrics for a PDB, taken from V\$RSRCPDBMETRIC. When a resource plan is set, this history is cleared and restarted. This view provides information about resources consumed and wait times per consumer group.

The columns for V\$RSRCPDBMETRIC\_HISTORY are the same as those for V\$RSRCPDBMETRIC.

**See Also:**["V\\$RSRCPDBMETRIC"](#)

## 9.207 V\$RULE

V\$RULE displays rule statistics. This view has a row for every rule loaded into shared memory.

| Column                       | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RULE_SET_OBJECT_ID           | NUMBER         | Rule set object ID                                                                                                                                                                                                                                                                                                                                                                                                                              |
| EVALUATION_CONTEXT_OBJECT_ID | NUMBER         | Evaluation context object ID                                                                                                                                                                                                                                                                                                                                                                                                                    |
| RULE_OWNER                   | VARCHAR2 (128) | Owner of the rule                                                                                                                                                                                                                                                                                                                                                                                                                               |
| RULE_NAME                    | VARCHAR2 (128) | Name of the rule                                                                                                                                                                                                                                                                                                                                                                                                                                |
| RULE_CONDITION               | VARCHAR2 (200) | Rule condition                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TRUE_HITS                    | NUMBER         | Number of times the rule evaluated to TRUE                                                                                                                                                                                                                                                                                                                                                                                                      |
| MAYBE_HITS                   | NUMBER         | Number of times the rule evaluated to MAYBE                                                                                                                                                                                                                                                                                                                                                                                                     |
| SQL_EVALUATIONS              | NUMBER         | Number of evaluations of the rule that were performed by issuing SQL                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID                       | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



## 9.208 V\$RULE\_SET

V\$RULE\_SET displays rule set statistics. This view has a row for every rule set loaded into shared memory.



### Note:

Querying the V\$RULE\_SET view may have a negative impact on performance if a database has a large library cache.

| Column                         | Datatype       | Description                                                                                                                                                                                           |
|--------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER                          | VARCHAR2 (128) | Owner of the rule set                                                                                                                                                                                 |
| NAME                           | VARCHAR2 (128) | Name of the rule set                                                                                                                                                                                  |
| CPU_TIME                       | NUMBER         | Total CPU time (in hundredths of a second) spent in evaluation of the rule set                                                                                                                        |
| ELAPSED_TIME                   | NUMBER         | Total elapsed time (in hundredths of a second) spent in evaluation of the rule set                                                                                                                    |
| FIRST_LOAD_TIME                | DATE           | First time the current cached copy of the rule set was loaded                                                                                                                                         |
| LAST_LOAD_TIME                 | DATE           | Last time the current cached copy of the rule set was loaded                                                                                                                                          |
| LAST_LOADING_TIME              | NUMBER         | Total elapsed time (in hundredths of a second) spent to load the rule set the last time it was loaded                                                                                                 |
| SHARABLE_MEM                   | NUMBER         | Shared memory (in bytes) used by the rule set                                                                                                                                                         |
| RELOADS                        | NUMBER         | Number of times the rule set object was reloaded in shared memory                                                                                                                                     |
| INVALIDATIONS                  | NUMBER         | Number of times the rule set object was invalidated                                                                                                                                                   |
| EVALUATIONS                    | NUMBER         | Number of evaluations on the rule set                                                                                                                                                                 |
| FIRST_HIT_EVALUATIONS          | NUMBER         | Number of evaluations on the rule set, with stop_on_first_hit set to TRUE                                                                                                                             |
| SIMPLE_RULES_ONLY_EVALUATIONS  | NUMBER         | Number of evaluations on the rule set, with simple_rules_only set to TRUE                                                                                                                             |
| SQL_FREE_EVALUATIONS           | NUMBER         | Number of evaluations on the rule set which did not internally issue SQL to evaluate rules                                                                                                            |
| SQL_EXECUTIONS                 | NUMBER         | Total number of SQL statements executed during evaluation of the rule set                                                                                                                             |
| CONDITIONS_PROCESSED           | NUMBER         | Total number of fast (indexed) conditions processed during evaluation of the rule set                                                                                                                 |
| TRUE_RULES                     | NUMBER         | Total number of TRUE rules returned during evaluation of the rule set                                                                                                                                 |
| MAYBE_RULES                    | NUMBER         | Total number of MAYBE rules returned during evaluation of the rule set                                                                                                                                |
| VARIABLE_VALUE_FUNCTION_CALLS  | NUMBER         | Total number of calls made to user-defined functions to retrieve variable values (specified by the variable_value_function field in RE\$VARIABLE_TYPE) made during evaluation of the rule set         |
| VARIABLE_METHOD_FUNCTION_CALLS | NUMBER         | Total number of calls made to user-defined functions to retrieve variable method values (specified by the variable_method_function field in RE\$VARIABLE_TYPE) made during evaluation of the rule set |

| Column                    | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EVALUATION_FUNCTION_CALLS | NUMBER       | Total number of calls made to user-defined evaluation functions (specified as the <code>evaluation_function</code> argument to the <code>DBMS_RULE_ADM.CREATE_EVALUATION_CONTEXT</code> procedure) made during evaluation of the rule set                                                                                                                                                                                                         |
| RESULT_CACHE_HITS         | NUMBER       | Number of result cache hits across all the sessions evaluating this rule set                                                                                                                                                                                                                                                                                                                                                                      |
| IS_RESULT_CACHE           | VARCHAR2 (3) | Indicates whether this rule set result can be cached (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                            |
| RESULT_CACHE_ELEMENTS     | NUMBER       | Number of elements cached within the result cache                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID                    | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

*Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_RULE_ADM.CREATE_EVALUATION_CONTEXT` procedure

## 9.209 V\$RULE\_SET\_AGGREGATE\_STATS

V\$RULE\_SET\_AGGREGATE\_STATS displays statistics aggregated over all evaluations on all rule sets. This view has a row for each type of statistic.

| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME   | VARCHAR2 (80) | <p>Name of the statistic:</p> <ul style="list-style-type: none"> <li>rule set evaluations (all) - Total number of evaluations on all rule sets</li> <li>rule set evaluations (first_hit) - Total number of evaluations on rule sets with stop_on_first_hit set to TRUE</li> <li>rule set evaluations (simple_rules_only) - Total number of evaluations on rule sets with simple_rules_only set to TRUE</li> <li>rule set evaluations (SQL free) - Total number of evaluations on rule sets which did not internally issue SQL to evaluate rules</li> <li>rule set evaluation time (CPU) - Total CPU time (in hundredths of a second) spent in evaluations on rule sets</li> <li>rule set evaluation time (elapsed) - Total elapsed time (in hundredths of a second) spent in evaluations on rule sets</li> <li>rule set SQL executions - Total number of SQL statements executed during evaluations on rule sets</li> <li>rule set conditions processed - Total number of fast (indexed) conditions processed during evaluations on rule sets</li> <li>rule set true rules - Total number of TRUE rules returned during evaluations on rule sets</li> <li>rule set maybe rules - Total number of MAYBE rules returned during evaluations on rule sets</li> <li>rule set user function calls (variable value function) - Total number of calls made to user-defined functions to retrieve variable values (specified by the variable_value_function field in RE\$VARIABLE_TYPE) made during evaluations on rule sets</li> <li>rule set user function calls (variable method function) - Total number of calls made to user-defined functions to retrieve variable method values (specified by the variable_method_function field in RE\$VARIABLE_TYPE) made during evaluations on rule sets</li> <li>rule set user function calls (evaluation function) - Total number of calls made to user-defined evaluation functions (specified as the evaluation_function argument to the DBMS_RULE_ADM.CREATE_EVALUATION_CONTEXT procedure) made during evaluations on rule sets</li> </ul> |
| VALUE  | NUMBER        | Statistic value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID | NUMBER        | The ID of the container to which the data pertains. The CON_ID value in this view is always 0. The rows pertain to the entire CDB or to the non-CDB.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |



#### See Also:

*Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_RULE\_ADM.CREATE\_EVALUATION\_CONTEXT procedure

# 10

## Dynamic Performance (V\$) Views: V\$SCHEDULER\_IN\_MEMORY\_TRACE to V\$ZONEMAP\_USAGE\_STATS

This chapter contains the dynamic performance views V\$SCHEDULER\_IN\_MEMORY\_TRACE to V\$ZONEMAP\_USAGE\_STATS.

### 10.1 V\$SCHEDULER\_IN\_MEMORY\_TRACE

V\$SCHEDULER\_IN\_MEMORY\_TRACE displays in-memory trace and other information about all processes executing scheduler-related actions.

| Column      | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID         | NUMBER         | ID of the session generating scheduler trace                                                                                                                                                                                                                                                                                                                                                                                                      |
| SERIAL#     | NUMBER         | Serial number of the session generating scheduler trace                                                                                                                                                                                                                                                                                                                                                                                           |
| USER#       | NUMBER         | Oracle identifier of the user generating scheduler trace                                                                                                                                                                                                                                                                                                                                                                                          |
| USERNAME    | VARCHAR2 (128) | Name of the user generating scheduler trace                                                                                                                                                                                                                                                                                                                                                                                                       |
| PROCESSNAME | VARCHAR2 (5)   | Name of the process generating scheduler trace                                                                                                                                                                                                                                                                                                                                                                                                    |
| PADDR       | RAW (8)        | Address of the process state object generating scheduler trace                                                                                                                                                                                                                                                                                                                                                                                    |
| SPID        | VARCHAR2 (24)  | Operating system identifier of the process generating scheduler trace                                                                                                                                                                                                                                                                                                                                                                             |
| PID         | NUMBER         | Oracle identifier of the process generating scheduler trace                                                                                                                                                                                                                                                                                                                                                                                       |
| TRACE_ST    | CLOB           | Scheduler trace generated by the process                                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID      | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



#### Note:

This view is available starting with Oracle Database 23ai.

### 10.2 V\$SCHEDULER\_RUNNING\_JOBS

V\$SCHEDULER\_RUNNING\_JOBS displays information about running Scheduler jobs.

| Column             | Datatype                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SESSION_ID         | NUMBER                          | Identifier of the session running the Scheduler job                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SESSION_SERIAL_NUM | NUMBER                          | Session serial number                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| JOB_ID             | NUMBER                          | ID of the running Scheduler job                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PADDR              | RAW(4   8)                      | Process address                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| OS_PROCESS_ID      | VARCHAR2(12)                    | Operating system process ID                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SESSION_STAT_CPU   | INTERVAL DAY(2)<br>TO SECOND(3) | CPU statistics for the session                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID             | NUMBER                          | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire multitenant container database (CDB). This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.3 V\$SECUREFILE\_SHRINK

V\$SECUREFILE\_SHRINK displays information about SecureFiles Shrink tasks.

| Column            | Datatype                       | Description                                                                                                                                                                                                            |
|-------------------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LOB_OBJD          | NUMBER                         | Database object number for the LOB segment                                                                                                                                                                             |
| SHRINK_STATUS     | VARCHAR2(40)                   | <p>Status of the shrink task:</p> <ul style="list-style-type: none"> <li>RUNNING</li> <li>COMPLETE</li> <li>ERROR</li> </ul>                                                                                           |
| START_TIME        | TIMESTAMP(3) WITH<br>TIME_ZONE | Date and time at which the shrink task started                                                                                                                                                                         |
| END_TIME          | TIMESTAMP(3) WITH<br>TIME_ZONE | <p>Data and time at which the shrink task ended</p> <p>If SHRINK_STATUS = RUNNING, the value of this column is NULL.</p>                                                                                               |
| BLOCKS_MOVED      | NUMBER                         | Number of blocks relocated during the shrink task                                                                                                                                                                      |
| BLOCKS_FREED      | NUMBER                         | Number of blocks freed during the shrink task                                                                                                                                                                          |
| BLOCKS_ALLOCATED  | NUMBER                         | <p>Number of blocks allocated from the tablespace during the shrink task</p> <p>This value includes only blocks allocated by the shrink process. Blocks allocated by other database processes are not included.</p>    |
| EXTENTS_ALLOCATED | NUMBER                         | <p>Number of extents allocated from the tablespace during the shrink task</p> <p>This value includes only extents allocated by the shrink process. Extents allocated by other database processes are not included.</p> |
| EXTENTS_FREED     | NUMBER                         | Number of extents freed during the shrink task                                                                                                                                                                         |
| EXTENTS_SEALED    | NUMBER                         | Number of candidate extents selected and sealed during the shrink task                                                                                                                                                 |
| AUTOMATIC         | NUMBER                         | Indicates whether the shrink task was started automatically (1) or manually (0)                                                                                                                                        |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

## 10.4 V\$SECUREFILE\_TIMER

V\$SECUREFILE\_TIMER displays information about time taken (in microseconds) by functions of SecureFiles. These timer values are collected per session.

| Column      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME        | VARCHAR2 (50) | Name of the function                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LAYER_ID    | NUMBER        | <p>ID of the layer that the function belongs to:</p> <ul style="list-style-type: none"> <li>0 - Entire Subtree</li> <li>1 - Delta Updates</li> <li>2 - Write gather cache</li> <li>3 - Deduplication</li> <li>4 - Compression &amp; Encryption</li> <li>5 - Inode</li> <li>6 - Space</li> <li>7 - Utilities</li> <li>8 - Row-Column Intersection</li> </ul>                                                                                            |
| OWNTIME     | NUMBER        | Total time taken by the function                                                                                                                                                                                                                                                                                                                                                                                                                       |
| MAXTIME     | NUMBER        | Maximum time taken by a single call                                                                                                                                                                                                                                                                                                                                                                                                                    |
| MINTIME     | NUMBER        | Minimum time taken by a single call                                                                                                                                                                                                                                                                                                                                                                                                                    |
| INVOCATIONS | NUMBER        | Number of times the function was invoked                                                                                                                                                                                                                                                                                                                                                                                                               |
| LAYER_NAME  | VARCHAR2 (50) | Name of the layer to which the function belongs                                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID      | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.5 V\$SEGMENT\_STATISTICS

V\$SEGMENT\_STATISTICS displays information about segment-level statistics.

| Column          | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER           | VARCHAR2 (128) | Owner of the object                                                                                                                                                                                                                                                                                                                                                                                                                         |
| OBJECT_NAME     | VARCHAR2 (128) | Name of the object                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SUBOBJECT_NAME  | VARCHAR2 (128) | Name of the subobject                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TABLESPACE_NAME | VARCHAR2 (30)  | Name of the table space to which the object belongs                                                                                                                                                                                                                                                                                                                                                                                         |
| TS#             | NUMBER         | Tablespace number                                                                                                                                                                                                                                                                                                                                                                                                                           |
| OBJ#            | NUMBER         | Dictionary object number of the object                                                                                                                                                                                                                                                                                                                                                                                                      |
| DATAOBJ#        | NUMBER         | Data object number of the object                                                                                                                                                                                                                                                                                                                                                                                                            |
| OBJECT_TYPE     | VARCHAR2 (18)  | Type of the object                                                                                                                                                                                                                                                                                                                                                                                                                          |
| STATISTIC_NAME  | VARCHAR2 (64)  | Name of the statistic                                                                                                                                                                                                                                                                                                                                                                                                                       |
| STATISTIC#      | NUMBER         | Statistic number                                                                                                                                                                                                                                                                                                                                                                                                                            |
| VALUE           | NUMBER         | Statistic value                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID          | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 10.6 V\$SEGSTAT

V\$SEGSTAT displays information about segment-level statistics.

| Column         | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TS#            | NUMBER        | Tablespace number                                                                                                                                                                                                                                                                                                                                                                                                                           |
| OBJ#           | NUMBER        | Dictionary object number                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DATAOBJ#       | NUMBER        | Data object number                                                                                                                                                                                                                                                                                                                                                                                                                          |
| STATISTIC_NAME | VARCHAR2 (64) | Name of the statistic                                                                                                                                                                                                                                                                                                                                                                                                                       |
| STATISTIC#     | NUMBER        | Statistic number                                                                                                                                                                                                                                                                                                                                                                                                                            |
| VALUE          | NUMBER        | Statistic value                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID         | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 10.7 V\$SEGSTAT\_NAME

V\$SEGSTAT\_NAME displays information about segment-level statistics properties.

| Column     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATISTIC# | NUMBER        | Statistic number                                                                                                                                                                                                                                                                                                                                                                                                                                |
| NAME       | VARCHAR2 (64) | Name of the statistic                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SAMPLED    | VARCHAR2 (3)  | Indicates whether the statistic was collected by sampling (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID     | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.8 V\$SERV\_MOD\_ACT\_STATS

V\$SERV\_MOD\_ACT\_STATS displays the same set of performance statistics as V\$SERVICE\_STATS except for a specific combination of service/module/action names.

When aggregation is enabled for the service name, module, and action name, then this view provides the timing and work done for calls issued for the business transaction.

| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AGGREGATION_TYPE | VARCHAR2 (21) | Aggregation statistic type: <ul style="list-style-type: none"> <li>SERVICE_MODULE - Action value is NULL and the entry is an aggregate for all actions within a given module</li> <li>SERVICE_MODULE_ACTION - Action value is NULL only for an empty action, and the aggregation is on the level of service/module/action</li> </ul>                                                                                                            |
| SERVICE_NAME     | VARCHAR2 (64) | Service name from V\$SERVICES                                                                                                                                                                                                                                                                                                                                                                                                                   |
| MODULE           | VARCHAR2 (65) | Module name from DBA_ENABLED_AGGREGATIONS                                                                                                                                                                                                                                                                                                                                                                                                       |
| ACTION           | VARCHAR2 (65) | Action name from DBA_ENABLED_AGGREGATIONS                                                                                                                                                                                                                                                                                                                                                                                                       |
| STAT_ID          | NUMBER        | Statistic identifier                                                                                                                                                                                                                                                                                                                                                                                                                            |
| STAT_NAME        | VARCHAR2 (64) | Derived statistic name from V\$STATNAME and V\$SESS_TIME_MODEL                                                                                                                                                                                                                                                                                                                                                                                  |
| VALUE            | NUMBER        | Cumulative value (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID           | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

- "V\$SERVICE\_STATS"
- "V\$STATNAME"
- "V\$SESS\_TIME\_MODEL"

## 10.9 V\$SERVICE\_DRAIN\_TIMEOUT\_ADVICE

V\$SERVICE\_DRAIN\_TIMEOUT\_ADVICE displays information about connection draining.

This view allows you monitor the performance of the draining process, so you can make informed decisions about tuning the drain timeout configuration.

| Column              | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SERVICE_ID          | NUMBER        | Service ID                                                                                                                                                                                                                                                                                                                                                                      |
| DRAIN_ORIGIN        | VARCHAR2 (12) | Draining origin <ul style="list-style-type: none"> <li>• DISCONNECT - Sessions are being drained by the ALTER SYSTEM DISCONNECT SESSION statement</li> <li>• LOAD BALANCE - Sessions are being drained by Oracle RAC load balancing</li> <li>• PDB - Sessions are being drained by a PDB close</li> <li>• SERVICE - Sessions are being drained by stopping a service</li> </ul> |
| LAST_DRAIN_TIMEOUT  | NUMBER        | Number of seconds since the last drain timeout                                                                                                                                                                                                                                                                                                                                  |
| MARKED_TO_DRAIN     | NUMBER        | Number of sessions marked to drain                                                                                                                                                                                                                                                                                                                                              |
| DRAINED             | NUMBER        | Number of sessions drained (includes session that exited on error)                                                                                                                                                                                                                                                                                                              |
| DRAINED_BY_CLIENT   | NUMBER        | Number of sessions closed by the client during draining                                                                                                                                                                                                                                                                                                                         |
| DRAINED_BY_DATABASE | NUMBER        | Number of sessions closed by the database during draining                                                                                                                                                                                                                                                                                                                       |
| PLANNED_FAILED_OVER | NUMBER        | Number of sessions that failed over during draining                                                                                                                                                                                                                                                                                                                             |
| DRAINED_INTERVAL01  | NUMBER        | Number of sessions drained in time interval 01<br>(Sessions drained in less than or equal to 1 second)                                                                                                                                                                                                                                                                          |
| DRAINED_INTERVAL02  | NUMBER        | Number of sessions drained in time interval 02<br>(Sessions drained in less than or equal to 5 seconds)                                                                                                                                                                                                                                                                         |
| DRAINED_INTERVAL03  | NUMBER        | Number of sessions drained in time interval 03<br>(Sessions drained in less than or equal to 10 seconds)                                                                                                                                                                                                                                                                        |
| DRAINED_INTERVAL04  | NUMBER        | Number of sessions drained in time interval 04<br>(Sessions drained in less than or equal to 30 seconds)                                                                                                                                                                                                                                                                        |
| DRAINED_INTERVAL05  | NUMBER        | Number of sessions drained in time interval 05<br>(Sessions drained in less than or equal to 60 seconds)                                                                                                                                                                                                                                                                        |
| DRAINED_INTERVAL06  | NUMBER        | Number of sessions drained in time interval 06<br>(Sessions drained in less than or equal to 120 seconds)                                                                                                                                                                                                                                                                       |
| DRAINED_INTERVAL07  | NUMBER        | Number of sessions drained in time interval 07<br>(Sessions drained in less than or equal to 180 seconds)                                                                                                                                                                                                                                                                       |
| DRAINED_INTERVAL08  | NUMBER        | Number of sessions drained in time interval 08<br>(Sessions drained in less than or equal to 300 seconds)                                                                                                                                                                                                                                                                       |

| Column                      | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DRAINED_INTERVAL09          | NUMBER         | Number of sessions drained in time interval 09<br>(Sessions drained in less than or equal to 600 seconds)                                                                                                                                                                                                                                                                                                                                           |
| DRAINED_INTERVAL10          | NUMBER         | Number of sessions drained in time interval 10<br>(Sessions drained in less than or equal to 1200 seconds)                                                                                                                                                                                                                                                                                                                                          |
| DRAINED_INTERVAL11          | NUMBER         | Number of sessions drained in time interval 11<br>(Sessions drained in less than or equal to 3600 seconds (1 hour))                                                                                                                                                                                                                                                                                                                                 |
| DRAINED_INTERVAL12          | NUMBER         | Number of sessions drained in time interval 12<br>(Sessions drained in less than or equal to 7200 seconds (2 hours))                                                                                                                                                                                                                                                                                                                                |
| DRAINED_INTERVAL13          | NUMBER         | Number of sessions drained in time interval 13<br>(Sessions drained in less than or equal to 14400 seconds (4 hours))                                                                                                                                                                                                                                                                                                                               |
| DRAINED_INTERVAL14          | NUMBER         | Number of sessions drained in time interval 14<br>(Sessions drained in greater than 14400 seconds (4 hours))                                                                                                                                                                                                                                                                                                                                        |
| DRAINED_INTERVAL15          | NUMBER         | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DRAINED_INTERVAL16          | NUMBER         | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TERMINATED_BY_DRAIN_TIMEOUT | NUMBER         | Number of sessions terminated at drain timeout                                                                                                                                                                                                                                                                                                                                                                                                      |
| IDLE_IN_DRAIN               | NUMBER         | Number of sessions idle throughout drain timeout                                                                                                                                                                                                                                                                                                                                                                                                    |
| ESTD_DRAIN_TIMEOUT_ADVICE   | VARCHAR2 (128) | Estimated drain time advice. Possible values include: <ul style="list-style-type: none"> <li>Not enough sessions are draining to compute a drain timeout estimation</li> <li>Waiting for 90% of drained sessions in order to compute a drain timeout advice.</li> <li>Estimated drain timeout is &lt;advice_in_seconds&gt; seconds</li> </ul> Where <advice_in_seconds> is determined by using the number of drained sessions in each time interval |
| CON_ID                      | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>     |

**Note:**

This view is available starting with Oracle Database 23ai.

## 10.10 V\$SERVICE\_EVENT

V\$SERVICE\_EVENT displays aggregated wait counts and wait times for each wait statistic.

| Column       | Datatype      | Description                   |
|--------------|---------------|-------------------------------|
| SERVICE_NAME | VARCHAR2 (64) | Service name from V\$SERVICES |

| Column            | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SERVICE_NAME_HASH | NUMBER        | Service name hash from V\$SERVICES                                                                                                                                                                                                                                                                                                                                                                                                              |
| EVENT             | VARCHAR2 (64) | Name of the wait event; derived statistic name from V\$EVENT_NAME<br><b>See Also:</b> " <a href="#">Oracle Wait Events</a> "                                                                                                                                                                                                                                                                                                                    |
| EVENT_ID          | NUMBER        | Identifier of the wait event                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TOTAL_WAITS       | NUMBER        | Total number of waits for the event by the service                                                                                                                                                                                                                                                                                                                                                                                              |
| TOTAL_TIMEOUTS    | NUMBER        | Total number of timeouts for the event by the service                                                                                                                                                                                                                                                                                                                                                                                           |
| TIME_WAITED       | NUMBER        | Total amount of time waited for the event by the service (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                            |
| AVERAGE_WAIT      | NUMBER        | Average amount of time waited for the event by the service (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                          |
| MAX_WAIT          | NUMBER        | Maximum amount of time waited for the event by the service (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                          |
| TIME_WAITED_MICRO | NUMBER        | Total amount of time waited for the event by the service (in microseconds)                                                                                                                                                                                                                                                                                                                                                                      |
| CPU               | NUMBER        | Total amount of CPU time consumed by the service while implementing the wait event itself (in microseconds)                                                                                                                                                                                                                                                                                                                                     |
| CON_ID            | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.11 V\$SERVICE\_REGION\_METRIC

V\$SERVICE\_REGION\_METRIC displays the metric values captured for the most recent 30-second intervals for the workload against each service region available on the database.

| Column               | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BEGIN_TIME           | DATE           | Begin time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                      |
| END_TIME             | DATE           | End time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                        |
| INTSIZE_CSEC         | NUMBER         | Interval size (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                       |
| SERVICE_ID           | NUMBER         | Service number (internal)                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SERVICE_NETWORK_NAME | VARCHAR2 (512) | Network name for the service                                                                                                                                                                                                                                                                                                                                                                                                                    |
| REGION_NAME          | VARCHAR2 (30)  | Region name                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CALLSPERSEC          | NUMBER         | Number of user calls per second to the services                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID               | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**

- ["V\\$CHUNK\\_METRIC"](#)

## 10.12 V\$SERVICE\_STATS

V\$SERVICE\_STATS displays a minimal set of performance statistics. These call rate statistics are used for making run-time routing decisions, for tracking service levels, and for per-instance diagnostics per call rate. The elapsed timing for each call provides a relative value across instances for how well a node is processing SQL calls issued under a service name. When aggregation is enabled for the Service Name, then this view provides the timing and work done for calls issued for the whole service.

| Column            | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SERVICE_NAME_HASH | NUMBER        | Service name hash from V\$SERVICES                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SERVICE_NAME      | VARCHAR2 (64) | Service name from V\$SERVICES                                                                                                                                                                                                                                                                                                                                                                                                                         |
| STAT_ID           | NUMBER        | Statistic identifier                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| STAT_NAME         | VARCHAR2 (64) | Derived statistic name from V\$STATNAME and V\$SESS_TIME_MODEL                                                                                                                                                                                                                                                                                                                                                                                        |
| VALUE             | NUMBER        | For statistics that measure time (such as the DB CPU, background elapsed time, or parse time elapsed statistics), this column displays a cumulative value in microseconds.<br><br>For other statistics that do not measure time (such as the db block changes, execute count, or logons cumulative statistics), this column displays the appropriate numeric value for the statistic.                                                                 |
| CON_ID            | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**

- ["V\\$SERVICES"](#)
- ["V\\$STATNAME"](#)
- ["V\\$SESS\\_TIME\\_MODEL"](#)
- *Oracle Database Performance Tuning Guide* for more information about using database statistics to manage the performance of Oracle Database

## 10.13 V\$SERVICE\_WAIT\_CLASS

V\$SERVICE\_WAIT\_CLASS displays aggregated wait counts and wait times for each wait statistic.

An aggregation of these wait classes is used when thresholds are imported.

| Column            | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SERVICE_NAME      | VARCHAR2 (64) | Service name from V\$SERVICES                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SERVICE_NAME_HASH | NUMBER        | Service name hash from V\$SERVICES                                                                                                                                                                                                                                                                                                                                                                                                              |
| WAIT_CLASS_ID     | NUMBER        | Identifier of the wait class                                                                                                                                                                                                                                                                                                                                                                                                                    |
| WAIT_CLASS#       | NUMBER        | Number of the wait class                                                                                                                                                                                                                                                                                                                                                                                                                        |
| WAIT_CLASS        | VARCHAR2 (64) | Name of the wait class                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TOTAL_WAITS       | NUMBER        | Total number waits from this wait class by the service                                                                                                                                                                                                                                                                                                                                                                                          |
| TIME_WAITED       | NUMBER        | Total amount of time spent in waits from this wait class by the service (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                             |
| TIME_WAITED_MICRO | NUMBER        | Total amount of time spent in waits from this wait class by the service (in microseconds)                                                                                                                                                                                                                                                                                                                                                       |
| CPU               | NUMBER        | Total amount of CPU time consumed by the service while implementing waits from this wait class (in microseconds)                                                                                                                                                                                                                                                                                                                                |
| CON_ID            | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.14 V\$SERVICEMETRIC

V\$SERVICEMETRIC displays metric values measured on the most recent time interval period for services executing inside the database. Service metrics are measured in 5-second and 1-minute intervals.

| Column            | Datatype      | Description                                                                                              |
|-------------------|---------------|----------------------------------------------------------------------------------------------------------|
| BEGIN_TIME        | DATE          | Begin timestamp for the interval period                                                                  |
| END_TIME          | DATE          | End timestamp for the interval period                                                                    |
| INTSIZE_CSEC      | NUMBER        | Interval size (in hundredths of a second)                                                                |
| GROUP_ID          | NUMBER        | Group ID for the service metric group                                                                    |
| SERVICE_NAME_HASH | NUMBER        | Service name hash                                                                                        |
| SERVICE_NAME      | VARCHAR2 (64) | Service name                                                                                             |
| CTMHASH           | NUMBER        | Service create timestamp hash value                                                                      |
| ELAPSEDPERCALL    | NUMBER        | Elapsed time per call (in microseconds). This column is deprecated in favor of the DBTIMEPERCALL column. |
| CPUPERCALL        | NUMBER        | CPU time per call (in microseconds)                                                                      |
| DBTIMEPERCALL     | NUMBER        | Elapsed time per call (in microseconds)                                                                  |

| Column       | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CALLSPERSEC  | NUMBER   | Number of user calls per second                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DBTIMEPERSEC | NUMBER   | Database time per second                                                                                                                                                                                                                                                                                                                                                                                                                        |
| GOODNESS     | NUMBER   | Indicates how attractive a given instance is with respect to processing the workload that is presented to the service. A lower number is better. This number is internally computed based on the GOAL (LONG or SHORT) that is specified for the particular service.                                                                                                                                                                             |
| DELTA        | NUMBER   | Indicates the predicted increase in the goodness for every additional session that is routed to this instance                                                                                                                                                                                                                                                                                                                                   |
| FLAGS        | NUMBER   | Flags that can be any of the following values: <ul style="list-style-type: none"> <li>0x01 - Service is BLOCKED from accepting new connections</li> <li>0x02 - Service is VIOLATING the set threshold on some metric</li> <li>0x04 - Goodness is UNKNOWN</li> </ul>                                                                                                                                                                             |
| CON_ID       | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.15 V\$SERVICEMETRIC\_HISTORY

V\$SERVICEMETRIC\_HISTORY displays a recent history of the metric values measured in predefined time interval periods for services executing inside the database. Service metrics are measured in 5-second and 1-minute intervals.

| Column            | Datatype      | Description                                                                                              |
|-------------------|---------------|----------------------------------------------------------------------------------------------------------|
| BEGIN_TIME        | DATE          | Begin timestamp for the interval period                                                                  |
| END_TIME          | DATE          | End timestamp for the interval period                                                                    |
| INTSIZE_CSEC      | NUMBER        | Interval size (in hundredths of a second)                                                                |
| GROUP_ID          | NUMBER        | Group ID for the service metric group                                                                    |
| SERVICE_NAME_HASH | NUMBER        | Service name hash                                                                                        |
| SERVICE_NAME      | VARCHAR2 (64) | Service name                                                                                             |
| CTMHASH           | NUMBER        | Service create timestamp hash value                                                                      |
| ELAPSEDPERCALL    | NUMBER        | Elapsed time per call (in microseconds). This column is deprecated in favor of the DBTIMEPERCALL column. |
| CPUPERCALL        | NUMBER        | CPU time per call (in microseconds)                                                                      |
| DBTIMEPERCALL     | NUMBER        | Elapsed time per call (in microseconds)                                                                  |
| CALLSPERSEC       | NUMBER        | Number of user calls per second                                                                          |
| DBTIMEPERSEC      | NUMBER        | Database time per second                                                                                 |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.16 V\$SERVICES

V\$SERVICES displays information about the services in the database.

| Column             | Datatype       | Description                                                                                                                                                                                                                                                                                                                                   |
|--------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SERVICE_ID         | NUMBER         | Service ID                                                                                                                                                                                                                                                                                                                                    |
| NAME               | VARCHAR2 (64)  | Name of the service                                                                                                                                                                                                                                                                                                                           |
| NAME_HASH          | NUMBER         | Service name hash                                                                                                                                                                                                                                                                                                                             |
| NETWORK_NAME       | VARCHAR2 (512) | Network name                                                                                                                                                                                                                                                                                                                                  |
| CREATION_DATE      | DATE           | Creation date                                                                                                                                                                                                                                                                                                                                 |
| CREATION_DATE_HASH | NUMBER         | Creation date hash                                                                                                                                                                                                                                                                                                                            |
| GOAL               | VARCHAR2 (12)  | <p>Runtime Load Balancing Goal being used to create run-time load balancing and connection load balancing advice:</p> <ul style="list-style-type: none"> <li>NONE</li> <li>SERVICE_TIME - Connections are balanced by response time</li> <li>THROUGHPUT - Connections are balanced by throughput</li> </ul>                                   |
| DTP                | VARCHAR2 (1)   | <p>Indicates whether or not Distributed Transaction Processing is enabled for this service. When Distributed Transaction Processing is set to Y (YES), it means that the service is offered at exactly one instance at a time for XA affinity. Possible values:</p> <ul style="list-style-type: none"> <li>Y - YES</li> <li>N - NO</li> </ul> |
| AQ_HA_NOTIFICATION | VARCHAR2 (3)   | Indicates whether FAN - Fast Application Notification for OCI connections is set (YES) or not (NO)                                                                                                                                                                                                                                            |
| CLB_GOAL           | VARCHAR2 (5)   | <p>Connection load balancing goal used with statistics that are sent to the listeners to determine how new connections are distributed:</p> <ul style="list-style-type: none"> <li>LONG - is using session count</li> <li>SHORT - is using service time or throughput</li> </ul>                                                              |

| Column                    | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMMIT_OUTCOME            | VARCHAR2 (3)   | <p>For Transaction Guard and Database Native Transaction Guard, indicates whether the database service associated with the user session has the COMMIT_OUTCOME service attribute enabled (YES) or not (NO). This attribute applies on a per session basis and is set at connect time.</p> <p>When the value of this column is YES, the commit status is managed for all supported transaction types and the outcome of a COMMIT transaction is preserved after the COMMIT has executed. Refer to the COMMIT_OUTCOME_FASTPATH column to view the preferred method for preserving the commit outcome.</p> <p><b>See Also:</b> <i>Oracle Database Development Guide</i> for information about preserving the commit outcome</p> |
| RETENTION_TIME            | NUMBER         | For Transaction Guard and Database Native Transaction Guard, when COMMIT_OUTCOME = YES, this value indicates the amount of time (in seconds) that the commit outcome is retained in the database.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| REPLAY_INITIATION_TIMEOUT | NUMBER         | For Application Continuity, this option specifies the difference between the time (in seconds) of original execution of the first operation of a request and the time that the replay is ready to start after a successful reconnect. Application Continuity will not replay after the specified amount of time has passed. This option is intended to avoid the unintentional execution of a request when a system is recovered after a long period of time. The default is 5 minutes (300 seconds).                                                                                                                                                                                                                        |
| SESSION_STATE_CONSISTENCY | VARCHAR2 (128) | Describes how non-transactional is changed during a request. This parameter is considered only if failover_type is set to TRANSACTION for Application Continuity. Examples of session state are NLS settings, optimizer preferences, event settings, PL/SQL global variables, temporary tables, advanced queues, LOBs, and result cache. If non-transactional values change after the request starts, the default value of DYNAMIC should be set. Almost all applications should use DYNAMIC mode. If you are unsure, use DYNAMIC mode.                                                                                                                                                                                      |
| GLOBAL                    | VARCHAR2 (3)   | <p>Indicates whether the service is global. A global service is managed by Global Service Manager (GSM) and can be provided by multiple databases that contain replicated data. Possible values:</p> <ul style="list-style-type: none"> <li>• YES: Indicates the service is global</li> <li>• NO: Indicates the service is not global</li> </ul>                                                                                                                                                                                                                                                                                                                                                                             |
| PDB                       | VARCHAR2 (128) | Name of a pluggable database (PDB) associated with a given service. Will contain NULL if a database is a non-CDB or if the service is not associated with a PDB (that is, connecting to a CDB using this service will cause a user to connect to the root.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SQL_TRANSLATION_PROFILE   | VARCHAR2 (261) | A non-NULL value specifies the initial SQL translation profile for subsequent database connections that use the service and do not specify a SQL translation profile. A NULL value has no effect.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| MAX_LAG_TIME              | VARCHAR2 (128) | The maximum replication lag (in seconds) that is acceptable for a data replica to be used for providing the database service. Can only be specified for global services.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| STOP_OPTION               | VARCHAR2 (128) | Stop option for sessions of this service for planned maintenance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| FAILOVER_RESTORE          | VARCHAR2 (128) | Indicates whether sessions recover their commonly used session state (like NLS, schema) when they are failed over with TAF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| DRAIN_TIMEOUT             | NUMBER         | Number of seconds to wait for sessions to be drained                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TABLE_FAMILY_ID           | NUMBER         | Sharded table family ID associated with the service                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PLACEMENT_TEMPLATE        | VARCHAR2 (64)  | Reserved for future use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |



| Column                  | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMMIT_OUTCOME_FASTPATH | VARCHAR2 (3)  | <p>For Transaction Guard and Database Native Transaction Guard, when COMMIT_OUTCOME = YES, the value of this column indicates the preferred method for preserving the commit outcome. Possible values:</p> <ul style="list-style-type: none"> <li>YES - Database Native Transaction Guard is used. Each transaction is assigned a unique transaction identifier (DB XID) in the database. The DB XID and status of the corresponding transaction are maintained persistently in a transaction table. Note that if COMMIT_OUTCOME = YES, then the value of COMMIT_OUTCOME_FASTPATH defaults to YES.</li> <li>NO - Transaction Guard is used. A logical transaction ID (LTXID) is set for each user session at login and at each successful commit. LTXIDs are used only when the commit is not in the same round-trip to the database as the start of the transaction. Moreover, some transaction types, such as commit on success transactions, DDL transactions, and PL/SQL transactions, will continue to use LTXIDs in the same round-trip. When Transaction Guard is used, the outcome of a COMMIT transaction is known. If there is an outage, the application can use DBMS_APP_CONT.GET_LTXID_OUTCOME to return a reliable status for the last in-flight work.</li> </ul> <p><b>See Also:</b> <i>Oracle Real Application Clusters Administration and Deployment Guide</i> for information about logical transaction IDs</p> |
| TRUE_CACHE_SERVICE      | VARCHAR2 (64) | True Cache service associated with this database service                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID                  | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## 10.17 V\$SES\_OPTIMIZER\_ENV

V\$SES\_OPTIMIZER\_ENV displays the contents of the optimizer environment used by each session. When a new session is first created, it automatically inherits its optimizer environment from the optimizer environment defined at the instance level by V\$SYS\_OPTIMIZER\_ENV. The value of certain parameters can be dynamically modified by issuing an ALTER SESSION statement.

| Column      | Datatype      | Description                                                                            |
|-------------|---------------|----------------------------------------------------------------------------------------|
| SID         | NUMBER        | Session identifier. This column can be used to join with V\$SESSION on the SID column. |
| ID          | NUMBER        | Unique identifier of the parameter in the optimizer environment                        |
| NAME        | VARCHAR2 (40) | Name of the parameter                                                                  |
| SQL_FEATURE | VARCHAR2 (64) | Associated feature control ID                                                          |
| ISDEFAULT   | VARCHAR2 (3)  | Indicates whether the parameter is set to the default value (YES) or not (NO)          |
| VALUE       | VARCHAR2 (25) | Value of the parameter for the session                                                 |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$SYS\_OPTIMIZER\_ENV"

## 10.18 V\$SESS\_IO

V\$SESS\_IO displays I/O statistics for each user session.

| Column                   | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID                      | NUMBER   | Session identifier                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| BLOCK_GETS               | NUMBER   | Block gets for this session                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CONSISTENT_GETS          | NUMBER   | Consistent gets for this session                                                                                                                                                                                                                                                                                                                                                                                                                       |
| PHYSICAL_READS           | NUMBER   | Physical reads for this session                                                                                                                                                                                                                                                                                                                                                                                                                        |
| BLOCK_CHANGES            | NUMBER   | Block changes for this session                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CONSISTENT_CHANGES       | NUMBER   | Consistent changes for this session                                                                                                                                                                                                                                                                                                                                                                                                                    |
| OPTIMIZED_PHYSICAL_READS | NUMBER   | Number of physical reads from Database Smart Flash Cache for this session                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID                   | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.19 V\$SESS\_TIME\_MODEL

V\$SESS\_TIME\_MODEL displays the session-accumulated time for various operations. The time reported is the total elapsed or CPU time (in microseconds). Any timed operation will buffer at most 5 seconds of time data. Specifically, this means that if a timed operation (such as SQL execution) takes a long period of time to perform, the data published to this view is at most missing 5 seconds of the time accumulated for the operation.

The time values are 8-byte integers and can therefore hold approximately 580,000 years of time before wrapping. Background process time is not included in a statistic value unless the statistic is specifically for background processes.

| Column    | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID       | NUMBER        | Session ID (same as in V\$SESSION)                                                                                                                                                                                                                                                                                                                                                                                                              |
| STAT_ID   | NUMBER        | Statistic identifier for the time statistic                                                                                                                                                                                                                                                                                                                                                                                                     |
| STAT_NAME | VARCHAR2 (64) | Name of the statistic (see <a href="#">Table 10-1</a> )                                                                                                                                                                                                                                                                                                                                                                                         |
| VALUE     | NUMBER        | Amount of time (in microseconds) that the session has spent in this operation                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID    | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Table 10-1 V\$SESS\_TIME\_MODEL and V\$SYS\_TIME\_MODEL Statistics**

| Statistic Name                                   | Description                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DB time                                          | Amount of elapsed time (in microseconds) spent performing Database user-level calls. This does not include the elapsed time spent on instance background processes such as PMON.                                                                                                                                                             |
| DB CPU                                           | Amount of CPU time (in microseconds) spent on database user-level calls. This does not include the CPU time spent on instance background processes such as PMON.                                                                                                                                                                             |
| background elapsed time                          | Amount of elapsed time (in microseconds) consumed by database background processes.                                                                                                                                                                                                                                                          |
| background CPU time                              | Amount of CPU time (in microseconds) consumed by database background processes.                                                                                                                                                                                                                                                              |
| sequence load elapsed time                       | Amount of elapsed time spent getting the next sequence number from the data dictionary. If a sequence is cached, then this is the amount of time spent replenishing the cache when it runs out. No time is charged when a sequence number is found in the cache. For non-cached sequences, some time will be charged for every nextval call. |
| parse time elapsed                               | Amount of elapsed time spent parsing SQL statements. It includes both soft and hard parse time.                                                                                                                                                                                                                                              |
| hard parse elapsed time                          | Amount of elapsed time spent hard parsing SQL statements.                                                                                                                                                                                                                                                                                    |
| SQL execute elapsed time                         | Amount of elapsed time SQL statements are executing. Note that for select statements this also includes the amount of time spent performing fetches of query results.                                                                                                                                                                        |
| connection management call elapsed time          | Amount of elapsed time spent performing session connect and disconnect calls.                                                                                                                                                                                                                                                                |
| failed parse elapsed time                        | Amount of time spent performing SQL parses which ultimately fail with some parse error.                                                                                                                                                                                                                                                      |
| failed parse (out of shared memory) elapsed time | Amount of time spent performing SQL parses which ultimately fail with error ORA-04031.                                                                                                                                                                                                                                                       |
| hard parse (sharing criteria) elapsed time       | Amount of elapsed time spent performing SQL hard parses when the hard parse resulted from not being able to share an existing cursor in the SQL cache.                                                                                                                                                                                       |
| hard parse (bind mismatch) elapsed time          | Amount of elapsed time spent performing SQL hard parses when the hard parse resulted from bind type or bind size mismatch with an existing cursor in the SQL cache.                                                                                                                                                                          |

**Table 10-1 (Cont.) V\$SESS\_TIME\_MODEL and V\$SYS\_TIME\_MODEL Statistics**

| Statistic Name                  | Description                                                                                                                                                                                             |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PL/SQL execution elapsed time   | Amount of elapsed time spent running the PL/SQL interpreter. This does not include time spent recursively executing/parsing SQL statements or time spent recursively executing the Java VM.             |
| PL/SQL compilation elapsed time | Amount of elapsed time spent running the PL/SQL compiler.                                                                                                                                               |
| inbound PL/SQL rpc elapsed time | Time inbound PL/SQL remote procedure calls have spent executing. It includes all time spent recursively executing SQL and JAVA, and therefore is not easily related to "PL/SQL execution elapsed time". |
| Java execution elapsed time     | Amount of elapsed time spent running the Java VM. This does not include time spent recursively executing/parsing SQL statements or time spent recursively executing PL/SQL.                             |
| RMAN cpu time (backup/restore)  | Amount of CPU time (in microseconds) spent in RMAN backup and restore operations.                                                                                                                       |
| repeated bind elapsed time      | Amount of elapsed time spent giving new values to bind variables (rebinding).                                                                                                                           |
| OLAP engine elapsed time        | Amount of time spent performing OLAP session transactions. This includes time spent on database user-level calls, SQL statement execution, and PL/SQL execution within the OLAP transaction.            |
| OLAP engine CPU time            | Amount of CPU time spent on OLAP session transactions. This includes time spent on database user-level calls, SQL statement execution, and PL/SQL execution within the OLAP transaction.                |

The relationships between the statistics listed in [Table 10-1](#) form two trees in which all the time reported by a child in the tree is contained within the parent in the tree. The following are the relationship trees; the number is the level in the given tree.

```

1) background elapsed time
 2) background cpu time
 3) RMAN cpu time (backup/restore)
1) DB time
 2) DB CPU
 2) connection management call elapsed time
 2) sequence load elapsed time
 2) sql execute elapsed time
 2) parse time elapsed
 3) hard parse elapsed time
 4) hard parse (sharing criteria) elapsed time
 5) hard parse (bind mismatch) elapsed time
 3) failed parse elapsed time
 4) failed parse (out of shared memory) elapsed time
 2) PL/SQL execution elapsed time
 2) inbound PL/SQL rpc elapsed time
 2) PL/SQL compilation elapsed time
 2) Java execution elapsed time
 2) repeated bind elapsed time

```

The relationship between a parent and a child in the tree indicates containment only. Keep the following in mind regarding the tree:

- Children do not necessarily add up to the parent.
- Children are not necessarily exclusive (that is, they may overlap).
- The union of children does not necessarily cover the whole of the parent.

**See Also:**`"V$SYS_TIME_MODEL"`

## 10.20 V\$SESSION

V\$SESSION displays session information for each current session.

| Column   | Datatype      | Description                                                                                                                                                                                                                                                                                                                                            |
|----------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SADDR    | RAW(4   8)    | Session address                                                                                                                                                                                                                                                                                                                                        |
| SID      | NUMBER        | Session identifier                                                                                                                                                                                                                                                                                                                                     |
| SERIAL#  | NUMBER        | Session serial number. Used to uniquely identify a session's objects. Guarantees that session-level commands are applied to the correct session objects if the session ends and another session begins with the same session ID.                                                                                                                       |
| AUDSID   | NUMBER        | Auditing session ID <ul style="list-style-type: none"> <li>If the database is configured for unified auditing, then this column displays the unified auditing session ID</li> <li>If the database is configured for mixed mode auditing, then this column displays the traditional auditing session ID</li> </ul>                                      |
| PADDR    | RAW(4   8)    | Address of the process that owns the session                                                                                                                                                                                                                                                                                                           |
| USER#    | NUMBER        | Oracle user identifier                                                                                                                                                                                                                                                                                                                                 |
| USERNAME | VARCHAR2(128) | Oracle username                                                                                                                                                                                                                                                                                                                                        |
| COMMAND  | NUMBER        | Command in progress (last statement parsed).<br>You can find the command name for any value <i>n</i> returned in this <b>COMMAND</b> column by running this SQL query:<br><br><pre>SELECT command_name   FROM v\$sqlcommand  WHERE command_type = n;</pre> A value of 0 in this <b>COMMAND</b> column means the command is not recorded in V\$SESSION. |
| OWNERID  | NUMBER        | Identifier of the user who owns the migratable session; the column contents are invalid if the value is 2147483644<br><br>For operations using parallel worker processes, interpret this value as a 4-byte value. The low-order 2 bytes represent the session number and the high-order bytes represent the instance ID of the query coordinator.      |
| TADDR    | VARCHAR2(16)  | Address of the transaction state object                                                                                                                                                                                                                                                                                                                |
| LOCKWAIT | VARCHAR2(16)  | Address of the lock the session is waiting for; NULL if none                                                                                                                                                                                                                                                                                           |

| Column                    | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS                    | VARCHAR2 (8)   | Status of the session: <ul style="list-style-type: none"> <li>ACTIVE - Session currently executing SQL</li> <li>INACTIVE - Session which is inactive and either has no configured limits or has not yet exceeded the configured limits</li> <li>KILLED - Session marked to be terminated</li> <li>CACHED - Session temporarily cached for use by Oracle*XA</li> <li>SNIPED - An inactive session that has exceeded some configured limits (for example, resource limits specified for the resource manager consumer group or idle_time specified in the user's profile). Such sessions will not be allowed to become active again.</li> </ul> |
| SERVER                    | VARCHAR2 (9)   | Server type: <ul style="list-style-type: none"> <li>DEDICATED</li> <li>SHARED</li> <li>PSEUDO</li> <li>POOLED</li> <li>NONE</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SCHEMA#                   | NUMBER         | Schema user identifier                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SCHEMANAME                | VARCHAR2 (128) | Schema user name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| OSUSER                    | VARCHAR2 (128) | Operating system client user name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| PROCESS                   | VARCHAR2 (24)  | Operating system client process ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| MACHINE                   | VARCHAR2 (64)  | Operating system machine name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PORT                      | NUMBER         | Client port number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TERMINAL                  | VARCHAR2 (30)  | Operating system terminal name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| PROGRAM                   | VARCHAR2 (84)  | Operating system program name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TYPE                      | VARCHAR2 (10)  | Session type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SQL_ADDRESS               | RAW (4   8)    | Used with SQL_HASH_VALUE to identify the SQL statement that is currently being executed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SQL_HASH_VALUE            | NUMBER         | Used with SQL_ADDRESS to identify the SQL statement that is currently being executed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SQL_ID                    | VARCHAR2 (13)  | SQL identifier of the SQL statement that is currently being executed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SQL_CHILD_NUMBER          | NUMBER         | Child number of the SQL statement that is currently being executed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| SQL_EXEC_START            | DATE           | Time when the execution of the SQL currently executed by this session started; NULL if SQL_ID is NULL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SQL_EXEC_ID               | NUMBER         | SQL execution identifier; NULL if SQL_ID is NULL or if the execution of that SQL has not yet started (see V\$SQL_MONITOR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PREV_SQL_ADDR             | RAW (4   8)    | Used with PREV_HASH_VALUE to identify the last SQL statement executed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PREV_HASH_VALUE           | NUMBER         | Used with SQL_HASH_VALUE to identify the last SQL statement executed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PREV_SQL_ID               | VARCHAR2 (13)  | SQL identifier of the last SQL statement executed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| PREV_CHILD_NUMBER         | NUMBER         | Child number of the last SQL statement executed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PREV_EXEC_START           | DATE           | SQL execution start of the last executed SQL statement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PREV_EXEC_ID              | NUMBER         | SQL execution identifier of the last executed SQL statement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PLSQL_ENTRY_OBJECT_ID     | NUMBER         | Object ID of the top-most PL/SQL subprogram on the stack; NULL if there is no PL/SQL subprogram on the stack                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PLSQL_ENTRY_SUBPROGRAM_ID | NUMBER         | Subprogram ID of the top-most PL/SQL subprogram on the stack; NULL if there is no PL/SQL subprogram on the stack                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Column               | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PLSQL_OBJECT_ID      | NUMBER        | Object ID of the currently executing PL/SQL subprogram; NULL if executing SQL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PLSQL_SUBPROGRAM_ID  | NUMBER        | Subprogram ID of the currently executing PL/SQL object; NULL if executing SQL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| MODULE               | VARCHAR2 (64) | Name of the currently executing module as set by calling the DBMS_APPLICATION_INFO.SET_MODULE procedure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| MODULE_HASH          | NUMBER        | Hash value of the MODULE column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ACTION               | VARCHAR2 (64) | Name of the currently executing action as set by calling the DBMS_APPLICATION_INFO.SET_ACTION procedure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ACTION_HASH          | NUMBER        | Hash value of the ACTION column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CLIENT_INFO          | VARCHAR2 (64) | Information set by the DBMS_APPLICATION_INFO.SET_CLIENT_INFO procedure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| FIXED_TABLE_SEQUENCE | NUMBER        | This contains a number that increases every time the session completes a call to the database and there has been an intervening select from a dynamic performance table. This column can be used by performance monitors to monitor statistics in the database. Each time the performance monitor looks at the database, it only needs to look at sessions that are currently active or have a higher value in this column than the highest value that the performance monitor saw the last time. All the other sessions have been idle since the last time the performance monitor looked at the database. |
| ROW_WAIT_OBJ#        | NUMBER        | Object ID for the table containing the row specified in ROW_WAIT_ROW#                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ROW_WAIT_FILE#       | NUMBER        | Identifier for the data file containing the row specified in ROW_WAIT_ROW#. This column is valid only if the session is currently waiting for another transaction to commit and the value of ROW_WAIT_OBJ# is not -1.                                                                                                                                                                                                                                                                                                                                                                                       |
| ROW_WAIT_BLOCK#      | NUMBER        | Identifier for the block containing the row specified in ROW_WAIT_ROW#. This column is valid only if the session is currently waiting for another transaction to commit and the value of ROW_WAIT_OBJ# is not -1.                                                                                                                                                                                                                                                                                                                                                                                           |
| ROW_WAIT_ROW#        | NUMBER        | Current row being locked. This column is valid only if the session is currently waiting for another transaction to commit and the value of ROW_WAIT_OBJ# is not -1.                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TOP_LEVEL_CALL#      | NUMBER        | Oracle top level call number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| LOGON_TIME           | DATE          | Time of logon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LAST_CALL_ET         | NUMBER        | If the session STATUS is currently ACTIVE, then the value represents the elapsed time (in seconds) since the session has become active.<br>If the session STATUS is currently INACTIVE, then the value represents the elapsed time (in seconds) since the session has become inactive.                                                                                                                                                                                                                                                                                                                      |
| PDML_ENABLED         | VARCHAR2 (3)  | This column has been replaced by the PDML_STATUS column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Column                  | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FAILOVER_TYPE           | VARCHAR2 (13) | <p>Indicates whether failover is enabled for this session:</p> <ul style="list-style-type: none"> <li>NONE - Failover is disabled for this session.</li> <li>SESSION - Transparent application failover (TAF) is enabled for this session and the client can fail over its session following a disconnect.</li> <li>SELECT - TAF is enabled for this session and the client can fail over queries. The application must not set session state after the initial setup. (Transactions are not included at failover.)</li> <li>TRANSACTION - Application Continuity (AC) is enabled for this session. This feature is available with the Oracle Real Application Clusters (RAC), Oracle RAC One Node, and Oracle Active Data Guard options. AC hides outages from end users and applications by recovering the database sessions following recoverable outages and planned maintenance.</li> <li>AUTO - Transparent Application Continuity (TAC) is enabled for this session. This feature is the automated version of Application Continuity (AC) that makes decisions on your behalf. TAC is on by default for Oracle Autonomous Database Cloud and can also be on by default for your applications.</li> </ul> <p><b>See Also:</b></p> <ul style="list-style-type: none"> <li><i>Oracle Database Net Services Administrator's Guide</i> for more information on TAF</li> <li><i>Oracle Real Application Clusters Administration and Deployment Guide</i> for more information on AC</li> <li><i>Oracle Real Application Clusters Administration and Deployment Guide</i> for more information on TAC</li> </ul> |
| FAILOVER_METHOD         | VARCHAR2 (10) | <p>Indicates the transparent application failover method for the session:</p> <ul style="list-style-type: none"> <li>NONE - Failover is disabled for this session</li> <li>BASIC - Client itself reconnects following a disconnect</li> <li>PRECONNECT - Backup instance can support all connections from every instance for which it is backed up</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| FAILED_OVER             | VARCHAR2 (3)  | Indicates whether the session is running in failover mode and failover has occurred (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| RESOURCE_CONSUMER_GROUP | VARCHAR2 (32) | Name of the session's current resource consumer group                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PDML_STATUS             | VARCHAR2 (8)  | If ENABLED, the session is in a PARALLEL DML enabled mode. If DISABLED, PARALLEL DML enabled mode is not supported for the session. If FORCED, the session has been altered to force PARALLEL DML.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PDDL_STATUS             | VARCHAR2 (8)  | If ENABLED, the session is in a PARALLEL DDL enabled mode. If DISABLED, PARALLEL DDL enabled mode is not supported for the session. If FORCED, the session has been altered to force PARALLEL DDL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PQ_STATUS               | VARCHAR2 (8)  | If ENABLED, the session is in a PARALLEL QUERY enabled mode. If DISABLED, PARALLEL QUERY enabled mode is not supported for the session. If FORCED, the session has been altered to force PARALLEL QUERY.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CURRENT_QUEUE_DURATION  | NUMBER        | If queued (1), the current amount of time the session has been queued. If not currently queued, the value is 0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CLIENT_IDENTIFIER       | VARCHAR2 (64) | Client identifier of the session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |



| Column                        | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BLOCKING_SESSION_STATUS       | VARCHAR2 (11) | <p>This column provides details on whether there is a blocking session:</p> <ul style="list-style-type: none"> <li>VALID - there is a blocking session, and it is identified in the BLOCKING_INSTANCE and BLOCKING_SESSION columns</li> <li>NO HOLDER - there is no session blocking this session</li> <li>NOT IN WAIT - this session is not in a wait</li> <li>UNKNOWN - the blocking session is unknown</li> </ul>                                                                                                                                                                                                                                                                                                                          |
| BLOCKING_INSTANCE             | NUMBER        | Instance identifier of the blocking session. This column is valid only if BLOCKING_SESSION_STATUS has the value VALID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| BLOCKING_SESSION              | NUMBER        | Session identifier of the blocking session. This column is valid only if BLOCKING_SESSION_STATUS has the value VALID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| FINAL_BLOCKING_SESSION_STATUS | VARCHAR2 (11) | <p>The final blocking session is the final element in the wait chain constructed by following the sessions that are blocked by one another starting with this session. In the case of a cyclical wait chain, one of the sessions in the wait chain will be chosen as the final blocker.</p> <p>This column provides details on whether there is a final blocking session:</p> <ul style="list-style-type: none"> <li>VALID - there is a final blocking session and it is identified in the FINAL_BLOCKING_INSTANCE and FINAL_BLOCKING_SESSION columns</li> <li>NO HOLDER - there is no session blocking this session</li> <li>NOT IN WAIT - this session is not in a wait</li> <li>UNKNOWN - the final blocking session is unknown</li> </ul> |
| FINAL_BLOCKING_INSTANCE       | NUMBER        | Instance identifier of the final blocking session. This column is valid only if FINAL_BLOCKING_SESSION_STATUS has the value VALID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| FINAL_BLOCKING_SESSION        | NUMBER        | Session identifier of the blocking session. This column is valid only if FINAL_BLOCKING_SESSION_STATUS has the value VALID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SEQ#                          | NUMBER        | A number that uniquely identifies the current or last wait (incremented for each wait)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| EVENT#                        | NUMBER        | If the session is currently waiting, then the number of the resource or event for which the session is waiting. If the session is not in a wait, then the number of the resource or event for which the session most recently waited.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EVENT                         | VARCHAR2 (64) | <p>If the session is currently waiting, then the resource or event for which the session is waiting. If the session is not in a wait, then the resource or event for which the session most recently waited.</p> <p><b>See Also:</b> "Oracle Wait Events"</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| P1TEXT                        | VARCHAR2 (64) | Description of the first wait event parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| P1                            | NUMBER        | First wait event parameter (in decimal)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| P1RAW                         | RAW (8)       | First wait event parameter (in hexadecimal) <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| P2TEXT                        | VARCHAR2 (64) | Description of the second wait event parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| P2                            | NUMBER        | Second wait event parameter (in decimal)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| P2RAW                         | RAW (8)       | Second wait event parameter (in hexadecimal) <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| P3TEXT                        | VARCHAR2 (64) | Description of the third wait event parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| P3                            | NUMBER        | Third wait event parameter (in decimal)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| P3RAW                         | RAW (8)       | Third wait event parameter (in hexadecimal) <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| WAIT_CLASS_ID                 | NUMBER        | Identifier of the class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| WAIT_CLASS#                   | NUMBER        | Number of the class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| WAIT_CLASS                    | VARCHAR2 (64) | Name of the class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Column                     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WAIT_TIME                  | NUMBER        | <p>If the session is currently waiting, then the value is 0. If the session is not in a wait, then the value is as follows:</p> <ul style="list-style-type: none"> <li>&gt; 0 - Value is the duration of the last wait in hundredths of a second</li> <li>-1 - Duration of the last wait was less than a hundredth of a second</li> <li>-2 - Parameter <code>TIMED_STATISTICS</code> was set to <code>false</code></li> </ul> <p>This column has been deprecated in favor of the columns <code>WAIT_TIME_MICRO</code> and <code>STATE</code>.</p>        |
| SECONDS_IN_WAIT            | NUMBER        | <p>If the session is currently waiting, then the value is the amount of time waited for the current wait. If the session is not in a wait, then the value is the amount of time since the start of the last wait.</p> <p>This column has been deprecated in favor of the columns <code>WAIT_TIME_MICRO</code> and <code>TIME_SINCE_LAST_WAIT_MICRO</code>.</p>                                                                                                                                                                                           |
| STATE                      | VARCHAR2 (19) | <p>Wait state:</p> <ul style="list-style-type: none"> <li>WAITING - Session is currently waiting</li> <li>WAITED UNKNOWN TIME - Duration of the last wait is unknown; this is the value when the parameter <code>TIMED_STATISTICS</code> is set to <code>false</code></li> <li>WAITED SHORT TIME - Last wait was less than a hundredth of a second</li> <li>WAITED KNOWN TIME - Duration of the last wait is specified in the <code>WAIT_TIME</code> column</li> </ul>                                                                                   |
| WAIT_TIME_MICRO            | NUMBER        | <p>Amount of time waited (in microseconds). If the session is currently waiting, then the value is the time spent in the current wait. If the session is currently not in a wait, then the value is the amount of time waited in the last wait.</p>                                                                                                                                                                                                                                                                                                      |
| TIME_REMAINING_MICRO       | NUMBER        | <p>Value is interpreted as follows:</p> <ul style="list-style-type: none"> <li>&gt; 0 - Amount of time remaining for the current wait (in microseconds)</li> <li>0 - Current wait has timed out</li> <li>-1 - Session can indefinitely wait in the current wait</li> <li>NULL - Session is not currently waiting</li> </ul>                                                                                                                                                                                                                              |
| TOTAL_TIME_WAITED_MICRO    | NUMBER        | <p>Total time for the current wait (in microseconds)</p> <p>A wait includes code within its beginning and end that can encounter other waits as part of its implementation. For example, a wait might need to acquire a latch to check state to determine when the wait is satisfied, and the latch itself might enter a wait. In this case, when the latch wait ends and returns to the outer wait, the latch time is included in the value of this column, while the value of <code>WAIT_TIME_MICRO</code> is reset to start after the latch wait.</p> |
| HEUR_TIME_WAITED_MICRO     | NUMBER        | <p>Heuristic wait time (in microseconds)</p> <p>This value is calculated by attempting to group sequential waits that appear to be the same.</p>                                                                                                                                                                                                                                                                                                                                                                                                         |
| TIME_SINCE_LAST_WAIT_MICRO | NUMBER        | <p>Time elapsed since the end of the last wait (in microseconds). If the session is currently in a wait, then the value is 0.</p>                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SERVICE_NAME               | VARCHAR2 (64) | Service name of the session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SQL_TRACE                  | VARCHAR2 (8)  | Indicates whether SQL tracing is enabled (ENABLED) or disabled (DISABLED)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| SQL_TRACE_WAITS            | VARCHAR2 (5)  | Indicates whether wait tracing is enabled (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SQL_TRACE_BINDS            | VARCHAR2 (5)  | Indicates whether bind tracing is enabled (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Column                     | Datatype                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQL_TRACE_PLAN_STATS       | VARCHAR2(10)                | Frequency at which row source statistics are dumped in the trace files for each cursor: <ul style="list-style-type: none"> <li>• never</li> <li>• first_execution</li> <li>• all_executions</li> </ul>                                                                                                                                                                                                                                                                                     |
| SESSION_EDITION_ID         | NUMBER                      | Shows the value that, in the session, would be reported by <code>sys_context('USERENV', 'SESSION_EDITION_ID')</code>                                                                                                                                                                                                                                                                                                                                                                       |
| CREATOR_ADDR               | RAW(4   8)                  | Address of the creating process or circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CREATOR_SERIAL#            | NUMBER                      | Serial number of the creating process or circuit                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ECID                       | VARCHAR2(64)                | Execution context identifier (sent by Application Server)                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SQL_TRANSLATION_PROFILE_ID | NUMBER                      | Object number of the SQL translation profile                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PGA_TUNABLE_MEM            | NUMBER                      | The amount of tunable PGA memory (in bytes).<br>Untunable memory is <code>PGA_ALLOC_MEM</code> from <code>V\$PROCESS</code> minus <code>PGA_TUNABLE_MEM</code> from <code>V\$SESSION</code> .                                                                                                                                                                                                                                                                                              |
| SHARD_DDL_STATUS           | VARCHAR2(8)                 | Indicates whether shard DDL is enabled in the current session (ENABLED) or not (DISABLED).<br>This value is only relevant for the shard catalog database.                                                                                                                                                                                                                                                                                                                                  |
| CON_ID                     | NUMBER                      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                      |
| EXTERNAL_NAME              | VARCHAR2(1024)              | External name of the database user. For enterprise users, returns the Oracle Internet Directory DN.                                                                                                                                                                                                                                                                                                                                                                                        |
| PLSQL_DEBUGGER_CONNECTED   | VARCHAR2(5)                 | Indicates whether the session is connected to a PL/SQL debugger (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                                                                      |
| DRAIN_STATUS               | VARCHAR2(8)                 | Draining status <ul style="list-style-type: none"> <li>• DRAINING</li> <li>• NONE</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                               |
| DRAIN_DEADLINE             | TIMESTAMP(6) WITH TIME ZONE | Drain deadline for the session                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| DRAIN_ORIGIN               | VARCHAR2(12)                | Draining origin <ul style="list-style-type: none"> <li>• DISCONNECT - The session is being drained by the <code>ALTER SYSTEM DISCONNECT SESSION</code> statement</li> <li>• LOAD BALANCE - The session is being drained by Oracle RAC load balancing</li> <li>• PDB - The session is being drained by a PDB close</li> <li>• SERVICE - The session is being drained by stopping a service</li> <li>• NONE - The session is not being drained (<code>DRAIN_STATUS = NONE</code>)</li> </ul> |

<sup>1</sup> The P1RAW, P2RAW, and P3RAW columns display the same values as the P1, P2, and P3 columns, except that the numbers are displayed in hexadecimal.

 See Also:

- *Oracle Database Performance Tuning Guide* for an example of using V\$SESSION to help identify an object that is waiting for buffer busy waits
- *Oracle Database Performance Tuning Guide* for an example of using V\$SESSION to determine which sessions are waiting for I/O
- *Oracle Database PL/SQL Packages and Types Reference* for more information on the DBMS\_APPLICATION\_INFO package

## 10.21 V\$SESSION\_BLOCKERS

V\$SESSION\_BLOCKERS displays the blocker sessions for each blocked session. Each row represents a blocked and blocker session pair. If a session is blocked by multiple sessions there will be multiple rows for that blocked session. The maximum number of blocker sessions displayed for a single blocked session is 30. If a session is not blocked by other sessions, then there will be no row in this view for that session.

| Column               | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID                  | NUMBER        | Blocked session's Oracle session identifier                                                                                                                                                                                                                                                                                                                                                                                                           |
| SESS_SERIAL#         | NUMBER        | Blocked session's Oracle session serial number                                                                                                                                                                                                                                                                                                                                                                                                        |
| WAIT_ID              | NUMBER        | A number identifying the wait for the blocked session                                                                                                                                                                                                                                                                                                                                                                                                 |
| WAIT_EVENT           | NUMBER        | Resource or event number for which the blocked session is waiting                                                                                                                                                                                                                                                                                                                                                                                     |
| WAIT_EVENT_TEXT      | VARCHAR2 (64) | Resource or event for which the blocked session is waiting                                                                                                                                                                                                                                                                                                                                                                                            |
| BLOCKER_INSTANCE_ID  | NUMBER        | Blocker session's instance identifier                                                                                                                                                                                                                                                                                                                                                                                                                 |
| BLOCKER_SID          | NUMBER        | Blocker session's Oracle session identifier                                                                                                                                                                                                                                                                                                                                                                                                           |
| BLOCKER_SESS_SERIAL# | NUMBER        | Blocker session's Oracle session serial number                                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID               | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.22 V\$SESSION\_CONNECT\_INFO

V\$SESSION\_CONNECT\_INFO displays information about network connections for all currently logged in sessions.

| Column | Datatype | Description                                                        |
|--------|----------|--------------------------------------------------------------------|
| SID    | NUMBER   | Session identifier (can be used to join this view with V\$SESSION) |

| Column                   | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SERIAL#                  | NUMBER          | Session serial number. Used to uniquely identify a session's objects. Guarantees that session-level commands are applied to the correct session objects if the session ends and another session begins with the same session ID. (Can be used to join this view with V\$SESSION.)                                                                                                                                                                             |
| AUTHENTICATION_TYPE      | VARCHAR2 (26)   | How the user was authenticated: <ul style="list-style-type: none"> <li>DATABASE - Username/password authentication</li> <li>OS - Operating system external user authentication</li> <li>NETWORK - Network protocol or ANO authentication</li> <li>PROXY - OCI proxy connection authentication</li> <li>SERVER</li> <li>PASSWORD</li> <li>EXTERNAL ADAPTERS</li> <li>INTERNAL</li> <li>GLOBAL</li> <li>EXTERNAL</li> <li>PASSWORD BASED GLOBAL USER</li> </ul> |
| OSUSER                   | VARCHAR2 (128)  | External username for this database user                                                                                                                                                                                                                                                                                                                                                                                                                      |
| NETWORK_SERVICE_BANNER   | VARCHAR2 (4000) | Product banners for each Oracle Net service used for this connection (one row per banner)                                                                                                                                                                                                                                                                                                                                                                     |
| CLIENT_CHARSET           | VARCHAR2 (40)   | Client character set as specified in the NLS_LANG environment variable or in the OCIEnvNlsCreate() call; Unknown if the Oracle client is older than release 11.1 or the connection is through the JDBC thin driver                                                                                                                                                                                                                                            |
| CLIENT_CONNECTION        | VARCHAR2 (13)   | Client server connection flags: <ul style="list-style-type: none"> <li>Heterogeneous</li> <li>Homogeneous</li> </ul>                                                                                                                                                                                                                                                                                                                                          |
| CLIENT_OCI_LIBRARY       | VARCHAR2 (27)   | OCI client library: <ul style="list-style-type: none"> <li>Home-based</li> <li>Full Instant Client</li> <li>Light Weight Instant Client</li> <li>OCI</li> <li>Unknown</li> </ul>                                                                                                                                                                                                                                                                              |
| CLIENT_VERSION           | VARCHAR2 (40)   | Client library version number                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CLIENT_DRIVER            | VARCHAR2 (30)   | Client driver name                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CLIENT_LOBATTR           | VARCHAR2 (23)   | Client LOB flags: <ul style="list-style-type: none"> <li>Client Temp Lob Rfc On</li> <li>Client Temp Lob Rfc Off</li> </ul>                                                                                                                                                                                                                                                                                                                                   |
| CLIENT_REGID             | NUMBER          | Query cache registration ID sent by the client                                                                                                                                                                                                                                                                                                                                                                                                                |
| CLIENT_CONNECTION_STRING | VARCHAR2 (4000) | Connection string used to establish the connection                                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID                   | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul>                             |

 **See Also:**  
"V\$SESSION"

## 10.23 V\$SESSION\_CURSOR\_CACHE

V\$SESSION\_CURSOR\_CACHE displays information on cursor usage for the current session.

 **Note:**  
The V\$SESSION\_CURSOR\_CACHE view is not a measure of the effectiveness of the SESSION\_CACHED\_CURSORS initialization parameter.

| Column    | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAXIMUM   | NUMBER   | Maximum number of cursors to cache. Once you hit this number, some cursors will need to be closed in order to open more. The value in this column is derived from the initialization parameter SESSION_CACHED_CURSORS.                                                                                                                                                                                                                          |
| COUNT     | NUMBER   | Current number of cursors (whether they are in use or not)                                                                                                                                                                                                                                                                                                                                                                                      |
| OPENS     | NUMBER   | Cumulative total of cursor opens minus one. This is because the cursor that is currently open and being used for this query is not counted in the OPENS statistic.                                                                                                                                                                                                                                                                              |
| HITS      | NUMBER   | Cumulative total of cursor open hits                                                                                                                                                                                                                                                                                                                                                                                                            |
| HIT_RATIO | NUMBER   | Ratio of the number of times an open cursor was found divided by the number of times a cursor was sought                                                                                                                                                                                                                                                                                                                                        |
| CON_ID    | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

 **See Also:**  
"SESSION\_CACHED\_CURSORS"

## 10.24 V\$SESSION\_EVENT

V\$SESSION\_EVENT displays information on waits for an event by a session. Note that the TIME\_WAITED and AVERAGE\_WAIT columns will contain a value of zero on those platforms that do not support a fast timing mechanism. If you are running on one of these platforms and you

want this column to reflect true wait times, then you must set `TIMED_STATISTICS` to `true` in the parameter file; doing this will have a small negative effect on system performance.



#### See Also:

"TIMED\_STATISTICS"

| Column            | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID               | NUMBER        | Session identifier                                                                                                                                                                                                                                                                                                                                                                                                                              |
| EVENT             | VARCHAR2 (64) | Name of the wait event; derived statistic name from <code>V\$EVENT_NAME</code><br><b>See Also:</b> " <a href="#">Oracle Wait Events</a> "                                                                                                                                                                                                                                                                                                       |
| TOTAL_WAITS       | NUMBER        | Total number of waits for the event by the session                                                                                                                                                                                                                                                                                                                                                                                              |
| TOTAL_TIMEOUTS    | NUMBER        | Total number of timeouts for the event by the session                                                                                                                                                                                                                                                                                                                                                                                           |
| TIME_WAITED       | NUMBER        | Total amount of time waited for the event by the session (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                            |
| AVERAGE_WAIT      | NUMBER        | Average amount of time waited for the event by the session (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                          |
| MAX_WAIT          | NUMBER        | Maximum amount of time waited for the event by the session (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                          |
| TIME_WAITED_MICRO | NUMBER        | Total amount of time waited for the event by the session (in microseconds)                                                                                                                                                                                                                                                                                                                                                                      |
| CPU               | NUMBER        | Total amount of CPU time consumed by the session while implementing the wait event itself (in microseconds)                                                                                                                                                                                                                                                                                                                                     |
| EVENT_ID          | NUMBER        | Identifier of the wait event                                                                                                                                                                                                                                                                                                                                                                                                                    |
| WAIT_CLASS_ID     | NUMBER        | Identifier of the wait class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                  |
| WAIT_CLASS#       | NUMBER        | Number of the wait class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                      |
| WAIT_CLASS        | VARCHAR2 (64) | Name of the wait class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID            | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.25 V\$SESSION\_FIX\_CONTROL

`V$SESSION_FIX_CONTROL` displays information about Fix Control (enabled/disabled) for the current session.

| Column      | Datatype      | Description                                                                      |
|-------------|---------------|----------------------------------------------------------------------------------|
| SESSION_ID  | NUMBER        | Session identifier (can be used to join this view with <code>V\$SESSION</code> ) |
| BUGNO       | NUMBER        | Bug number (as fix control identifier)                                           |
| VALUE       | NUMBER        | Current value set for the fix control                                            |
| SQL_FEATURE | VARCHAR2 (64) | Feature control ID                                                               |

| Column                   | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DESCRIPTION              | VARCHAR2 (64) | Description of the fix control                                                                                                                                                                                                                                                                                                                                                                                                                  |
| OPTIMIZER_FEATURE_ENABLE | VARCHAR2 (25) | Version on (and after) which the fix is enabled by default                                                                                                                                                                                                                                                                                                                                                                                      |
| EVENT                    | NUMBER        | Event formerly used to control the fix                                                                                                                                                                                                                                                                                                                                                                                                          |
| IS_DEFAULT               | NUMBER        | Indicates whether the current value is the same as the default (1) or not (0)                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID                   | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.26 V\$SESSION\_LONGOPS

V\$SESSION\_LONGOPS displays the status of various operations that run for longer than 6 seconds (in absolute time). These operations currently include many backup and recovery functions, statistics gathering, and query execution, and more operations are added for every Oracle release.

To monitor query execution progress, you must be using the cost-based optimizer and you must:

- Set the `TIMED_STATISTICS` or `SQL_TRACE` parameters to `true`
- Gather statistics for your objects with the `DBMS_STATS` package

You can add information to this view about application-specific long-running operations by using the `DBMS_APPLICATION_INFO.SET_SESSION_LONGOPS` procedure.

| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID              | NUMBER        | Identifier of the session processing the long-running operation. If multiple sessions are cooperating in the long-running operation, then <code>SID</code> corresponds to the main session.                                                                                                                                                                                                                                          |
| SERIAL#          | NUMBER        | Serial number of the session processing the long-running operation. If multiple sessions are cooperating in the long-running operation, then <code>SERIAL#</code> corresponds to the main session. <code>SERIAL#</code> is used to uniquely identify a session's objects. Guarantees that session-level commands are applied to the correct session objects if the session ends and another session begins with the same session ID. |
| OPNAME           | VARCHAR2 (64) | Brief description of the operation                                                                                                                                                                                                                                                                                                                                                                                                   |
| TARGET           | VARCHAR2 (64) | Object on which the operation is carried out                                                                                                                                                                                                                                                                                                                                                                                         |
| TARGET_DESC      | VARCHAR2 (32) | Description of the target                                                                                                                                                                                                                                                                                                                                                                                                            |
| SOFAR            | NUMBER        | Units of work done so far for the operation specified in the <code>OPNAME</code> column                                                                                                                                                                                                                                                                                                                                              |
| TOTALWORK        | NUMBER        | Total units of work for the operation specified in the <code>OPNAME</code> column                                                                                                                                                                                                                                                                                                                                                    |
| UNITS            | VARCHAR2 (32) | Units of measurement                                                                                                                                                                                                                                                                                                                                                                                                                 |
| START_TIME       | DATE          | Starting time of the operation                                                                                                                                                                                                                                                                                                                                                                                                       |
| LAST_UPDATE_TIME | DATE          | Time when statistics were last updated for the operation                                                                                                                                                                                                                                                                                                                                                                             |



| Column              | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TIMESTAMP           | DATE           | Timestamp specific to the operation                                                                                                                                                                                                                                                                                                                                                                                                             |
| TIME_REMAINING      | NUMBER         | Estimate (in seconds) of time remaining for the operation to complete                                                                                                                                                                                                                                                                                                                                                                           |
| ELAPSED_SECONDS     | NUMBER         | Number of elapsed seconds from the start of the operations                                                                                                                                                                                                                                                                                                                                                                                      |
| CONTEXT             | NUMBER         | Context                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| MESSAGE             | VARCHAR2 (512) | Statistics summary message                                                                                                                                                                                                                                                                                                                                                                                                                      |
| USERNAME            | VARCHAR2 (30)  | User ID of the user performing the operation                                                                                                                                                                                                                                                                                                                                                                                                    |
| SQL_ADDRESS         | RAW (4   8)    | Used with the value of the <code>SQL_HASH_VALUE</code> column to identify the SQL statement associated with the operation                                                                                                                                                                                                                                                                                                                       |
| SQL_HASH_VALUE      | NUMBER         | Used with the value of the <code>SQL_ADDRESS</code> column to identify the SQL statement associated with the operation                                                                                                                                                                                                                                                                                                                          |
| SQL_ID              | VARCHAR2 (13)  | SQL identifier of the SQL statement associated with the long operation, if any                                                                                                                                                                                                                                                                                                                                                                  |
| SQL_PLAN_HASH_VALUE | NUMBER         | SQL plan hash value; NULL if <code>SQL_ID</code> is NULL                                                                                                                                                                                                                                                                                                                                                                                        |
| SQL_EXEC_START      | DATE           | Time when the execution of the SQL started; NULL if <code>SQL_ID</code> is NULL                                                                                                                                                                                                                                                                                                                                                                 |
| SQL_EXEC_ID         | NUMBER         | SQL execution identifier (see <code>V\$SQL_MONITOR</code> )                                                                                                                                                                                                                                                                                                                                                                                     |
| SQL_PLAN_LINE_ID    | NUMBER         | SQL plan line ID corresponding to the long operation; NULL if the long operation is not associated with a line of the execution plan                                                                                                                                                                                                                                                                                                            |
| SQL_PLAN_OPERATION  | VARCHAR2 (30)  | Plan operation name; NULL if <code>SQL_PLAN_LINE_ID</code> is NULL                                                                                                                                                                                                                                                                                                                                                                              |
| SQL_PLAN_OPTIONS    | VARCHAR2 (30)  | Plan operation options; NULL if <code>SQL_PLAN_LINE_ID</code> is NULL                                                                                                                                                                                                                                                                                                                                                                           |
| QCSID               | NUMBER         | Session identifier of the parallel coordinator                                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID              | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

#### See Also:

- ["TIMED\\_STATISTICS"](#)
- ["SQL\\_TRACE"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_APPLICATION_INFO.SET_SESSION_LONGOPS` procedure
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_STATS` package

## 10.27 V\$SESSION\_OBJECT\_CACHE

`V$SESSION_OBJECT_CACHE` displays object cache statistics for the current user session on the local server (instance).

| Column           | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PINS             | NUMBER   | Number of object pins or look-ups in the cache                                                                                                                                                                                                                                                                                                                                                                                                        |
| HITS             | NUMBER   | Number of object pins that found the object already in the cache                                                                                                                                                                                                                                                                                                                                                                                      |
| TRUE_HITS        | NUMBER   | Number of object pins that found the object already in the cache and in the desired state (thus, not requiring refresh from the database)                                                                                                                                                                                                                                                                                                             |
| HIT_RATIO        | NUMBER   | Ratio of HITS / PINS                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TRUE_HIT_RATIO   | NUMBER   | Ratio of TRUE_HITS/PINS                                                                                                                                                                                                                                                                                                                                                                                                                               |
| OBJECT_REFRESHES | NUMBER   | Number of objects in the cache that were refreshed with a new value from the database                                                                                                                                                                                                                                                                                                                                                                 |
| CACHE_REFRESHES  | NUMBER   | Number of times the whole cache (all objects) were refreshed                                                                                                                                                                                                                                                                                                                                                                                          |
| OBJECT_FLUSHES   | NUMBER   | Number of objects in the cache that were flushed to the database                                                                                                                                                                                                                                                                                                                                                                                      |
| CACHE_FLUSHES    | NUMBER   | Number of times the whole cache (all objects) were flushed to the database                                                                                                                                                                                                                                                                                                                                                                            |
| CACHE_SHRINKS    | NUMBER   | Number of times the cache was shrunk to the optimal size                                                                                                                                                                                                                                                                                                                                                                                              |
| CACHED_OBJECTS   | NUMBER   | Number of objects currently cached                                                                                                                                                                                                                                                                                                                                                                                                                    |
| PINNED_OBJECTS   | NUMBER   | Number of objects currently pinned                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CACHE_SIZE       | NUMBER   | Current size of the cache (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                  |
| OPTIMAL_SIZE     | NUMBER   | Optimal size of the cache (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                  |
| MAXIMUM_SIZE     | NUMBER   | Maximum size of the cache (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID           | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.28 V\$SESSION\_WAIT

V\$SESSION\_WAIT displays the current or last wait for each session.

| Column | Datatype      | Description                                                                                                                                                                                                                                        |
|--------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID    | NUMBER        | Session identifier; maps to V\$SESSION.SID                                                                                                                                                                                                         |
| SEQ#   | NUMBER        | A number that uniquely identifies the current or last wait (incremented for each wait)                                                                                                                                                             |
| EVENT  | VARCHAR2 (64) | If the session is currently waiting, then the resource or event for which the session is waiting. If the session is not in a wait, then the resource or event for which the session most recently waited.<br><b>See Also:</b> "Oracle Wait Events" |
| P1TEXT | VARCHAR2 (64) | Description of the first wait event parameter                                                                                                                                                                                                      |
| P1     | NUMBER        | First wait event parameter (in decimal)                                                                                                                                                                                                            |
| P1RAW  | RAW (8)       | First wait event parameter (in hexadecimal) <sup>1</sup>                                                                                                                                                                                           |
| P2TEXT | VARCHAR2 (64) | Description of the second wait event parameter                                                                                                                                                                                                     |
| P2     | NUMBER        | Second wait event parameter (in decimal)                                                                                                                                                                                                           |

| Column                  | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P2RAW                   | RAW (8)       | Second wait event parameter (in hexadecimal) <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| P3TEXT                  | VARCHAR2 (64) | Description of the third wait event parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| P3                      | NUMBER        | Third wait event parameter (in decimal)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| P3RAW                   | RAW (8)       | Third wait event parameter (in hexadecimal) <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| WAIT_CLASS_ID           | NUMBER        | Identifier of the class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| WAIT_CLASS#             | NUMBER        | Number of the class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| WAIT_CLASS              | VARCHAR2 (64) | Name of the class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| WAIT_TIME               | NUMBER        | <p>If the session is currently waiting, then the value is 0. If the session is not in a wait, then the value is as follows:</p> <ul style="list-style-type: none"> <li>&gt; 0 - Value is the duration of the last wait in hundredths of a second</li> <li>-1 - Duration of the last wait was less than a hundredth of a second</li> <li>-2 - Parameter <code>TIMED_STATISTICS</code> was set to <code>false</code></li> </ul> <p>This column has been deprecated in favor of the columns <code>WAIT_TIME_MICRO</code> and <code>STATE</code>.</p>        |
| SECONDS_IN_WAIT         | NUMBER        | <p>If the session is currently waiting, then the value is the amount of time waited for the current wait. If the session is not in a wait, then the value is the amount of time since the start of the last wait.</p> <p>This column has been deprecated in favor of the columns <code>WAIT_TIME_MICRO</code> and <code>TIME_SINCE_LAST_WAIT_MICRO</code>.</p>                                                                                                                                                                                           |
| STATE                   | VARCHAR2 (19) | <p>Wait state:</p> <ul style="list-style-type: none"> <li><code>WAITING</code> - Session is currently waiting</li> <li><code>WAITED UNKNOWN TIME</code> - Duration of the last wait is unknown; this is the value when the parameter <code>TIMED_STATISTICS</code> is set to <code>false</code></li> <li><code>WAITED SHORT TIME</code> - Last wait was less than a hundredth of a second</li> <li><code>WAITED KNOWN TIME</code> - Duration of the last wait is specified in the <code>WAIT_TIME</code> column</li> </ul>                               |
| WAIT_TIME_MICRO         | NUMBER        | Amount of time waited (in microseconds). If the session is currently waiting, then the value is the time spent in the current wait. If the session is currently not in a wait, then the value is the amount of time waited in the last wait.                                                                                                                                                                                                                                                                                                             |
| TIME_REMAINING_MICRO    | NUMBER        | <p>Value is interpreted as follows:</p> <ul style="list-style-type: none"> <li>&gt; 0 - Amount of time remaining for the current wait (in microseconds)</li> <li>0 - Current wait has timed out</li> <li>-1 - Session can indefinitely wait in the current wait</li> <li>NULL - Session is not currently waiting</li> </ul>                                                                                                                                                                                                                              |
| TOTAL_TIME_WAITED_MICRO | NUMBER        | <p>Total time for the current wait (in microseconds)</p> <p>A wait includes code within its beginning and end that can encounter other waits as part of its implementation. For example, a wait might need to acquire a latch to check state to determine when the wait is satisfied, and the latch itself might enter a wait. In this case, when the latch wait ends and returns to the outer wait, the latch time is included in the value of this column, while the value of <code>WAIT_TIME_MICRO</code> is reset to start after the latch wait.</p> |
| HEUR_TIME_WAITED_MICRO  | NUMBER        | <p>Heuristic wait time (in microseconds)</p> <p>This value is calculated by attempting to group sequential waits that appear to be the same.</p>                                                                                                                                                                                                                                                                                                                                                                                                         |

| Column                     | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TIME_SINCE_LAST_WAIT_MICRO | NUMBER   | Time elapsed since the end of the last wait (in microseconds). If the session is currently in a wait, then the value is 0.                                                                                                                                                                                                                                                                                                                      |
| CON_ID                     | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

<sup>1</sup> The P1RAW, P2RAW, and P3RAW columns display the same values as the P1, P2, and P3 columns, except that the numbers are displayed in hexadecimal.



#### See Also:

"TIMED\_STATISTICS" and "Oracle Wait Events"

## 10.29 V\$SESSION\_WAIT\_CLASS

V\$SESSION\_WAIT\_CLASS displays the time spent in various wait event operations on a per-session basis.

| Column            | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID               | NUMBER        | Session identifier                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SERIAL#           | NUMBER        | Serial number                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| WAIT_CLASS_ID     | NUMBER        | Identifier of the wait class                                                                                                                                                                                                                                                                                                                                                                                                                    |
| WAIT_CLASS#       | NUMBER        | Number of the wait class                                                                                                                                                                                                                                                                                                                                                                                                                        |
| WAIT_CLASS        | VARCHAR2 (64) | Name of the wait class                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TOTAL_WAITS       | NUMBER        | Total number waits from this wait class by the session                                                                                                                                                                                                                                                                                                                                                                                          |
| TIME_WAITED       | NUMBER        | Total amount of time spent in waits from this wait class by the session (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                             |
| TIME_WAITED_MICRO | NUMBER        | Total amount of time spent in waits from this wait class by the session (in microseconds)                                                                                                                                                                                                                                                                                                                                                       |
| CPU               | NUMBER        | Total amount of CPU time consumed by the session while implementing waits from this wait class (in microseconds)                                                                                                                                                                                                                                                                                                                                |
| CON_ID            | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.30 V\$SESSION\_WAIT\_HISTORY

V\$SESSION\_WAIT\_HISTORY displays the last 10 wait events for each active session.

| Column                     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID                        | NUMBER        | Session identifier                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SEQ#                       | NUMBER        | Sequence of wait events; 1 is the most recent                                                                                                                                                                                                                                                                                                                                                                                                   |
| EVENT#                     | NUMBER        | Event number                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| EVENT                      | VARCHAR2 (64) | Resource or event for which the session is waiting                                                                                                                                                                                                                                                                                                                                                                                              |
| P1TEXT                     | VARCHAR2 (64) | Description of the first wait event parameter                                                                                                                                                                                                                                                                                                                                                                                                   |
| P1                         | NUMBER        | First wait event parameter (in decimal)                                                                                                                                                                                                                                                                                                                                                                                                         |
| P2TEXT                     | VARCHAR2 (64) | Description of the second wait event parameter                                                                                                                                                                                                                                                                                                                                                                                                  |
| P2                         | NUMBER        | Second wait event parameter (in decimal)                                                                                                                                                                                                                                                                                                                                                                                                        |
| P3TEXT                     | VARCHAR2 (64) | Description of the third wait event parameter                                                                                                                                                                                                                                                                                                                                                                                                   |
| P3                         | NUMBER        | Third wait event parameter (in decimal)                                                                                                                                                                                                                                                                                                                                                                                                         |
| WAIT_TIME                  | NUMBER        | Amount of time waited (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                               |
| WAIT_TIME_MICRO            | NUMBER        | Amount of time waited (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                         |
| TIME_SINCE_LAST_WAIT_MICRO | NUMBER        | Time elapsed (in microseconds) since the end of the previous wait in the wait history                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID                     | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.31 V\$SESSIONS\_COUNT

V\$SESSIONS\_COUNT displays the current number of sessions for each PDB.

| Column                  | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID                  | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| USER_SESSION_COUNT      | NUMBER   | Displays the current number of user sessions for the PDB                                                                                                                                                                                                                                                                                                                                                                                        |
| RECURSIVE_SESSION_COUNT | NUMBER   | Displays the current number of recursive sessions for the PDB                                                                                                                                                                                                                                                                                                                                                                                   |

## 10.32 V\$SESSMETRIC

V\$SESSMETRIC displays the metric values for all sessions.

| Column             | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BEGIN_TIME         | DATE     | Begin time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                  |
| END_TIME           | DATE     | End time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                    |
| INTSIZE_CSEC       | NUMBER   | Interval size (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                   |
| SESSION_ID         | NUMBER   | Session ID                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SESSION_SERIAL_NUM | NUMBER   | Session serial number                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CPU                | NUMBER   | CPU usage                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PHYSICAL_READS     | NUMBER   | Number of physical reads                                                                                                                                                                                                                                                                                                                                                                                                                    |
| LOGICAL_READS      | NUMBER   | Number of logical reads                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PGA_MEMORY         | NUMBER   | PGA size at the end of the interval                                                                                                                                                                                                                                                                                                                                                                                                         |
| HARD_PARSSES       | NUMBER   | Number of hard parses                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SOFT_PARSSES       | NUMBER   | Number of soft parses                                                                                                                                                                                                                                                                                                                                                                                                                       |
| PHYSICAL_READ_PCT  | NUMBER   | Physical read ratio                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LOGICAL_READ_PCT   | NUMBER   | Logical read ratio                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID             | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 10.33 V\$SESSTAT

V\$SESSTAT displays user session statistics. To find the name of the statistic associated with each statistic number (STATISTIC#), query the V\$STATNAME view.

| Column     | Datatype | Description                                                                                                                                                                                                           |
|------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID        | NUMBER   | Session identifier                                                                                                                                                                                                    |
| STATISTIC# | NUMBER   | Statistic number<br><b>Note:</b> Statistics numbers are not guaranteed to remain constant from one release to another. Therefore, you should rely on the statistics name rather than its number in your applications. |
| VALUE      | NUMBER   | Statistic value                                                                                                                                                                                                       |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**

"V\$STATNAME" and " [Statistics Descriptions](#)"

## 10.34 V\$SGA

V\$SGA displays summary information about the system global area (SGA).

| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME   | VARCHAR2 (20) | SGA component group                                                                                                                                                                                                                                                                                                                                                                                                                             |
| VALUE  | NUMBER        | Memory size (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.35 V\$SGA\_CURRENT\_RESIZE\_OPS

V\$SGA\_CURRENT\_RESIZE\_OPS displays information about SGA resize operations which are currently in progress. An operation can be a grow or a shrink of a dynamic SGA component. All sizes are expressed in bytes.

| Column    | Datatype      | Description                                                                                                                                                           |
|-----------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPONENT | VARCHAR2 (64) | Component name                                                                                                                                                        |
| OPER_TYPE | VARCHAR2 (13) | Operation type: <ul style="list-style-type: none"> <li>STATIC</li> <li>INITIALIZING</li> <li>DISABLED</li> <li>GROW</li> <li>SHRINK</li> <li>SHRINK_CANCEL</li> </ul> |

| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OPER_MODE        | VARCHAR2 (9)  | Operation mode: <ul style="list-style-type: none"> <li>MANUAL</li> <li>DEFERRED</li> <li>IMMEDIATE</li> </ul>                                                                                                                                                                                                                                                                                                                                   |
| PARAMETER        | VARCHAR2 (80) | Name of the parameter for the resize operation                                                                                                                                                                                                                                                                                                                                                                                                  |
| INITIAL_SIZE     | NUMBER        | Parameter value at the start of the operation                                                                                                                                                                                                                                                                                                                                                                                                   |
| TARGET_SIZE      | NUMBER        | Desired value of the parameter after the resize                                                                                                                                                                                                                                                                                                                                                                                                 |
| CURRENT_SIZE     | NUMBER        | Current value of the parameter                                                                                                                                                                                                                                                                                                                                                                                                                  |
| START_TIME       | DATE          | Start time of the operation                                                                                                                                                                                                                                                                                                                                                                                                                     |
| LAST_UPDATE_TIME | DATE          | Last time progress was made for the operation                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID           | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.36 V\$SGA\_DYNAMIC\_COMPONENTS

V\$SGA\_DYNAMIC\_COMPONENTS displays information about the dynamic SGA components. This view summarizes information based on all completed SGA resize operations since instance startup. All sizes are expressed in bytes.

| Column              | Datatype      | Description                                                                                                                                                                                       |
|---------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPONENT           | VARCHAR2 (64) | Component name                                                                                                                                                                                    |
| CURRENT_SIZE        | NUMBER        | Current size of the component                                                                                                                                                                     |
| MIN_SIZE            | NUMBER        | Minimum size of the component since instance startup                                                                                                                                              |
| MAX_SIZE            | NUMBER        | Maximum size of the component since instance startup                                                                                                                                              |
| USER_SPECIFIED_SIZE | NUMBER        | Value of the user parameter for the component                                                                                                                                                     |
| OPER_COUNT          | NUMBER        | Number of operations since instance startup                                                                                                                                                       |
| LAST_OPER_TYPE      | VARCHAR2 (13) | Last completed operation for the component: <ul style="list-style-type: none"> <li>STATIC</li> <li>INITIALIZING</li> <li>DISABLED</li> <li>GROW</li> <li>SHRINK</li> <li>SHRINK_CANCEL</li> </ul> |
| LAST_OPER_MODE      | VARCHAR2 (9)  | Mode of the last completed operation: <ul style="list-style-type: none"> <li>MANUAL</li> <li>DEFERRED</li> <li>IMMEDIATE</li> </ul>                                                               |
| LAST_OPER_TIME      | DATE          | Start time of the last completed operation                                                                                                                                                        |
| GRANULE_SIZE        | NUMBER        | Granularity of the grow or the shrink operation                                                                                                                                                   |



| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.37 V\$SGA\_DYNAMIC\_FREE\_MEMORY

V\$SGA\_DYNAMIC\_FREE\_MEMORY displays information about the amount of SGA memory available for future dynamic SGA resize operations.

| Column       | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CURRENT_SIZE | NUMBER   | Amount of available memory (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID       | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.38 V\$SGA\_RESIZE\_OPS

V\$SGA\_RESIZE\_OPS displays information about the last 800 completed SGA resize operations. This does not include in-progress operations. All sizes are expressed in bytes.

| Column       | Datatype      | Description                                                                                                                                                                  |
|--------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPONENT    | VARCHAR2 (64) | Component name                                                                                                                                                               |
| OPER_TYPE    | VARCHAR2 (13) | <p>Operation type:</p> <ul style="list-style-type: none"> <li>STATIC</li> <li>INITIALIZING</li> <li>DISABLED</li> <li>GROW</li> <li>SHRINK</li> <li>SHRINK_CANCEL</li> </ul> |
| OPER_MODE    | VARCHAR2 (9)  | <p>Operation mode:</p> <ul style="list-style-type: none"> <li>MANUAL</li> <li>DEFERRED</li> <li>IMMEDIATE</li> </ul>                                                         |
| PARAMETER    | VARCHAR2 (80) | Name of the parameter for the resize operation                                                                                                                               |
| INITIAL_SIZE | NUMBER        | Parameter value at the start of the operation                                                                                                                                |
| TARGET_SIZE  | NUMBER        | Requested value of the parameter after the resize                                                                                                                            |
| FINAL_SIZE   | NUMBER        | Real value of the parameter after the resize                                                                                                                                 |

| Column     | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS     | VARCHAR2 (9) | Completion status of the operation: <ul style="list-style-type: none"><li>• INACTIVE</li><li>• PENDING</li><li>• COMPLETE</li><li>• CANCELLED</li><li>• ERROR</li></ul>                                                                                                                                                                                                                                                                           |
| START_TIME | DATE         | Start time of the operation                                                                                                                                                                                                                                                                                                                                                                                                                       |
| END_TIME   | DATE         | End time of the operation                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID     | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 10.39 V\$SGA\_TARGET\_ADVICE

V\$SGA\_TARGET\_ADVICE displays information about the SGA\_TARGET initialization parameter.

| Column                 | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SGA_SIZE               | NUMBER   | Size of the SGA                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SGA_SIZE_FACTOR        | NUMBER   | Ratio between the SGA_SIZE and the current size of the SGA                                                                                                                                                                                                                                                                                                                                                                                        |
| ESTD_DB_TIME           | NUMBER   | Estimated DB_TIME for this SGA_SIZE                                                                                                                                                                                                                                                                                                                                                                                                               |
| ESTD_DB_TIME_FACTOR    | NUMBER   | Ratio between ESTD_DB_TIME and DB_TIME for the current size of the SGA                                                                                                                                                                                                                                                                                                                                                                            |
| ESTD_PHYSICAL_READS    | NUMBER   | Estimated number of physical reads                                                                                                                                                                                                                                                                                                                                                                                                                |
| ESTD_BUFFER_CACHE_SIZE | NUMBER   | Estimated size of the buffer cache                                                                                                                                                                                                                                                                                                                                                                                                                |
| ESTD_SHARED_POOL_SIZE  | NUMBER   | Estimated size of the shared pool                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID                 | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



**See Also:**

["SGA\\_TARGET"](#)

## 10.40 V\$SGAINFO

V\$SGAINFO displays size information about the SGA, including the sizes of different SGA items, the granule size, and free memory.

| Column     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME       | VARCHAR2 (32) | Name of the SGA size item                                                                                                                                                                                                                                                                                                                                                                                                                   |
| BYTES      | NUMBER        | Size of the item (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                 |
| RESIZEABLE | VARCHAR2 (3)  | Indicates whether the item is resizeable (Yes) or not (No)                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID     | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 10.41 V\$SGASTAT

V\$SGASTAT displays detailed information on the system global area (SGA).

| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POOL   | VARCHAR2 (14) | Designates the pool in which the memory in NAME resides: <ul style="list-style-type: none"><li>in-memory pool - Memory is allocated from the In-Memory pool</li><li>java pool - Memory is allocated from the Java pool</li><li>large pool - Memory is allocated from the large pool</li><li>numa pool - Memory is allocated from the NUMA pool</li><li>shared pool - Memory is allocated from the shared pool</li><li>streams pool - Memory is allocated from the Streams pool</li></ul> |
| NAME   | VARCHAR2 (26) | SGA component name                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| BYTES  | NUMBER        | Memory size (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul>                                              |

## 10.42 V\$SHARD\_ACK\_RECEIVER

V\$SHARD\_ACK\_RECEIVER displays information about ACK receiver processes.

| Column                      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID                         | NUMBER        | Session identifier of the ACK receiver process                                                                                                                                                                                                                                                                                                                                                                                                        |
| SERIAL#                     | NUMBER        | Session serial number of the ACK receiver process                                                                                                                                                                                                                                                                                                                                                                                                     |
| RU_ID                       | NUMBER        | Replication unit (RU) identifier                                                                                                                                                                                                                                                                                                                                                                                                                      |
| STARTUP_TIME                | DATE          | ACK receiver start time                                                                                                                                                                                                                                                                                                                                                                                                                               |
| STATE                       | VARCHAR2 (27) | State of the ACK receiver: <ul style="list-style-type: none"> <li>• ACTIVE</li> <li>• INITIALIZING</li> <li>• POSTING USER TRANSACTION</li> <li>• WAITING FOR ACK FROM SENDER</li> <li>• WAITING FOR EOS FROM SENDER</li> </ul>                                                                                                                                                                                                                       |
| STATE_CHANGED_TIME          | DATE          | Time at which the ACK receiver state last changed                                                                                                                                                                                                                                                                                                                                                                                                     |
| ACK_SENDER_PEER_ID          | NUMBER        | ACK sender's database identifier of the follower                                                                                                                                                                                                                                                                                                                                                                                                      |
| TOTAL_ACKS_RECEIVED         | NUMBER        | Total number of ACKs received                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ACK_RECEIVED_TIME           | DATE          | Time at which ACK was last received                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LAST_ACK_LOG_INDEX_RECEIVED | NUMBER        | Last received ACK log index                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SPID                        | VARCHAR2 (12) | OS process identifier                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| LCR_CREATE_TIME             | DATE          | Commit LCR creation time                                                                                                                                                                                                                                                                                                                                                                                                                              |
| DB_ID                       | NUMBER        | Database identifier                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| IO_SYNC_READ_TIME           | NUMBER        | Time spent on synchronous reads on Raft logs (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                        |
| IO_ASYNC_CNT_LK_AHD_READS   | NUMBER        | Number of asynchronous reads on Raft logs                                                                                                                                                                                                                                                                                                                                                                                                             |
| IO_CNT_BLK_ASYNC_READ       | NUMBER        | Number of times blocking was required while waiting for asynchronous look-ahead reads                                                                                                                                                                                                                                                                                                                                                                 |
| IO_TIME_BLK_ASYNC_READ      | NUMBER        | Time spent waiting for asynchronous look-ahead reads (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                |
| IO_ASYNC_BLOCKS_READ        | NUMBER        | Total number of file blocks read asynchronously                                                                                                                                                                                                                                                                                                                                                                                                       |
| IO_ASYNC_CACHE_HITS         | NUMBER        | Number of file blocks used from the look-ahead buffer                                                                                                                                                                                                                                                                                                                                                                                                 |
| IO_BSRCH_SYNC_RDS           | NUMBER        | Number of times binary search was invoked to find a specific LCR                                                                                                                                                                                                                                                                                                                                                                                      |
| IO_CNT_CACHE_INVALID        | NUMBER        | Number of look-ahead read blocks that were stale                                                                                                                                                                                                                                                                                                                                                                                                      |
| IO_BLKS_REQUIRED            | NUMBER        | Number of look-ahead blocks that were required                                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID                      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

## 10.43 V\$SHARD\_ACK\_SENDER

V\$SHARD\_ACK\_SENDER displays information about ACK sender processes.

| Column                  | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID                     | NUMBER        | Session identifier of the ACK sender process                                                                                                                                                                                                                                                                                                                                                                                                      |
| SERIAL#                 | NUMBER        | Session serial number of the ACK sender process                                                                                                                                                                                                                                                                                                                                                                                                   |
| RU_ID                   | NUMBER        | Replication unit (RU) identifier                                                                                                                                                                                                                                                                                                                                                                                                                  |
| STARTUP_TIME            | DATE          | ACK sender start time                                                                                                                                                                                                                                                                                                                                                                                                                             |
| STATE                   | VARCHAR2 (25) | State of the ACK sender: <ul style="list-style-type: none"><li>• ACTIVE</li><li>• CONNECTING TO LEADER</li><li>• INITIALIZING</li><li>• SENDING ACK</li><li>• WAITING FOR LCR PERSISTER</li></ul>                                                                                                                                                                                                                                                 |
| STATE_CHANGED_TIME      | DATE          | Time at which the ACK sender state last changed                                                                                                                                                                                                                                                                                                                                                                                                   |
| LEADER_ID               | NUMBER        | Database identifier of the leader of the RU                                                                                                                                                                                                                                                                                                                                                                                                       |
| TOTAL_ACKS_SENT         | NUMBER        | Total number of ACKs sent                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ACK_TIME                | DATE          | Time at which ACK was last sent                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LAST_ACK_LOG_INDEX_SENT | NUMBER        | Last sent ACK log index                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SPID                    | VARCHAR2 (12) | OS process identifier                                                                                                                                                                                                                                                                                                                                                                                                                             |
| DB_ID                   | NUMBER        | Database identifier                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID                  | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



### Note:

This view is available starting with Oracle Database 23ai.

## 10.44 V\$SHARD\_APPLY\_COORDINATOR

V\$SHARD\_APPLY\_COORDINATOR displays information about apply coordinator processes.

| Column  | Datatype | Description                                            |
|---------|----------|--------------------------------------------------------|
| SID     | NUMBER   | Session identifier of the apply coordinator process    |
| SERIAL# | NUMBER   | Session serial number of the apply coordinator process |

| Column                   | Datatype       | Description                                                                                                                                                                                                                                                                                                                  |
|--------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATE                    | VARCHAR2 (21)  | <p>Apply coordinator state:</p> <ul style="list-style-type: none"> <li>ABORTING - Stopping because of an apply error</li> <li>APPLYING - Passing transactions to apply servers</li> <li>IDLE - Performing no work</li> <li>INITIALIZING - Initializing</li> <li>SHUTTING DOWN CLEANLY - Stopping without an error</li> </ul> |
| APPLY#                   | NUMBER         | <p>Apply process number</p> <p>An apply process is an Oracle background process, prefixed by ap.</p>                                                                                                                                                                                                                         |
| APPLY_NAME               | VARCHAR2 (128) | Name of the apply process                                                                                                                                                                                                                                                                                                    |
| TOTAL_APPLIED            | NUMBER         | Number of transactions applied by the apply process since the apply process was last started                                                                                                                                                                                                                                 |
| TOTAL_WAIT_DEPS          | NUMBER         | Number of times, since the apply process was last started, that an apply server waited to apply a logical change record (LCR) in a transaction until another apply server applied a transaction, because of a dependency between the transactions                                                                            |
| TOTAL_WAIT_COMMITS       | NUMBER         | Number of times, since the apply process was last started, that an apply server waited to commit a transaction until another apply server committed a transaction to serialize commits                                                                                                                                       |
| TOTAL_ADMIN              | NUMBER         | Number of administrative jobs issued since the apply process was last started                                                                                                                                                                                                                                                |
| TOTAL_ASSIGNED           | NUMBER         | Number of transactions assigned to apply servers since the apply process was last started                                                                                                                                                                                                                                    |
| TOTAL_RECEIVED           | NUMBER         | Number of transactions received by the coordinator process since the apply process was last started                                                                                                                                                                                                                          |
| TOTAL_IGNORED            | NUMBER         | Number of transactions that were received by the coordinator, but were ignored because they had been previously applied                                                                                                                                                                                                      |
| TOTAL_ROLLBACKS          | NUMBER         | Number of transactions that were rolled back due to unexpected contention                                                                                                                                                                                                                                                    |
| TOTAL_ERRORS             | NUMBER         | Number of transactions applied by the apply process that resulted in an apply error since the apply process was last started                                                                                                                                                                                                 |
| UNASSIGNED_COMPLETE_TXNS | NUMBER         | Number of unassigned complete transactions                                                                                                                                                                                                                                                                                   |
| AUTO_TXN_BUFFER_SIZE     | NUMBER         | Auto-tuned transaction buffer size                                                                                                                                                                                                                                                                                           |
| LWM_TIME                 | DATE           | <p>Time at which the LCR with the lowest log index was recorded</p> <p>The creation time of the LCR with the lowest LCR log index was also recorded at this time.</p>                                                                                                                                                        |
| LWM_LCR_LOG_INDEX        | NUMBER         | LCRs with a commit log index less than or equal to this number have definitely been applied, but some LCRs with a higher commit log index also may have been applied.                                                                                                                                                        |
| LWM_LCR_CREATE_TIME      | DATE           | Time at which the LCR corresponding to the low watermark was created                                                                                                                                                                                                                                                         |
| HWM_TIME                 | DATE           | <p>Time at which the LCR with the highest log index was recorded</p> <p>The creation time of the LCR with the highest LCR log index was also recorded at this time.</p>                                                                                                                                                      |
| HWM_LCR_LOG_INDEX        | NUMBER         | No LCR with a commit log index greater than this LCR log index has been applied                                                                                                                                                                                                                                              |
| HWM_LCR_CREATE_TIME      | DATE           | Time at which the LCR corresponding to the high watermark was created                                                                                                                                                                                                                                                        |
| STARTUP_TIME             | DATE           | Apply coordinator process start time                                                                                                                                                                                                                                                                                         |

| Column                  | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ELAPSED_SCHEDULE_TIME   | NUMBER   | Time elapsed (in hundredths of a second) spent scheduling transactions since the apply process was last started                                                                                                                                                                                                                                                                                                                             |
| ELAPSED_IDLE_TIME       | NUMBER   | Elapsed idle time (in hundredths of a second) since the apply process was last started                                                                                                                                                                                                                                                                                                                                                      |
| PROCESSED_LCR_LOG_INDEX | NUMBER   | LCR log index currently processed by the apply coordinator                                                                                                                                                                                                                                                                                                                                                                                  |
| ACTIVE_SERVER_COUNT     | NUMBER   | Number of active servers                                                                                                                                                                                                                                                                                                                                                                                                                    |
| RU_ID                   | NUMBER   | Replication unit (RU) identifier                                                                                                                                                                                                                                                                                                                                                                                                            |
| DB_ID                   | NUMBER   | Database identifier                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID                  | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

## 10.45 V\$SHARD\_APPLY\_LCR\_READER

V\$SHARD\_APPLY\_LCR\_READER displays information about apply LCR reader processes.

| Column                 | Datatype       | Description                                                                                                                                                                                                                                                                                  |
|------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID                    | NUMBER         | Session identifier of the apply LCR reader process                                                                                                                                                                                                                                           |
| SERIAL#                | NUMBER         | Session serial number of the apply LCR reader process                                                                                                                                                                                                                                        |
| APPLY#                 | NUMBER         | Apply process number<br>An apply process is an Oracle background process, prefixed by <code>ap</code> .                                                                                                                                                                                      |
| APPLY_NAME             | VARCHAR2 (128) | Name of the apply process group                                                                                                                                                                                                                                                              |
| STATE                  | VARCHAR2 (36)  | State of the apply LCR reader: <ul style="list-style-type: none"><li>DEQUEUEING LCR</li><li>ENQUEUEING LCR</li><li>GENERATING HASH VALUES</li><li>IDLE</li><li>INITIALIZING</li><li>READ ON DISK LCRS</li><li>WAITING ON EMPTY INBOUND QUEUE</li><li>WAITING ON FULL INBOUND QUEUE</li></ul> |
| TOTAL_LCRS_DEQUEUED    | NUMBER         | Total number of LCRs read                                                                                                                                                                                                                                                                    |
| DEQUEUE_TIME           | DATE           | Last read LCR time                                                                                                                                                                                                                                                                           |
| DEQUEUED_LCR_LOG_INDEX | NUMBER         | Last read LCR log index                                                                                                                                                                                                                                                                      |

| Column                     | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DEQUEUED_LCR_CREATE_TIME   | DATE     | Last read LCR create time                                                                                                                                                                                                                                                                                                                                                                                                                   |
| RU_ID                      | NUMBER   | Replication unit (RU) identifier                                                                                                                                                                                                                                                                                                                                                                                                            |
| DB_ID                      | NUMBER   | Database identifier                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TOTAL_ON_DISK_LCRS_READ    | NUMBER   | Number of LCRs read from disk                                                                                                                                                                                                                                                                                                                                                                                                               |
| LAST_ON_DISK_LCR_LOG_INDEX | NUMBER   | Last LCR log index read from disk                                                                                                                                                                                                                                                                                                                                                                                                           |
| STARTUP_TIME               | DATE     | Apply LCR reader start time                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID                     | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

## 10.46 V\$\$SHARD\_APPLY\_READER

V\$\$SHARD\_APPLY\_READER displays information about apply reader processes.

| Column                   | Datatype       | Description                                                                                                                                                                                                           |
|--------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID                      | NUMBER         | Session identifier of the apply reader process                                                                                                                                                                        |
| SERIAL#                  | NUMBER         | Session serial number of the apply reader process                                                                                                                                                                     |
| APPLY#                   | NUMBER         | Apply process number<br>An apply process is an Oracle background process, prefixed by <code>ap</code> .                                                                                                               |
| APPLY_NAME               | VARCHAR2 (128) | Name of the apply process                                                                                                                                                                                             |
| STATE                    | VARCHAR2 (36)  | State of the apply reader: <ul style="list-style-type: none"><li>DEQUEUE LCRS</li><li>IDLE</li><li>INITIALIZING</li><li>PAUSED - WAITING FOR DDL TO COMPLETE</li><li>SCHEDULE TRANSACTIONS</li><li>SPELLING</li></ul> |
| TOTAL_LCRS_DEQUEUED      | NUMBER         | Total number of LCRs read                                                                                                                                                                                             |
| TOTAL_LCRS_SPELLIED      | NUMBER         | Total number of LCRs spilled                                                                                                                                                                                          |
| DEQUEUE_TIME             | DATE           | Last read LCR time                                                                                                                                                                                                    |
| DEQUEUED_LCR_LOG_INDEX   | NUMBER         | Last read LCR log index                                                                                                                                                                                               |
| DEQUEUED_LCR_CREATE_TIME | DATE           | Last read LCR create time                                                                                                                                                                                             |



| Column                     | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SGA_USED                   | NUMBER         | Amount of SGA memory (in bytes) used by the apply process since it was last started                                                                                                                                                                                                                                                                                                                                                             |
| ELAPSED_DEQUEUE_TIME       | NUMBER         | Time elapsed (in hundredths of a second) while dequeuing the last LCR                                                                                                                                                                                                                                                                                                                                                                           |
| ELAPSED_SCHEDULE_TIME      | NUMBER         | Time elapsed (in hundredths of a second) spent scheduling transactions since the apply process was last started                                                                                                                                                                                                                                                                                                                                 |
| ELAPSED_SPILL_TIME         | NUMBER         | Time elapsed (in hundredths of a second) while spilling LCRs                                                                                                                                                                                                                                                                                                                                                                                    |
| LAST_BROWSE_LOG_INDEX      | NUMBER         | Last browsed LCR log index                                                                                                                                                                                                                                                                                                                                                                                                                      |
| OLDEST_LOG_INDEX           | NUMBER         | Oldest log index                                                                                                                                                                                                                                                                                                                                                                                                                                |
| OLDEST_XIDUSN              | NUMBER         | Transaction ID undo segment number of the oldest transaction                                                                                                                                                                                                                                                                                                                                                                                    |
| OLDEST_XIDSLT              | NUMBER         | Transaction ID slot number of the oldest transaction                                                                                                                                                                                                                                                                                                                                                                                            |
| OLDEST_XIDSQN              | NUMBER         | Transaction ID sequence number of the oldest transaction                                                                                                                                                                                                                                                                                                                                                                                        |
| SPILL_LWM_LOG_INDEX        | NUMBER         | Spill low-watermark log index                                                                                                                                                                                                                                                                                                                                                                                                                   |
| OLDEST_TRANSACTION_ID      | VARCHAR2 (128) | Oldest transaction ID                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TOTAL_LCRS_WITH_DEP        | NUMBER         | Number of LCRs with row-level dependencies since the apply process last started                                                                                                                                                                                                                                                                                                                                                                 |
| TOTAL_LCRS_WITH_WMDEP      | NUMBER         | Number of LCRs with watermark dependencies since the apply process last started<br>A watermark dependency occurs when an apply process must wait until the apply process's low watermark reaches a particular threshold.                                                                                                                                                                                                                        |
| TOTAL_IN_MEMORY_LCRS       | NUMBER         | Total number of LCRs currently in memory                                                                                                                                                                                                                                                                                                                                                                                                        |
| SGA_ALLOCATED              | NUMBER         | Total amount of shared memory (in bytes) allocated from the SGA for the apply process since the apply process last started                                                                                                                                                                                                                                                                                                                      |
| RU_ID                      | NUMBER         | Replication unit (RU) identifier                                                                                                                                                                                                                                                                                                                                                                                                                |
| DB_ID                      | NUMBER         | Database identifier                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TOTAL_ON_DISK_LCRS_READ    | NUMBER         | Number of LCRs read from disk                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LAST_ON_DISK_LCR_LOG_INDEX | NUMBER         | Last LCR log index read from disk                                                                                                                                                                                                                                                                                                                                                                                                               |
| STARTUP_TIME               | DATE           | Apply reader process start time                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID                     | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

## 10.47 V\$SHARD\_APPLY\_SERVER

V\$SHARD\_APPLY\_SERVER displays information about apply server components.

| Column               | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID                  | NUMBER         | Session identifier of the apply server component                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SERIAL#              | NUMBER         | Session serial number of the apply server component                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| APPLY#               | NUMBER         | Apply process number<br>An apply process is an Oracle background process, prefixed by ap.                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| APPLY_NAME           | VARCHAR2 (128) | Name of the apply process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SERVER_ID            | NUMBER         | Parallel execution server number of the apply server                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| STATE                | VARCHAR2 (20)  | State of the apply server: <ul style="list-style-type: none"> <li>• ADD PARTITION</li> <li>• DROP PARTITION</li> <li>• EXECUTE TRANSACTION</li> <li>• GET TRANSACTIONS</li> <li>• IDLE</li> <li>• INACTIVE</li> <li>• INITIALIZING</li> <li>• POLL SHUTDOWN</li> <li>• RECORD LOW-WATERMARK</li> <li>• REQUEST UA SESSION</li> <li>• ROLLBACK TRANSACTIONS</li> <li>• SPILL</li> <li>• TRANSACTION CLEANUP</li> <li>• WAIT COMMIT</li> <li>• WAIT DEPENDENCY</li> <li>• WAIT FOR CLIENT</li> <li>• WAIT FOR NEXT CHUNK</li> <li>• WAIT POST COMMIT</li> </ul> |
| XIDUSN               | NUMBER         | Transaction ID undo segment number of the transaction currently being applied                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| XIDSLT               | NUMBER         | Transaction ID slot number of the transaction currently being applied                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| XIDSQN               | NUMBER         | Transaction ID undo sequence number of the transaction currently being applied                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMMIT_LOG_INDEX     | NUMBER         | Commit log index of the transaction currently being applied                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| DEP_XIDUSN           | NUMBER         | Transaction ID undo segment number of a transaction on which the transaction being applied by this apply server depends                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| DEP_XIDSLT           | NUMBER         | Transaction ID slot number of a transaction on which the transaction being applied by this apply server depends                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DEP_XIDSQN           | NUMBER         | Transaction ID sequence number of a transaction on which the transaction being applied by this apply server depends                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DEP_COMMIT_LOG_INDEX | NUMBER         | Commit log index of the transaction on which this apply server depends                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CURRENT_LOG_INDEX    | NUMBER         | Current LCR log index being applied by the apply server. This value is reset to 1 at the beginning of each transaction.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TOTAL_ASSIGNED       | NUMBER         | Number of transactions assigned to the apply server since the apply process was last started                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| Column                  | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TOTAL_ADMIN             | NUMBER         | Number of administrative jobs performed by the apply server since the apply process was last started. See the <code>STATE</code> information in this view for the types of administrative jobs.                                                                                                                                                                                                                                                 |
| TOTAL_ROLLBACKS         | NUMBER         | Number of transactions assigned to this server that were rolled back                                                                                                                                                                                                                                                                                                                                                                            |
| TOTAL_LCRS_APPLIED      | NUMBER         | Total number of LCRs applied by this apply server since the apply process was last started                                                                                                                                                                                                                                                                                                                                                      |
| APPLY_TIME              | DATE           | Time the last LCR was applied                                                                                                                                                                                                                                                                                                                                                                                                                   |
| APPLIED_LCR_LOG_INDEX   | NUMBER         | Last applied LCR log index                                                                                                                                                                                                                                                                                                                                                                                                                      |
| APPLIED_LCR_CREATE_TIME | DATE           | Last applied LCR create time                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ELAPSED_DEQUEUE_TIME    | NUMBER         | Time elapsed (in hundredths of a second) while dequeuing LCRs                                                                                                                                                                                                                                                                                                                                                                                   |
| ELAPSED_APPLY_TIME      | NUMBER         | Time elapsed (in hundredths of a second) applying LCRs since the apply process was last started                                                                                                                                                                                                                                                                                                                                                 |
| TRANSACTION_ID          | VARCHAR2 (128) | ID of the transaction that the slave is applying                                                                                                                                                                                                                                                                                                                                                                                                |
| TOTAL_LCRS_RETRIED      | NUMBER         | Total number of LCRs retried by this server                                                                                                                                                                                                                                                                                                                                                                                                     |
| LCR_RETRY_ITERATION     | NUMBER         | Retry iteration for this transaction by this server                                                                                                                                                                                                                                                                                                                                                                                             |
| TOTAL_TXNS_RETRIED      | NUMBER         | Total number of LCRs retried by this server                                                                                                                                                                                                                                                                                                                                                                                                     |
| TXN_RETRY_ITERATION     | NUMBER         | Retry iteration for this transaction by this server                                                                                                                                                                                                                                                                                                                                                                                             |
| TOTAL_TXNS_RECORDED     | NUMBER         | Total transactions recorded in error queue by this server                                                                                                                                                                                                                                                                                                                                                                                       |
| RU_ID                   | NUMBER         | Replication unit (RU) identifier                                                                                                                                                                                                                                                                                                                                                                                                                |
| DB_ID                   | NUMBER         | Database identifier                                                                                                                                                                                                                                                                                                                                                                                                                             |
| STARTUP_TIME            | DATE           | Apply server process start time                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID                  | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

## 10.48 V\$SHARD\_LCR\_LOGS

V\$SHARD\_LCR\_LOGS displays information about LCR logs.

| Column  | Datatype       | Description                   |
|---------|----------------|-------------------------------|
| INST_ID | NUMBER         | Instance ID                   |
| RU_ID   | NUMBER         | Replication unit (RU) ID      |
| NAME    | VARCHAR2 (257) | Name and path of the log file |

| Column      | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SIZE_GB     | NUMBER       | Size of the log file (in gigabytes)                                                                                                                                                                                                                                                                                                                                                                                                             |
| ROTD_IDX    | NUMBER       | Rotated index                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CURR_FILE   | VARCHAR2 (1) | Indicates whether the file is current (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                            |
| STIDX_HIGH  | NUMBER       | High 4 bytes of the starting log index in the log file                                                                                                                                                                                                                                                                                                                                                                                          |
| STIDX_LOW   | NUMBER       | Low 4 bytes of the starting log index in the log file                                                                                                                                                                                                                                                                                                                                                                                           |
| ENDIDX_HIGH | NUMBER       | High 4 bytes of the ending log index in the log file                                                                                                                                                                                                                                                                                                                                                                                            |
| ENDIDX_LOW  | NUMBER       | Low 4 bytes of the ending logindex in the log file                                                                                                                                                                                                                                                                                                                                                                                              |
| START_SEC   | NUMBER       | Time when this log file was first written to, measured in seconds from the epoch                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID      | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

## 10.49 V\$SHARD\_LCR\_PERSISTER

V\$SHARD\_LCR\_PERSISTER displays information about LCR persister processes.

This view displays one row for each LCR persister for a replication unit (RU).

| Column              | Datatype      | Description                                                                                                                                                                                                                        |
|---------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID                 | NUMBER        | Session identifier of the LCR persister process                                                                                                                                                                                    |
| SERIAL#             | NUMBER        | Session serial number of the LCR persister process                                                                                                                                                                                 |
| RU_ID               | NUMBER        | Replication unit (RU) identifier                                                                                                                                                                                                   |
| STARTUP_TIME        | DATE          | LCR persister process start time                                                                                                                                                                                                   |
| STATE               | VARCHAR2 (30) | State of the LCR persister: <ul style="list-style-type: none"> <li>ACTIVE</li> <li>INITIALIZING</li> <li>READING FROM IO</li> <li>WAITING FOR BUFFERS TO PERSIST</li> <li>WAITING ON EMPTY QUEUE</li> <li>WRITING TO IO</li> </ul> |
| STATE_CHANGED_TIME  | DATE          | Time at which the LCR persister state last changed                                                                                                                                                                                 |
| PERSISTED_LOG_INDEX | NUMBER        | Last persisted LCR log index                                                                                                                                                                                                       |
| PERSISTED_TIMESTAMP | DATE          | Timestamp of the last persisted LCR                                                                                                                                                                                                |

| Column                  | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IOBUF_INIT_US           | NUMBER        | Write buffer initialization time (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                              |
| LEAD_IO_ISSUED_COUNT    | NUMBER        | Number of times I/O was issued on the leader                                                                                                                                                                                                                                                                                                                                                                                                    |
| LEAD_IO_ISSUED_US       | NUMBER        | Time spent (in microseconds) during I/O on the leader                                                                                                                                                                                                                                                                                                                                                                                           |
| LEAD_IO_ISSUED_BLKs     | NUMBER        | Number of blocks written on the leader                                                                                                                                                                                                                                                                                                                                                                                                          |
| LEAD_IO_FETCHED_COUNT   | NUMBER        | Number of times LCR persister issued fetch on the leader                                                                                                                                                                                                                                                                                                                                                                                        |
| LEAD_IO_FETCHED_US      | NUMBER        | Time (in microseconds) to fetch blocks                                                                                                                                                                                                                                                                                                                                                                                                          |
| LEAD_IO_FETCHED_SUCCESS | NUMBER        | Number of times the LCR persister actually fetched                                                                                                                                                                                                                                                                                                                                                                                              |
| LEAD_IO_BLOCKED_COUNT   | NUMBER        | Number of times I/O blocked on the leader                                                                                                                                                                                                                                                                                                                                                                                                       |
| LEAD_IO_BLOCKED_US      | NUMBER        | Time (in microseconds) spent while the I/O was blocked                                                                                                                                                                                                                                                                                                                                                                                          |
| LEAD_IO_COMMITS_COUNT   | NUMBER        | Number of times commit processed on the leader                                                                                                                                                                                                                                                                                                                                                                                                  |
| FOLL_IO_ISSUED_COUNT    | NUMBER        | Number of times I/O was issued on the follower                                                                                                                                                                                                                                                                                                                                                                                                  |
| FOLL_IO_ISSUED_US       | NUMBER        | Time spent during I/O on the follower (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                         |
| FOLL_IO_ISSUED_BLKs     | NUMBER        | Number of blocks written on the follower                                                                                                                                                                                                                                                                                                                                                                                                        |
| FOLL_IO_COMMITS_COUNT   | NUMBER        | Number of times commit processed on the follower                                                                                                                                                                                                                                                                                                                                                                                                |
| SPID                    | VARCHAR2 (12) | OS process identifier                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DB_ID                   | NUMBER        | Database identifier                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID                  | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

## 10.50 V\$SHARD\_LCR\_PRODUCER

V\$SHARD\_LCR\_PRODUCER displays information about LCR producer processes.

| Column       | Datatype | Description                                       |
|--------------|----------|---------------------------------------------------|
| SID          | NUMBER   | Session identifier of the LCR producer process    |
| SERIAL#      | NUMBER   | Session serial number of the LCR producer process |
| RU_ID        | NUMBER   | Replication unit (RU) identifier                  |
| STARTUP_TIME | DATE     | LCR producer process start time                   |

| Column                                 | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATE                                  | VARCHAR2 (33) | State of the LCR producer: <ul style="list-style-type: none"> <li>ACTIVE</li> <li>BROWSING LCR</li> <li>DEQUEUEING LCR</li> <li>ENQUEUEING LCR</li> <li>INITIALIZING</li> <li>WAITING FOR MEMORY</li> <li>WAITING ON EMPTY INBOUND QUEUE</li> <li>WAITING ON SUBSCRIBERS TO DEQUEUE</li> </ul>                                                                                                                                                  |
| STATE_CHANGED_TIME                     | DATE          | Time at which the LCR producer state last changed                                                                                                                                                                                                                                                                                                                                                                                               |
| OUTBOUND_QUEUE_SIZE                    | NUMBER        | Outbound queue size                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TOTAL_AVAILABLE_LCRS_IN_OUTBOUND_QUEUE | NUMBER        | Total number of LCRs available in the outbound queue                                                                                                                                                                                                                                                                                                                                                                                            |
| NEXT_LOG_INDEX                         | NUMBER        | Next LCR log index                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TOTAL_LCRS_DEQUEUED                    | NUMBER        | Total number of LCRs dequeued from the foreground queue                                                                                                                                                                                                                                                                                                                                                                                         |
| LAST_DEQUEUED_LCR_LOG_INDEX            | NUMBER        | Last dequeued LCR log index                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TOTAL_LCRS_ENQUEUED                    | NUMBER        | Total number of LCRs enqueued into the outbound queue                                                                                                                                                                                                                                                                                                                                                                                           |
| LAST_ENQUEUED_TIME                     | DATE          | Last LCR enqueued time                                                                                                                                                                                                                                                                                                                                                                                                                          |
| LAST_ENQUEUED_LCR_TIME                 | DATE          | Creation time of the last LCR enqueued                                                                                                                                                                                                                                                                                                                                                                                                          |
| LAST_ENQUEUED_LCR_LOG_INDEX            | NUMBER        | Last enqueued LCR log index                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SPID                                   | VARCHAR2 (12) | OS process identifier                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DB_ID                                  | NUMBER        | Database identifier                                                                                                                                                                                                                                                                                                                                                                                                                             |
| FLWCTRL_PEERS                          | VARCHAR2 (64) | Flow control state                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID                                 | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

## 10.51 V\$SHARD\_NETWORK\_RECEIVER

V\$SHARD\_NETWORK\_RECEIVER displays information about network receiver processes.

| Column                             | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID                                | NUMBER         | Session identifier of the network receiver process                                                                                                                                                                                                                                                                                                                                                                                                      |
| SERIAL#                            | NUMBER         | Session serial number of the network receiver process                                                                                                                                                                                                                                                                                                                                                                                                   |
| APPLY_NAME                         | VARCHAR2 (128) | Name of the apply process                                                                                                                                                                                                                                                                                                                                                                                                                               |
| STARTUP_TIME                       | DATE           | Network receiver start time                                                                                                                                                                                                                                                                                                                                                                                                                             |
| RU_ID                              | NUMBER         | Replication unit (RU) identifier                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SPILL_LWM                          | NUMBER         | Highest log index of LCRs that an apply has persisted to its spilled tables                                                                                                                                                                                                                                                                                                                                                                             |
| LAST_RECEIVED_LOG_INDEX            | NUMBER         | Log index of the last received LCR                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TOTAL_LCRS_RECEIVED                | NUMBER         | Total number of LCRs received                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TOTAL_AVAILABLE_LCRS               | NUMBER         | Total number of LCRs available in knlbnm                                                                                                                                                                                                                                                                                                                                                                                                                |
| STATE                              | VARCHAR2 (38)  | State of the network receiver: <ul style="list-style-type: none"> <li>• Enqueueing LCRs</li> <li>• Initializing</li> <li>• Receiving LCRs</li> <li>• Sending unapplied txns</li> <li>• Waiting for apply error to be resolved</li> <li>• Waiting for apply to be unsuspended</li> <li>• Waiting for apply to dequeue</li> <li>• Waiting for flush request to complete</li> <li>• Waiting for memory</li> <li>• Waiting for message from peer</li> </ul> |
| SPID                               | VARCHAR2 (12)  | OS process identifier                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LAST_RECEIVED_LCR_TIME             | DATE           | Time last LCR was received                                                                                                                                                                                                                                                                                                                                                                                                                              |
| LAST_RECEIVED_LCR_CREATE_TIME      | DATE           | Creation time of last received LCR                                                                                                                                                                                                                                                                                                                                                                                                                      |
| REMOTE_PEER_ID                     | NUMBER         | Database ID of the leader of this RU                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TOTAL_SKIPPED_ENQUEUE_LCRS         | NUMBER         | Total number of LCRs skipped for enqueueing to apply queue                                                                                                                                                                                                                                                                                                                                                                                              |
| LAST_SKIPPED_ENQUEUE_LCR_LOG_INDEX | NUMBER         | LCR log index of the last skipped enqueue to the apply queue                                                                                                                                                                                                                                                                                                                                                                                            |
| DB_ID                              | NUMBER         | Database identifier                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TOTAL_BYTES_RECEIVED               | NUMBER         | Total number of bytes received                                                                                                                                                                                                                                                                                                                                                                                                                          |
| IO_SYNC_READ_TIME                  | NUMBER         | Time spent on synchronous reads on Raft logs (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                          |
| IO_ASYNC_CNT_LK_AHD_READS          | NUMBER         | Number of asynchronous reads on Raft logs                                                                                                                                                                                                                                                                                                                                                                                                               |
| IO_CNT_BLK_ASYNC_READ              | NUMBER         | Number of times blocking was required while waiting for asynchronous look-ahead reads                                                                                                                                                                                                                                                                                                                                                                   |
| IO_TIME_BLK_ASYNC_READ             | NUMBER         | Time spent waiting for asynchronous look-ahead reads (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                  |
| IO_ASYNC_BLOCKS_READ               | NUMBER         | Total number of file blocks read asynchronously                                                                                                                                                                                                                                                                                                                                                                                                         |
| IO_ASYNC_CACHE_HITS                | NUMBER         | Number of file blocks used from the look-ahead buffer                                                                                                                                                                                                                                                                                                                                                                                                   |
| IO_BSRCH_SYNC_RDS                  | NUMBER         | Number of times binary search was invoked to find a specific LCR                                                                                                                                                                                                                                                                                                                                                                                        |
| IO_CNT_CACHE_INVALID               | NUMBER         | Number of look-ahead read blocks that were stale                                                                                                                                                                                                                                                                                                                                                                                                        |
| IO_BLKs_REQUIRED                   | NUMBER         | Number of look-ahead blocks that were required                                                                                                                                                                                                                                                                                                                                                                                                          |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

## 10.52 V\$SHARD\_NETWORK\_SENDER

V\$SHARD\_NETWORK\_SENDER displays information about network sender processes.

| Column                     | Datatype      | Description                                                                                                                                                                                                                           |
|----------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID                        | NUMBER        | Session identifier of the network sender process                                                                                                                                                                                      |
| SERIAL#                    | NUMBER        | Session serial number of the network sender process                                                                                                                                                                                   |
| RU_ID                      | NUMBER        | Replication unit (RU) identifier                                                                                                                                                                                                      |
| REMOTE_PEER_ID             | NUMBER        | Remote follower's database identifier of this RU                                                                                                                                                                                      |
| STARTUP_TIME               | DATE          | Network sender process start time                                                                                                                                                                                                     |
| STATE                      | VARCHAR2 (22) | State of the network sender: <ul style="list-style-type: none"> <li>ACTIVE</li> <li>BROWSING LCR</li> <li>CONNECTING TO FOLLOWER</li> <li>DEQUEUEING LCR SENDING LCR</li> <li>INITIALIZING</li> <li>WAITING ON EMPTY QUEUE</li> </ul> |
| STATE_CHANGED_TIME         | DATE          | Time at which the network sender state last changed                                                                                                                                                                                   |
| TOTAL_LCRS_SENT            | NUMBER        | Number of LCRs sent                                                                                                                                                                                                                   |
| BROWSED_TIME               | DATE          | Last browsed LCR time                                                                                                                                                                                                                 |
| LAST_BROWSED_LCR_LOG_INDEX | NUMBER        | Last browsed LCR log index                                                                                                                                                                                                            |
| SEND_TIME                  | DATE          | Time at which last LCR was sent                                                                                                                                                                                                       |
| LAST_SENT_LCR_LOG_INDEX    | NUMBER        | Last sent LCR log index                                                                                                                                                                                                               |
| LAST_SENT_LCR_TIME         | DATE          | Creation time of the last sent LCR                                                                                                                                                                                                    |
| ELAPSED_PROPAGATION_TIME   | NUMBER        | Amount of time taken to propagate LCRs (in what unit of time?)                                                                                                                                                                        |
| AVAILABLE_LCRS             | NUMBER        | Number of LCRs available in outbound queue                                                                                                                                                                                            |
| SPID                       | VARCHAR2 (12) | OS process identifier                                                                                                                                                                                                                 |
| CONNECT_ERROR_COUNT        | NUMBER        | Number of network sender connection errors                                                                                                                                                                                            |



| Column                    | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DB_ID                     | NUMBER   | Database identifier                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TOTAL_BYTES_SENT          | NUMBER   | Total number of bytes sent                                                                                                                                                                                                                                                                                                                                                                                                                  |
| IO_SYNC_READ_TIME         | NUMBER   | Time spent on synchronous reads on Raft logs (in microseconds)                                                                                                                                                                                                                                                                                                                                                                              |
| IO_ASYNC_CNT_LK_AHD_READS | NUMBER   | Number of asynchronous reads on Raft logs                                                                                                                                                                                                                                                                                                                                                                                                   |
| IO_CNT_BLK_ASYNC_REA      | NUMBER   | Number of times blocking was required while waiting for asynchronous look-ahead reads                                                                                                                                                                                                                                                                                                                                                       |
| IO_TIME_BLK_ASYNC_READ    | NUMBER   | Time spent waiting for asynchronous look-ahead reads (in microseconds)                                                                                                                                                                                                                                                                                                                                                                      |
| IO_ASYNC_BLOCKS_READ      | NUMBER   | Total number of file blocks read asynchronously                                                                                                                                                                                                                                                                                                                                                                                             |
| IO_ASYNC_CACHE_HITS       | NUMBER   | Number of file blocks used from the look-ahead buffer                                                                                                                                                                                                                                                                                                                                                                                       |
| IO_BSRCH_SYNC_RDS         | NUMBER   | Number of times binary search was invoked to find a specific LCR                                                                                                                                                                                                                                                                                                                                                                            |
| IO_CNT_CACHE_INVALID      | NUMBER   | Number of look-ahead read blocks that were stale                                                                                                                                                                                                                                                                                                                                                                                            |
| IO_BLKs_REQUIRED          | NUMBER   | Number of look-ahead blocks that were required                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID                    | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

## 10.53 V\$SHARD\_REPLICATION\_UNIT

V\$SHARD\_REPLICATION\_UNIT displays information about replication units (RUs) that are present in a shard.

This view displays one row for each RU.

| Column    | Datatype | Description                                                                                                                                                                                              |
|-----------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SHARD_ID  | NUMBER   | Shard database identifier                                                                                                                                                                                |
| RU_ID     | NUMBER   | Replication unit (RU) identifier                                                                                                                                                                         |
| LEADER_ID | NUMBER   | Leader's SHARD_ID for the corresponding RU                                                                                                                                                               |
| ROLE      | NUMBER   | Role of the shard for the RU: <ul style="list-style-type: none"><li>1 - The shard is the leader</li><li>2 - The shard is the follower</li><li>3 - The shard is a candidate for leader election</li></ul> |
| TERM      | NUMBER   | Term number<br>This value is incremented each time a new leader is elected.                                                                                                                              |

| Column            | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMMITIDX         | NUMBER        | LCRs with a log index of COMMITIDX or lower have consensus                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| OLDAPPIDX         | NUMBER        | Oldest log index that an apply process group may need                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| APPLYLWMIDX       | NUMBER        | Position of apply low watermark on the follower                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| ONDISKIDX         | NUMBER        | Persisted log index                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| FLAGS             | NUMBER        | <p>State of the shard with respect to the RU:</p> <ul style="list-style-type: none"> <li>0x00000001 - PRE-SHUTDOWN</li> <li>0x00000002 - IN MOVE</li> <li>0x00000004 - IN COPY</li> <li>0x00000008 - LEADER NOT RECOVERED</li> <li>0x00000010 - OPEN LEADER</li> <li>0x00000020 - ELECTION REQUEST</li> <li>0x00000040 - AFTER VOTE</li> <li>0x00000080 - DRAIN KNLBM LEADER TO FOLLOWER</li> </ul> <p>When a shard becomes follower, the knlb buffer should be drained.</p> <ul style="list-style-type: none"> <li>0x00000100 - BARRIER DDL SUSPEND</li> <li>0x00000200 - BARRIER DDL RESUME</li> <li>0x00000400 - RESUME NOTIFICATION</li> <li>0x00000800 - RU LOADED</li> <li>0x00001000 - SUSPEND APPLY KNLB ENQ</li> <li>0x00002000 - NETWORK RECEIVER RAISED</li> <li>0x00004000 - ERROR CHECK HINT</li> </ul> <p>Set by foreground using DBMS_APPLY_ADM.DELETE_ALL_ERRORS.<br/>When this flag is set, the network receiver can immediately check the number of apply errors without waiting for a timeout.</p> <ul style="list-style-type: none"> <li>0x00008000 - SUSPEND CHECK HINT</li> </ul> <p>Set by foreground using DBMS_APPLY_ADM.DELETE_ALL_ERRORS.<br/>When this flag is set, the network receiver can immediately check the apply suspend status without waiting for a timeout.</p> <ul style="list-style-type: none"> <li>0x00010000 - ERRORS</li> </ul> <p>When this flag is set, the RU has active errors. The flag will be unset upon successful recovery.</p> <ul style="list-style-type: none"> <li>0x00020000 - GP AUTO RESTART</li> <li>0x00040000 - FOLLOWER CATCHUP</li> <li>0x00100000 - DELETE LOG STOP ENQ</li> <li>0x00200000 - OPTIMISE APPLY STOP DELETE LOG TAIL</li> </ul> |
| ROLE_CHANGED_TIME | TIMESTAMP (6) | Time at which the role for the RU in the shard last changed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| RECOVERY_TIME     | TIMESTAMP (6) | Amount of time taken for recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID            | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

**Note:**

This view is available starting with Oracle Database 23ai.

## 10.54 V\$SHARED\_POOL\_ADVICE

V\$SHARED\_POOL\_ADVICE displays information about estimated parse time in the shared pool for different pool sizes. The sizes range from 10% of the current shared pool size or the amount of pinned library cache memory (whichever is higher) to 200% of the current shared pool size, in equal intervals. The value of the interval depends on the current size of the shared pool.

| Column                        | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SHARED_POOL_SIZE_FOR_ESTIMATE | NUMBER   | Shared pool size for the estimate (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                                |
| SHARED_POOL_SIZE_FACTOR       | NUMBER   | Size factor with respect to the current shared pool size                                                                                                                                                                                                                                                                                                                                                                                        |
| ESTD_LC_SIZE                  | NUMBER   | Estimated memory in use by the library cache (in megabytes)                                                                                                                                                                                                                                                                                                                                                                                     |
| ESTD_LC_MEMORY_OBJECTS        | NUMBER   | Estimated number of library cache memory objects in the shared pool of the specified size                                                                                                                                                                                                                                                                                                                                                       |
| ESTD_LC_TIME_SAVED            | NUMBER   | Estimated elapsed parse time saved (in seconds), owing to library cache memory objects being found in a shared pool of the specified size. This is the time that would have been spent in reloading the required objects in the shared pool had they been aged out due to insufficient amount of available free memory.                                                                                                                         |
| ESTD_LC_TIME_SAVED_FACTOR     | NUMBER   | Estimated parse time saved factor with respect to the current shared pool size                                                                                                                                                                                                                                                                                                                                                                  |
| ESTD_LC_LOAD_TIME             | NUMBER   | Estimated elapsed time (in seconds) for parsing in a shared pool of the specified size                                                                                                                                                                                                                                                                                                                                                          |
| ESTD_LC_LOAD_TIME_FACTOR      | NUMBER   | Estimated load time factor with respect to the current shared pool size                                                                                                                                                                                                                                                                                                                                                                         |
| ESTD_LC_MEMORY_OBJECT_HITS    | NUMBER   | Estimated number of times a library cache memory object was found in a shared pool of the specified size                                                                                                                                                                                                                                                                                                                                        |
| CON_ID                        | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.55 V\$SHARED\_POOL\_RESERVED

V\$SHARED\_POOL\_RESERVED displays statistics that help you tune the reserved pool and space within the shared pool.

| Column        | Datatype | Description                                                                |
|---------------|----------|----------------------------------------------------------------------------|
| FREE_SPACE    | NUMBER   | Total amount of free space on the reserved list in bytes <sup>1</sup>      |
| AVG_FREE_SIZE | NUMBER   | Average size of the free memory on the reserved list in bytes <sup>1</sup> |

| Column                    | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FREE_COUNT                | NUMBER   | Number of free pieces of memory on the reserved list <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                               |
| MAX_FREE_SIZE             | NUMBER   | Size of the largest free piece of memory on the reserved list in bytes <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                             |
| USED_SPACE                | NUMBER   | Total amount of used memory on the reserved list in bytes <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                          |
| AVG_USED_SIZE             | NUMBER   | Average size of the used memory on the reserved list in bytes <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                      |
| USED_COUNT                | NUMBER   | Number of used pieces of memory on the reserved list <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                               |
| MAX_USED_SIZE             | NUMBER   | Size of the largest used piece of memory on the reserved list in bytes <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                             |
| REQUESTS                  | NUMBER   | Number of times that the reserved list was searched for a free piece of memory <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                     |
| REQUEST_MISSES            | NUMBER   | Number of times the reserved list did not have a free piece of memory to satisfy the request, and started flushing objects from the LRU list <sup>1</sup>                                                                                                                                                                                                                                                                                       |
| LAST_MISS_SIZE            | NUMBER   | Request size of the last request miss in bytes, when the reserved list did not have a free piece of memory to satisfy the request and started flushing objects from the LRU list <sup>1</sup>                                                                                                                                                                                                                                                   |
| MAX_MISS_SIZE             | NUMBER   | Request size of the largest request miss in bytes, when the reserved list did not have a free piece of memory to satisfy the request and started flushing objects from the LRU list <sup>1</sup>                                                                                                                                                                                                                                                |
| REQUEST_FAILURES          | NUMBER   | Number of times that no memory was found to satisfy a request. If an internal flush (used to free up memory) does not meet a memory need, then the error ORA-04031 occurs. <sup>2</sup>                                                                                                                                                                                                                                                         |
| LAST_FAILURE_SIZE         | NUMBER   | Request size of the last failed request in bytes. If an internal flush (used to free up memory) does not meet a memory need, then the error ORA-04031 occurs. <sup>2</sup>                                                                                                                                                                                                                                                                      |
| ABORTED_REQUEST_THRESHOLD | NUMBER   | Minimum size of a request in bytes which signals an ORA-04031 error without flushing objects <sup>2</sup>                                                                                                                                                                                                                                                                                                                                       |
| ABORTED_REQUESTS          | NUMBER   | Number of requests that signalled an ORA-04031 error without flushing objects <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                      |
| LAST_ABORTED_SIZE         | NUMBER   | Last size of the request in bytes that returned an ORA-04031 error without flushing objects from the LRU list <sup>2</sup>                                                                                                                                                                                                                                                                                                                      |
| CON_ID                    | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

<sup>1</sup> These columns are valid only if the initialization parameter SHARED\_POOL\_RESERVED\_SIZE is set to a valid value.

<sup>2</sup> These columns contain values which are valid even if SHARED\_POOL\_RESERVED\_SIZE is not set.

## 10.56 V\$SHARED\_SERVER

V\$SHARED\_SERVER displays information on the shared server processes.

| Column | Datatype     | Description              |
|--------|--------------|--------------------------|
| NAME   | VARCHAR2 (4) | Name of the server       |
| PADDR  | RAW (4   8)  | Server's process address |

| Column       | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS       | VARCHAR2 (16) | Server status: <ul style="list-style-type: none"> <li>EXEC - Executing SQL</li> <li>WAIT (ENQ) - Waiting for a lock</li> <li>WAIT (SEND) - Waiting to send data to user</li> <li>WAIT (COMMON) - Idle; waiting for a user request</li> <li>WAIT (RECEIVE) - Waiting for records to be shown in the client application</li> <li>WAIT (RESET) - Waiting for a circuit to reset after a break</li> <li>QUIT - Terminating</li> </ul>                                                                                                                                            |
| MESSAGES     | NUMBER        | Number of messages processed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| BYTES        | NUMBER        | Total number of bytes in all messages                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| BREAKS       | NUMBER        | Number of breaks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CIRCUIT      | RAW (4   8)   | Address of the circuit currently being serviced                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| IDLE         | NUMBER        | Total idle time (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| BUSY         | NUMBER        | Total busy time (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| IN_NET       | NUMBER        | Total incoming network wait time (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| OUT_NET      | NUMBER        | Total outgoing network wait time (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| REQUESTS     | NUMBER        | Total number of requests taken from the common queue in this server's lifetime                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| BOUND_TIME   | NUMBER        | Time that a circuit and shared server have been bound (in centiseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| BOUND_REASON | VARCHAR2 (32) | Provides a reason (a short explanation) for why a shared server and circuit could not be unbound.<br><br>This column is empty when a circuit is not bound to a server.<br>When the server starts serving a circuit, BOUND_REASON is empty and remains empty unless the server tries unsuccessfully to unbind the circuit (after it finishes serving the current request).<br>When this column is not empty, it will be cleared once the server and circuit are unbound (that is, once the resources preventing the session migration to another shared server are released). |
| CON_ID       | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                              |

## 10.57 V\$SHARED\_SERVER\_MONITOR

V\$SHARED\_SERVER\_MONITOR displays information for tuning the shared server.

| Column              | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAXIMUM_CONNECTIONS | NUMBER   | Highest number of virtual circuits in use at one time since the instance started. If this value reaches the value set for the <code>CIRCUITS</code> initialization parameter, then consider raising the value of <code>CIRCUITS</code> .<br><b>See Also:</b> " <a href="#">CIRCUITS</a> "                                                                                                                                                       |
| MAXIMUM_SESSIONS    | NUMBER   | Highest number of shared server sessions in use at one time since the instance started. If this reaches the value set for the <code>SHARED_SERVER_SESSIONS</code> initialization parameter, then consider raising the value of <code>SHARED_SERVER_SESSIONS</code> .<br><b>See Also:</b> " <a href="#">SHARED_SERVER_SESSIONS</a> "                                                                                                             |
| SERVERS_STARTED     | NUMBER   | Total number of shared servers started since the instance started (but not including those started during startup)                                                                                                                                                                                                                                                                                                                              |
| SERVERS_TERMINATED  | NUMBER   | Total number of shared servers stopped by Oracle since the instance started                                                                                                                                                                                                                                                                                                                                                                     |
| SERVERS_HIGHWATER   | NUMBER   | Highest number of servers running at one time since the instance started. If this value reaches the value set for the <code>MAX_SHARED_SERVERS</code> initialization parameter, then consider raising the value of <code>SHARED_SERVERS</code> .<br><b>See Also:</b> " <a href="#">SHARED_SERVERS</a> "                                                                                                                                         |
| DISPATCHERS_CPU     | NUMBER   | Total CPU time of all dispatchers since the instance started (in millionths of a second)                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID              | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.58 V\$SHARED\_SERVER\_STAT

V\$SHARED\_SERVER\_STAT displays statistics for all shared server processes. The statistics are cumulative from the start of the instance.

| Column   | Datatype | Description                                                  |
|----------|----------|--------------------------------------------------------------|
| MESSAGES | NUMBER   | Number of messages processed                                 |
| BYTES    | NUMBER   | Total number of bytes in all messages                        |
| IDLE     | NUMBER   | Total idle time (in hundredths of a second)                  |
| BUSY     | NUMBER   | Total busy time (in hundredths of a second)                  |
| IN_NET   | NUMBER   | Total incoming network wait time (in hundredths of a second) |
| OUT_NET  | NUMBER   | Total outgoing network wait time (in hundredths of a second) |
| REQUESTS | NUMBER   | Total number of requests taken from the common queue         |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.59 V\$SORT\_SEGMENT

V\$SORT\_SEGMENT displays information about every sort segment in a given instance. The view is only updated when the tablespace is of the TEMPORARY type.

| Column          | Datatype      | Description                                            |
|-----------------|---------------|--------------------------------------------------------|
| TABLESPACE_NAME | VARCHAR2 (30) | Name of the tablespace                                 |
| SEGMENT_FILE    | NUMBER        | File number of the first extent                        |
| SEGMENT_BLOCK   | NUMBER        | Block number of the first extent                       |
| EXTENT_SIZE     | NUMBER        | Extent size                                            |
| CURRENT_USERS   | NUMBER        | Number of active users of the segment                  |
| TOTAL_EXTENTS   | NUMBER        | Total number of extents in the segment                 |
| TOTAL_BLOCKS    | NUMBER        | Total number of blocks in the segment                  |
| USED_EXTENTS    | NUMBER        | Extents allocated to active sorts                      |
| USED_BLOCKS     | NUMBER        | Blocks allocated to active sorts                       |
| FREE_EXTENTS    | NUMBER        | Extents not allocated to any sort                      |
| FREE_BLOCKS     | NUMBER        | Blocks not allocated to any sort                       |
| ADDED_EXTENTS   | NUMBER        | Number of extent allocations                           |
| EXTENT_HITS     | NUMBER        | Number of times an unused extent was found in the pool |
| FREED_EXTENTS   | NUMBER        | Number of deallocated extents                          |
| FREE_REQUESTS   | NUMBER        | Number of requests to deallocate                       |
| MAX_SIZE        | NUMBER        | Maximum number of extents ever used                    |
| MAX_BLOCKS      | NUMBER        | Maximum number of blocks ever used                     |
| MAX_USED_SIZE   | NUMBER        | Maximum number of extents used by all sorts            |
| MAX_USED_BLOCKS | NUMBER        | Maximum number of blocks used by all sorts             |
| MAX_SORT_SIZE   | NUMBER        | Maximum number of extents used by an individual sort   |
| MAX_SORT_BLOCKS | NUMBER        | Maximum number of blocks used by an individual sort    |
| RELATIVE_FNO    | NUMBER        | Relative file number of the sort segment header        |
| TS#             | NUMBER        | Tablespace number                                      |

| Column        | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID        | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| IS_LOCAL_TEMP | NUMBER   | Indicates whether the sort segment is allocated from a local temporary tablespace (1) or not (0).                                                                                                                                                                                                                                                                                                                                               |

## 10.60 V\$SPPARAMETER

V\$SPPARAMETER displays information about the contents of the server parameter file. If a server parameter file was not used to start the instance, then each row of the view will contain FALSE in the ISSPECIFIED column.

| Column         | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FAMILY         | VARCHAR2(80)   | For internal use only                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SID            | VARCHAR2 (80)  | SID for which the parameter is defined.                                                                                                                                                                                                                                                                                                                                                                                                         |
| NAME           | VARCHAR2 (80)  | Name of the parameter                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TYPE           | VARCHAR2 (11)  | Parameter type                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| VALUE          | VARCHAR2 (255) | Parameter value (null if a server parameter file was not used to start the instance)                                                                                                                                                                                                                                                                                                                                                            |
| DISPLAY_VALUE  | VARCHAR2 (255) | Parameter value in a user-friendly format. For example, if the VALUE column shows the value 262144 for a big integer parameter, then the DISPLAY_VALUE column will show the value 256K.                                                                                                                                                                                                                                                         |
| ISSPECIFIED    | VARCHAR2 (6)   | Indicates whether the parameter was specified in the server parameter file (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                |
| ORDINAL        | NUMBER         | Position (ordinal number) of the parameter value (0 if a server parameter file was not used to start the instance). Useful only for parameters whose values are lists of strings.                                                                                                                                                                                                                                                               |
| UPDATE_COMMENT | VARCHAR2 (255) | Comments associated with the most recent update (null if a server parameter file was not used to start the instance)                                                                                                                                                                                                                                                                                                                            |
| CON_ID         | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.61 V\$SQL

V\$SQL lists statistics on shared SQL areas without the GROUP BY clause and contains one row for each child of the original SQL text entered. Statistics displayed in V\$SQL are normally updated at the end of query execution. However, for long running queries, they are updated



every 5 seconds. This makes it easy to see the impact of long running SQL statements while they are still in progress.

| Column                | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQL_TEXT              | VARCHAR2 (1000) | First thousand characters of the SQL text for the current cursor                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SQL_FULLTEXT          | CLOB            | Full text for the SQL statement exposed as a CLOB column. The full text of a SQL statement can be retrieved using this column instead of joining with the V\$SQLTEXT dynamic performance view.                                                                                                                                                                                                                                                                                      |
| SQL_ID                | VARCHAR2 (13)   | SQL identifier of the parent cursor in the library cache                                                                                                                                                                                                                                                                                                                                                                                                                            |
| SHARABLE_MEM          | NUMBER          | Amount of shared memory used by the child cursor (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PERSISTENT_MEM        | NUMBER          | Fixed amount of memory used for the lifetime of the child cursor (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                         |
| RUNTIME_MEM           | NUMBER          | Fixed amount of memory required during the execution of the child cursor                                                                                                                                                                                                                                                                                                                                                                                                            |
| SORTS                 | NUMBER          | Number of sorts that were done for the child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| LOADED_VERSIONS       | NUMBER          | Indicates whether the context heap is loaded (1) or not (0)                                                                                                                                                                                                                                                                                                                                                                                                                         |
| OPEN_VERSIONS         | NUMBER          | Indicates whether the child cursor is locked (1) or not (0)                                                                                                                                                                                                                                                                                                                                                                                                                         |
| USERS_OPENING         | NUMBER          | Number of users that have any of the child cursors open                                                                                                                                                                                                                                                                                                                                                                                                                             |
| FETCHES               | NUMBER          | Number of fetches associated with the SQL statement                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EXECUTIONS            | NUMBER          | Number of executions that took place on this object since it was brought into the library cache                                                                                                                                                                                                                                                                                                                                                                                     |
| PX_SERVERS_EXECUTIONS | NUMBER          | Total number of executions performed by parallel execution servers (0 when the statement has never been executed in parallel)                                                                                                                                                                                                                                                                                                                                                       |
| END_OF_FETCH_COUNT    | NUMBER          | Number of times this cursor was fully executed since the cursor was brought into the library cache. The value of this statistic is not incremented when the cursor is partially executed, either because it failed during the execution or because only the first few rows produced by this cursor are fetched before the cursor is closed or re-executed. By definition, the value of the END_OF_FETCH_COUNT column should be less or equal to the value of the EXECUTIONS column. |
| USERS_EXECUTING       | NUMBER          | Number of users executing the statement                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| LOADS                 | NUMBER          | Number of times the object was either loaded or reloaded                                                                                                                                                                                                                                                                                                                                                                                                                            |
| FIRST_LOAD_TIME       | VARCHAR2 (76)   | Timestamp of the parent creation time                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| INVALIDATIONS         | NUMBER          | Number of times this child cursor has been invalidated                                                                                                                                                                                                                                                                                                                                                                                                                              |
| PARSE_CALLS           | NUMBER          | Number of parse calls for this child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| DISK_READS            | NUMBER          | Number of disk reads for this child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DIRECT_WRITES         | NUMBER          | Number of direct writes for this child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| DIRECT_READS          | NUMBER          | Number of direct reads for this child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| BUFFER_GETS           | NUMBER          | Number of buffer gets for this child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| APPLICATION_WAIT_TIME | NUMBER          | Application wait time (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CONCURRENCY_WAIT_TIME | NUMBER          | Concurrency wait time (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CLUSTER_WAIT_TIME     | NUMBER          | Cluster wait time (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| USER_IO_WAIT_TIME     | NUMBER          | User I/O Wait Time (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| PLSQL_EXEC_TIME       | NUMBER          | PL/SQL execution time (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| JAVA_EXEC_TIME        | NUMBER          | Java execution time (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| ROWS_PROCESSED        | NUMBER          | Total number of rows the parsed SQL statement returns                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Column                   | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMMAND_TYPE             | NUMBER        | Oracle command type definition                                                                                                                                                                                                                                                                                                                                       |
| OPTIMIZER_MODE           | VARCHAR2(10)  | Mode under which the SQL statement was executed                                                                                                                                                                                                                                                                                                                      |
| OPTIMIZER_COST           | NUMBER        | Cost of this query given by the optimizer                                                                                                                                                                                                                                                                                                                            |
| OPTIMIZER_ENV            | RAW(2000)     | Optimizer environment                                                                                                                                                                                                                                                                                                                                                |
| OPTIMIZER_ENV_HASH_VALUE | NUMBER        | Hash value for the optimizer environment                                                                                                                                                                                                                                                                                                                             |
| PARSING_USER_ID          | NUMBER        | User ID of the user who originally built this child cursor                                                                                                                                                                                                                                                                                                           |
| PARSING_SCHEMA_ID        | NUMBER        | Schema ID that was used to originally build this child cursor                                                                                                                                                                                                                                                                                                        |
| PARSING_SCHEMA_NAME      | VARCHAR2(128) | Schema name that was used to originally build this child cursor                                                                                                                                                                                                                                                                                                      |
| KEPT_VERSIONS            | NUMBER        | Indicates whether this child cursor has been marked to be kept pinned in the cache using the <code>DBMS_SHARED_POOL</code> package                                                                                                                                                                                                                                   |
| ADDRESS                  | RAW(4   8)    | Address of the handle to the parent for this cursor                                                                                                                                                                                                                                                                                                                  |
| TYPE_CHK_HEAP            | RAW(4   8)    | Descriptor of the type check heap for this child cursor                                                                                                                                                                                                                                                                                                              |
| HASH_VALUE               | NUMBER        | Hash value of the parent statement in the library cache                                                                                                                                                                                                                                                                                                              |
| OLD_HASH_VALUE           | NUMBER        | Old SQL hash value                                                                                                                                                                                                                                                                                                                                                   |
| PLAN_HASH_VALUE          | NUMBER        | Numeric representation of the current SQL plan for this cursor. Comparing one <code>PLAN_HASH_VALUE</code> to another easily identifies whether or not two plans are the same (rather than comparing the two plans line by line).                                                                                                                                    |
| FULL_PLAN_HASH_VALUE     | NUMBER        | Numeric representation of the complete SQL plan for this cursor. Comparing one <code>FULL_PLAN_HASH_VALUE</code> to another easily identifies whether or not two plans are the same (rather than comparing the two plans line by line). Note that the <code>FULL_PLAN_HASH_VALUE</code> cannot be compared across databases releases. It is not backward compatible. |
| CHILD_NUMBER             | NUMBER        | Number of this child cursor                                                                                                                                                                                                                                                                                                                                          |
| SERVICE                  | VARCHAR2(64)  | Service name                                                                                                                                                                                                                                                                                                                                                         |
| SERVICE_HASH             | NUMBER        | Hash value for the name listed in the <code>SERVICE</code> column                                                                                                                                                                                                                                                                                                    |
| MODULE                   | VARCHAR2(64)  | Contains the name of the module that was executing when the SQL statement was first parsed, which is set by calling <code>DBMS_APPLICATION_INFO.SET_MODULE</code>                                                                                                                                                                                                    |
| MODULE_HASH              | NUMBER        | Hash value of the module listed in the <code>MODULE</code> column                                                                                                                                                                                                                                                                                                    |
| ACTION                   | VARCHAR2(64)  | Contains the name of the action that was executing when the SQL statement was first parsed, which is set by calling <code>DBMS_APPLICATION_INFO.SET_ACTION</code>                                                                                                                                                                                                    |
| ACTION_HASH              | NUMBER        | Hash value of the action listed in the <code>ACTION</code> column                                                                                                                                                                                                                                                                                                    |
| SERIALIZABLE_ABORTS      | NUMBER        | Number of times the transaction failed to serialize, producing ORA-08177 errors, per cursor                                                                                                                                                                                                                                                                          |
| OUTLINE_CATEGORY         | VARCHAR2(64)  | If an outline was applied during construction of the cursor, then this column displays the category of that outline. Otherwise the column is left blank.                                                                                                                                                                                                             |
| CPU_TIME                 | NUMBER        | CPU time (in microseconds) used by this cursor for parsing, executing, and fetching                                                                                                                                                                                                                                                                                  |

| Column                   | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ELAPSED_TIME             | NUMBER        | Elapsed database time (in microseconds) used by this cursor for parsing, executing, and fetching. If the cursor uses parallel execution, then <code>ELAPSED_TIME</code> is the cumulative time for the query coordinator, plus all parallel query worker processes.<br><br>Note that this column displays database time, not wall clock time. In some cases, <code>ELAPSED_TIME</code> can exceed the duration of the query. For example, this can occur for parallel queries. |
| OUTLINE_SID              | NUMBER        | Outline session identifier                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CHILD_ADDRESS            | RAW(4   8)    | Address of the child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SQLTYPE                  | NUMBER        | Denotes the version of the SQL language used for this statement                                                                                                                                                                                                                                                                                                                                                                                                                |
| REMOTE                   | VARCHAR2(1)   | Indicates whether the cursor is remote mapped (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                   |
| OBJECT_STATUS            | VARCHAR2(19)  | Status of the cursor: <ul style="list-style-type: none"> <li>VALID - Valid, authorized without errors</li> <li>VALID_AUTH_ERROR - Valid, authorized with authorization errors</li> <li>VALID_COMPILE_ERROR - Valid, authorized with compilation errors</li> <li>VALID_UNAUTH - Valid, unauthorized</li> <li>INVALID_UNAUTH - Invalid, unauthorized</li> <li>INVALID - Invalid, unauthorized but keep the timestamp</li> </ul>                                                  |
| LITERAL_HASH_VALUE       | NUMBER        | Hash value of the literals which are replaced with system-generated bind variables and are to be matched, when <code>CURSOR_SHARING</code> is used. This is not the hash value for the SQL statement. If <code>CURSOR_SHARING</code> is not used, then the value is 0.                                                                                                                                                                                                         |
| LAST_LOAD_TIME           | VARCHAR2(76)  | Time at which the query plan was loaded into the library cache                                                                                                                                                                                                                                                                                                                                                                                                                 |
| IS_OBSOLETE              | VARCHAR2(1)   | Indicates whether the cursor has become obsolete (Y) or not (N). This can happen if the number of child cursors is too large.                                                                                                                                                                                                                                                                                                                                                  |
| IS_BIND_SENSITIVE        | VARCHAR2(1)   | Indicates whether the cursor is bind sensitive (Y) or not (N). A query is considered bind-sensitive if the optimizer peeked at one of its bind variable values when computing predicate selectivities and where a change in a bind variable value may cause the optimizer to generate a different plan.                                                                                                                                                                        |
| IS_BIND_AWARE            | VARCHAR2(1)   | Indicates whether the cursor is bind aware (Y) or not (N). A query is considered bind-aware if it has been marked to use extended cursor sharing. The query would already have been marked as bind-sensitive.                                                                                                                                                                                                                                                                  |
| IS_SHAREABLE             | VARCHAR2(1)   | Indicates whether the cursor can be shared (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CHILD_LATCH              | NUMBER        | Child latch number that is protecting the cursor. This column is obsolete and maintained for backward compatibility.                                                                                                                                                                                                                                                                                                                                                           |
| SQL_PROFILE              | VARCHAR2(64)  | SQL profile used for this statement, if any                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SQL_PATCH                | VARCHAR2(128) | SQL patch used for this statement, if any                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SQL_PLAN_BASELINE        | VARCHAR2(128) | SQL plan baseline used for this statement, if any                                                                                                                                                                                                                                                                                                                                                                                                                              |
| PROGRAM_ID               | NUMBER        | Program identifier                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| PROGRAM_LINE#            | NUMBER        | Program line number                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| EXACT_MATCHING_SIGNATURE | NUMBER        | Signature calculated on the normalized SQL text. The normalization includes the removal of white space and the uppercasing of all non-literal strings.                                                                                                                                                                                                                                                                                                                         |
| FORCE_MATCHING_SIGNATURE | NUMBER        | Signature used when the <code>CURSOR_SHARING</code> parameter is set to <code>FORCE</code>                                                                                                                                                                                                                                                                                                                                                                                     |
| LAST_ACTIVE_TIME         | DATE          | Time at which the query plan was last active                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| BIND_DATA                | RAW(2000)     | Bind data                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Column                         | Datatype    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPECHECK_MEM                  | NUMBER      | Typecheck memory                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| IO_CELL_OFFLOAD_ELIGIBLE_BYTES | NUMBER      | Number of I/O bytes which can be filtered by the Exadata storage system<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| IO_INTERCONNECT_BYTES          | NUMBER      | Number of I/O bytes exchanged between Oracle Database and the storage system                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| PHYSICAL_READ_REQUESTS         | NUMBER      | Number of physical read I/O requests issued by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| PHYSICAL_READ_BYTES            | NUMBER      | Number of bytes read from disks by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PHYSICAL_WRITE_REQUESTS        | NUMBER      | Number of physical write I/O requests issued by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PHYSICAL_WRITE_BYTES           | NUMBER      | Number of bytes written to disks by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| OPTIMIZED_PHY_READ_REQUESTS    | NUMBER      | Number of physical read I/O requests from Database Smart Flash Cache issued by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LOCKED_TOTAL                   | NUMBER      | Total number of times the child cursor has been locked                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PINNED_TOTAL                   | NUMBER      | Total number of times the child cursor has been pinned                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| IO_CELL_UNCOMPRESSED_BYTES     | NUMBER      | Number of uncompressed bytes (that is, size after decompression) that are offloaded to the Exadata cells<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                                                                                                                                                                                                                                                                                                                                                 |
| IO_CELL_OFFLOAD_RETURNED_BYTES | NUMBER      | Number of filtered bytes returned by Exadata cells (that is, the number of bytes returned after processing has been offloaded on the Exadata cells)<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                                                                                                                                                                                                                                                                                                      |
| CON_ID                         | NUMBER      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                        |
| IS_REOPTIMIZABLE               | VARCHAR2(1) | This column shows whether the next execution matching this child cursor will trigger a reoptimization. The values are: <ul style="list-style-type: none"> <li>Y: If the next execution will trigger a reoptimization</li> <li>R: If the child cursor contains reoptimization information, but will not trigger reoptimization because the cursor was compiled in reporting mode</li> <li>N: If the child cursor has no reoptimization information</li> </ul>                                                                                                                                           |
| IS_RESOLVED_ADAPTIVE_PLAN      | VARCHAR2(1) | This column shows whether all of the adaptive parts of a plan have been resolved to the final plan. Once the plan is resolved, the plan hash value and the plan displayed by <code>DBMS_XPLAN</code> will not change through the end of execution. The values for this column are: <ul style="list-style-type: none"> <li>NULL: If the plan is not adaptive</li> <li>Y: If the plan is fully resolved</li> <li>N: If the plan is not yet fully resolved</li> </ul> <b>See Also:</b> Oracle Database PL/SQL Packages and Types Reference for more information about the <code>DBMS_XPLAN</code> package |
| IM_SCANS                       | NUMBER      | Number of In-Memory Column Store (IM column store) segment scans                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Column                        | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IM_SCAN_BYTES_UNCOMPRESSED    | NUMBER         | Uncompressed size of data scanned from the IM column store                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| IM_SCAN_BYTES_INMEMORY        | NUMBER         | In-memory size of data scanned from the IM column store                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DDL_NO_INVALIDATE             | VARCHAR2 (1)   | Indicates if a DDL statement updated a dependent object and did not invalidate this cursor. The values are: <ul style="list-style-type: none"> <li>N: There has not been a DDL statement that updated a dependent object without invalidating this cursor.</li> <li>Y: A DDL statement updated a dependent object and did not invalidate this cursor, but the cursor has not executed since this happened.</li> <li>X: A DDL statement updated a dependent object and did not invalidate this cursor, and the cursor has executed since this happened.</li> </ul>          |
| IS_ROLLING_INVALID            | VARCHAR2 (1)   | Indicates if this cursor is rolling invalidated. The values are: <ul style="list-style-type: none"> <li>N: This cursor is not rolling invalidated.</li> <li>Y: This cursor is rolling invalidated, but the cursor has not executed in this state.</li> <li>X: This cursor is rolling invalidated, and the cursor has executed in this state.</li> </ul>                                                                                                                                                                                                                    |
| IS_ROLLING_REFRESH_INVALID    | VARCHAR2 (1)   | Indicates if this cursor is rolling invalidated and requires execution time refresh. The values are: <ul style="list-style-type: none"> <li>N: This cursor is not a cursor that is rolling invalidated and requires execution time refresh.</li> <li>Y: This cursor is rolling invalidated and requires execution time refresh, but the cursor has not executed in this state.</li> <li>X: This cursor is rolling invalidated and requires execution time refresh, and the cursor has executed in this state.</li> </ul>                                                   |
| RESULT_CACHE                  | VARCHAR2 (1)   | Indicates whether the SQL statement used the result cache (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SQL_QUARANTINE                | VARCHAR2 (128) | If the execution plan for this cursor is quarantined, then this column contains the name of the SQL quarantine configuration (corresponds to the NAME column in the DBA_SQL_QUARANTINE view). Otherwise, this column is null.                                                                                                                                                                                                                                                                                                                                              |
| AVOIDED_EXECUTIONS            | NUMBER         | Number of times this cursor was prevented from being used due to the plan being quarantined                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| HEAP0_LOAD_TIME               | DATE           | Time at which heap0 of the library cache object was loaded                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| HEAP6_LOAD_TIME               | DATE           | Time at which heap6 of the library cache object was loaded<br>A time difference of more than one minute between HEAP0_LOAD_TIME and HEAP6_LOAD_TIME indicates that heap6 has been partially reloaded. For example, the database might have aged out heap6 due to shared pool space pressure and reloaded it at a later time.                                                                                                                                                                                                                                               |
| RESULT_CACHE_REJECTION_REASON | NUMBER         | Numeric code representing the reason for a result cache rejection<br>This column is populated when the query contains a result cache row source (RESULT_CACHE=Y), but fails to create or finish writing a result object. The reason for this failure is recorded as a numeric code in this column.<br>See <a href="#">Block Listing Reasons</a> for a list of rejection codes and recommended remedial actions.<br>If the query does not contain a result cache row source (RESULT_CACHE=N) or the query reused an existing result, then the value of this column is null. |

## Block Listing Reasons

Table 10-2 Result Cache Rejection Reason Codes

| Code | Reason for Result Cache Rejection                                    | Recommended Remedial Action                                                                                                                                                                                                                                                                                      |
|------|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0    | Success                                                              | N/A                                                                                                                                                                                                                                                                                                              |
| 1000 | Result size exceeds per-result limit for in-memory                   | Increase the value of one or both of the <code>RESULT_CACHE_MAX_SIZE</code> and <code>RESULT_CACHE_MAX_RESULT</code> initialization parameters, or enable spilling results to disk.                                                                                                                              |
| 1001 | Result size exceeds per-result limit on disk                         | Increase the value of one or both of the <code>RESULT_CACHE_MAX_TEMP_SIZE</code> and <code>RESULT_CACHE_MAX_TEMP_RESULT</code> initialization parameters.                                                                                                                                                        |
| 2000 | Unable to acquire enqueues                                           | The system is busy; try again later.                                                                                                                                                                                                                                                                             |
| 2001 | Unable to acquire a DML locks on a referenced object                 | The system is busy; try again later.                                                                                                                                                                                                                                                                             |
| 2002 | Unable to acquire a row cache lock on referenced objects             | The system is busy; try again later.                                                                                                                                                                                                                                                                             |
| 2003 | Unable to allocate memory                                            | The system is busy; try again later.                                                                                                                                                                                                                                                                             |
| 3000 | Result cache ID for the query is blocklisted                         | Remove the cache ID from the blocklist by using the <code>DBMS_RESULT_CACHE</code> package. Exercise caution because the query may have been intentionally blocklisted.                                                                                                                                          |
| 3001 | An object referenced in the query is blocklisted                     | Remove the object ID from the blocklist by using the <code>DBMS_RESULT_CACHE</code> package. Exercise caution because the object may have been intentionally blocklisted.                                                                                                                                        |
| 4001 | Result cache is bypassed                                             | The result cache was bypassed with <code>DBMS_RESULT_CACHE.BYPASS</code> or by setting the <code>RESULT_CACHE_MAX_SIZE</code> initialization parameter to 0. Exercise caution because the bypass may have been intentional.                                                                                      |
| 4002 | Result cache is corrupt                                              | Reset the result cache by using <code>DBMS_RESULT_CACHE.FLUSH</code> . If that does not resolve the problem, then restart the PDB or instance.                                                                                                                                                                   |
| 4003 | RCBG process is down in Oracle RAC                                   | Restart the Oracle RAC instance                                                                                                                                                                                                                                                                                  |
| 4004 | The query was only partially executed                                | The cursor should be fully executed. If the cursor is being executed as part of PL/SQL, then it should be fetched from until the <code>NO_DATA_FOUND</code> error is returned. If the cursor is being executed as part of a SQL query, then do not cancel it by terminating the process (such as typing CTRL+C). |
| 4005 | Temporary space cannot be allocated because the RCBG process is down | Restart the Oracle RAC instance                                                                                                                                                                                                                                                                                  |
| 9999 | Unknown reason                                                       | Unknown                                                                                                                                                                                                                                                                                                          |

 **See Also:**

- "V\$SQLTEXT"
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_SHARED\_POOL package
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_APPLICATION\_INFO.SET\_MODULE procedure
- *Oracle Database PL/SQL Packages and Types Reference* *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_APPLICATION\_INFO.SET\_ACTION procedure
- *Oracle Database PL/SQL Packages and Types Reference* *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_XPLAN package

## 10.62 V\$SQL\_BIND\_CAPTURE

V\$SQL\_BIND\_CAPTURE displays information on bind variables used by SQL cursors. Each row in the view contains information for one bind variable defined in a cursor. This includes:

- Reference to the cursor defining the bind variable  
(hash\_value, address) for the parent cursor and (hash\_value, child\_address) for the child cursor.
- Bind metadata  
Name, position, data type, character set ID, precision, scale, and maximum length of the bind variable.
- Bind data  
One of the bind values used for the bind variable during a past execution of its associated SQL statement. Bind values are not always captured for this view. Bind values are displayed by this view only when the type of the bind variable is simple (this excludes LONG, LOB, and ADT data types) and when the bind variable is used in the WHERE or HAVING clauses of the SQL statement.

Bind capture is disabled when the STATISTICS\_LEVEL initialization parameter is set to BASIC. This view can be joined with V\$SQLAREA on (HASH\_VALUE, ADDRESS) and with V\$SQL on (HASH\_VALUE, CHILD\_ADDRESS).

| Column        | Datatype       | Description                                                                                                                                                  |
|---------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADDRESS       | RAW (4   8)    | Address of the parent cursor                                                                                                                                 |
| HASH_VALUE    | NUMBER         | Hash value of the parent cursor in the library cache. The hash value is a fixed index for the view and should always be used to speed up access to the view. |
| SQL_ID        | VARCHAR2 (13)  | SQL identifier of the parent cursor in the library cache                                                                                                     |
| CHILD_ADDRESS | RAW (4   8)    | Address of the child cursor                                                                                                                                  |
| CHILD_NUMBER  | NUMBER         | Child cursor number                                                                                                                                          |
| NAME          | VARCHAR2 (128) | Name of the bind variable                                                                                                                                    |

| Column          | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POSITION        | NUMBER          | Position of the bind variable in the SQL statement                                                                                                                                                                                                                                                                                                                                                                                              |
| DUP_POSITION    | NUMBER          | If the binding is performed by name and the bind variable is duplicated, then this column gives the position of the primary bind variable.                                                                                                                                                                                                                                                                                                      |
| DATATYPE        | NUMBER          | Internal identifier for the bind data type. Beginning in Oracle Database 12c, a number representing a PL/SQL data type can appear in this column.                                                                                                                                                                                                                                                                                               |
| DATATYPE_STRING | VARCHAR2 (15)   | Textual representation of the bind data type. Beginning in Oracle Database 12c, a text representation of a PL/SQL-only data type can appear in this column. If the actual data type is a PL/SQL sub type, the name of the data type, not the sub type will be displayed.                                                                                                                                                                        |
| CHARACTER_SID   | NUMBER          | National character set identifier                                                                                                                                                                                                                                                                                                                                                                                                               |
| PRECISION       | NUMBER          | Precision (for numeric binds)                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SCALE           | NUMBER          | Scale (for numeric binds)                                                                                                                                                                                                                                                                                                                                                                                                                       |
| MAX_LENGTH      | NUMBER          | Maximum bind length                                                                                                                                                                                                                                                                                                                                                                                                                             |
| WAS_CAPTURED    | VARCHAR2 (3)    | Indicates whether the bind value was captured (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                                                 |
| LAST_CAPTURED   | DATE            | Date when the bind value was captured. Bind values are captured when SQL statements are executed. To limit the overhead, binds are captured at most every 15 minutes for a given cursor.                                                                                                                                                                                                                                                        |
| VALUE_STRING    | VARCHAR2 (4000) | Value of the bind represented as a string                                                                                                                                                                                                                                                                                                                                                                                                       |
| VALUE_ANYDATA   | ANYDATA         | Value of the bind represented using the ANYDATA data type. This representation is useful to programmatically decode the value of the bind variable. This column is NULL if a PL/SQL-only data type appears in the DATATYPE column.                                                                                                                                                                                                              |
| CON_ID          | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

- "STATISTICS\_LEVEL"
- "V\$SQLAREA"
- "V\$SQL"
- "V\$ALL\_SQL\_BIND\_CAPTURE"

## 10.63 V\$SQL\_BIND\_DATA

V\$SQL\_BIND\_DATA describes information related to bind variables.

V\$SQL\_BIND\_DATA describes, for each distinct bind variable in each cursor owned by the session querying this view:



- Actual bind data, if the bind variable is user defined
- The underlying literal, if the `CURSOR_SHARING` parameter is set to `FORCE` and the bind variable is system generated. (System-generated binds have a value of 256 in the `SHARED_FLAG2` column.)

| Column          | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CURSOR_NUM      | NUMBER          | Cursor number for this bind                                                                                                                                                                                                                                                                                                                                                                                                                           |
| POSITION        | NUMBER          | Bind position                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| DATATYPE        | NUMBER          | Internal identifier for the bind data type. Beginning in Oracle Database 12c, a number representing a PL/SQL data type can appear in this column.                                                                                                                                                                                                                                                                                                     |
| SHARED_MAX_LEN  | NUMBER          | Shared maximum length for this bind from the shared cursor object associated with this bind                                                                                                                                                                                                                                                                                                                                                           |
| PRIVATE_MAX_LEN | NUMBER          | Private maximum length for this bind sent from the client                                                                                                                                                                                                                                                                                                                                                                                             |
| ARRAY_SIZE      | NUMBER          | Maximum number of array elements (for array binds only)                                                                                                                                                                                                                                                                                                                                                                                               |
| PRECISION       | NUMBER          | Precision (for numeric binds)                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SCALE           | NUMBER          | Scale (for numeric binds)                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SHARED_FLAG     | NUMBER          | Shared bind data flags                                                                                                                                                                                                                                                                                                                                                                                                                                |
| SHARED_FLAG2    | NUMBER          | Shared bind data flags (continued)                                                                                                                                                                                                                                                                                                                                                                                                                    |
| BUF_ADDRESS     | RAW (4   8)     | Bind buffer memory address                                                                                                                                                                                                                                                                                                                                                                                                                            |
| BUF_LENGTH      | NUMBER          | Bind buffer length                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| VAL_LENGTH      | NUMBER          | Actual bind value length                                                                                                                                                                                                                                                                                                                                                                                                                              |
| BUF_FLAG        | NUMBER          | Bind buffer flags                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| INDICATOR       | NUMBER          | Bind indicator                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| VALUE           | VARCHAR2 (4000) | Contents of the bind buffer                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID          | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"CURSOR\_SHARING"

## 10.64 V\$SQL\_BIND\_METADATA

V\$SQL\_BIND\_METADATA describes metadata related to bind variables.

V\$SQL\_BIND\_METADATA describes, for each distinct bind variable in each cursor owned by the session querying this view:

- Bind metadata provided by the client, if the bind variable is user defined

- Metadata based on the underlying literal, if the `CURSOR_SHARING` parameter is set to `FORCE` and the bind variable is system-generated.

| Column     | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADDRESS    | RAW (4   8)    | Memory address of the child cursor that owns this bind variable                                                                                                                                                                                                                                                                                                                                                                                       |
| POSITION   | NUMBER         | Bind position                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| DATATYPE   | NUMBER         | Internal identifier for the bind data type. Beginning in Oracle Database 12c, a number representing a PL/SQL data type can appear in this column.                                                                                                                                                                                                                                                                                                     |
| MAX_LENGTH | NUMBER         | Maximum length of the bind value                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ARRAY_LEN  | NUMBER         | Maximum number of array elements (for array binds only)                                                                                                                                                                                                                                                                                                                                                                                               |
| BIND_NAME  | VARCHAR2 (128) | User-defined or system-generated bind variable name (if used)                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID     | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

"CURSOR\_SHARING"

## 10.65 V\$SQL\_CS\_HISTOGRAM

`V$SQL_CS_HISTOGRAM` summarizes the monitoring information stored by adaptive cursor sharing. This information is used to decide whether to enable extended cursor sharing for a query. It is stored in a histogram, whose bucket's contents are exposed by this view.

| Column       | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADDRESS      | RAW (4   8)   | Address of the handle to the parent for this cursor                                                                                                                                                                                                                                                                                                                                                                                                   |
| HASH_VALUE   | NUMBER        | Hash value of the parent statement in the library cache                                                                                                                                                                                                                                                                                                                                                                                               |
| SQL_ID       | VARCHAR2 (13) | SQL identifier of the parent cursor in the library cache                                                                                                                                                                                                                                                                                                                                                                                              |
| CHILD_NUMBER | NUMBER        | Number of the child cursor being monitored                                                                                                                                                                                                                                                                                                                                                                                                            |
| BUCKET_ID    | NUMBER        | Bucket number of the monitoring histogram                                                                                                                                                                                                                                                                                                                                                                                                             |
| COUNT        | NUMBER        | Value in this bucket of the histogram                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID       | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.66 V\$SQL\_CS\_SELECTIVITY

V\$SQL\_CS\_SELECTIVITY exposes the valid selectivity ranges for a child cursor in extended cursor sharing mode. A valid range consists of a low and high value for each predicate containing binds. Each predicate's selectivity (with the current bind value) must fall between the corresponding low and high values in order for the child cursor to be shared.

| Column       | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADDRESS      | RAW (4   8)   | Address of the handle to the parent for this cursor                                                                                                                                                                                                                                                                                                                                                                                             |
| HASH_VALUE   | NUMBER        | Hash value of the parent statement in the library cache                                                                                                                                                                                                                                                                                                                                                                                         |
| SQL_ID       | VARCHAR2 (13) | SQL identifier of the parent cursor in the library cache                                                                                                                                                                                                                                                                                                                                                                                        |
| CHILD_NUMBER | NUMBER        | Number of the child cursor                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PREDICATE    | VARCHAR2 (40) | Predicate whose selectivity must fall between low and high values                                                                                                                                                                                                                                                                                                                                                                               |
| RANGE_ID     | NUMBER        | Identifier for the range used to match up the low and high values for multiple predicates                                                                                                                                                                                                                                                                                                                                                       |
| LOW          | VARCHAR2 (10) | Lower bound for allowable selectivity                                                                                                                                                                                                                                                                                                                                                                                                           |
| HIGH         | VARCHAR2 (10) | Upper bound for allowable selectivity                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID       | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.67 V\$SQL\_CS\_STATISTICS

V\$SQL\_CS\_STATISTICS contains the raw execution statistics used by the monitoring component of adaptive cursor sharing. A sample of the executions is monitored. This view exposes which executions were sampled, and what the statistics were for those executions. The statistics are cumulative for each distinct set of bind values.

| Column              | Datatype      | Description                                                                                                         |
|---------------------|---------------|---------------------------------------------------------------------------------------------------------------------|
| ADDRESS             | RAW (4   8)   | Address of the handle to the parent for this cursor                                                                 |
| HASH_VALUE          | NUMBER        | Hash value of the parent statement in the library cache                                                             |
| SQL_ID              | VARCHAR2 (13) | SQL identifier of the parent cursor in the library cache                                                            |
| CHILD_NUMBER        | NUMBER        | Number of the child cursor being monitored                                                                          |
| BIND_SET_HASH_VALUE | NUMBER        | Hash of the values of the binds                                                                                     |
| PEEKED              | VARCHAR2 (1)  | Indicates if this is the bind set used to build the cursor (Y) or not (N)                                           |
| EXECUTIONS          | NUMBER        | Number of times this bind set has been executed and monitored                                                       |
| ROWS_PROCESSED      | NUMBER        | Cumulative number of rows processed by all row sources in the plan over all monitored executions with this bind set |
| BUFFER_GETS         | NUMBER        | Cumulative number of buffer gets over all monitored executions with this bind set                                   |

| Column   | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU_TIME | NUMBER   | Cumulative CPU time (in microseconds) used by this cursor for monitored executions with this bind set                                                                                                                                                                                                                                                                                                                                           |
| CON_ID   | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.68 V\$SQL\_CURSOR

V\$SQL\_CURSOR displays debugging information for each cursor associated with the session querying this view.

| Column        | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CURNO         | NUMBER        | Cursor number                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| FLAG          | NUMBER        | Flags set in the cursor                                                                                                                                                                                                                                                                                                                                                                                                                         |
| STATUS        | VARCHAR2 (9)  | Status of the cursor; that is, what state the cursor is in                                                                                                                                                                                                                                                                                                                                                                                      |
| PARENT_HANDLE | RAW (4   8)   | Pointer to the parent cursor handle                                                                                                                                                                                                                                                                                                                                                                                                             |
| PARENT_LOCK   | RAW (4   8)   | Pointer to the parent cursor lock                                                                                                                                                                                                                                                                                                                                                                                                               |
| CHILD_LOCK    | RAW (4   8)   | Pointer to the child cursor lock                                                                                                                                                                                                                                                                                                                                                                                                                |
| CHILD_PIN     | RAW (4   8)   | Pointer to the child cursor pin                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PERS_HEAP_MEM | NUMBER        | Total amount of memory allocated from persistent heap for this cursor                                                                                                                                                                                                                                                                                                                                                                           |
| WORK_HEAP_MEM | NUMBER        | Total amount of memory allocated from the work heap for this cursor                                                                                                                                                                                                                                                                                                                                                                             |
| BIND_VARS     | NUMBER        | Total number of bind positions in the query currently parsed into this cursor                                                                                                                                                                                                                                                                                                                                                                   |
| DEFINE_VARS   | NUMBER        | Total number of define variables in the query currently parsed into this cursor                                                                                                                                                                                                                                                                                                                                                                 |
| BIND_MEM_LOC  | VARCHAR2 (64) | Which memory heap the bind variables are stored in: either the UGA or the CGA                                                                                                                                                                                                                                                                                                                                                                   |
| INST_FLAG     | VARCHAR2 (64) | Instantiation object flags                                                                                                                                                                                                                                                                                                                                                                                                                      |
| INST_FLAG2    | VARCHAR2 (64) | Instantiation object flags (continued)                                                                                                                                                                                                                                                                                                                                                                                                          |
| CHILD_HANDLE  | RAW (4   8)   | Pointer to the child cursor handle                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID        | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.69 V\$SQL\_HISTORY

V\$SQL\_HISTORY displays SQL statements tracked by SQL history monitoring.

This view is populated only when the SQL\_HISTORY initialization parameter is set to `true`.

| Column                         | Datatype       | Description                                                                                                                                                                                                                  |
|--------------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KEY                            | NUMBER         | Artificial key to efficiently read a specific SQL history data entry<br>For internal use only.                                                                                                                               |
| SQL_ID                         | VARCHAR2 (13)  | SQL identifier of the SQL statement                                                                                                                                                                                          |
| ELAPSED_TIME                   | NUMBER         | Elapsed time (in microseconds) for the SQL statement                                                                                                                                                                         |
| CPU_TIME                       | NUMBER         | CPU time (in microseconds) for the SQL statement                                                                                                                                                                             |
| BUFFER_GETS                    | NUMBER         | Number of buffer get operations for the SQL statement                                                                                                                                                                        |
| IO_INTERCONNECT_BYTES          | NUMBER         | Number of I/O bytes exchanged between Oracle Database and the storage system for the SQL statement                                                                                                                           |
| PHYSICAL_READ_REQUESTS         | NUMBER         | Number of physical read I/O requests issued by the SQL statement                                                                                                                                                             |
| PHYSICAL_READ_BYTES            | NUMBER         | Number of bytes read from disk by the SQL statement                                                                                                                                                                          |
| PHYSICAL_WRITE_REQUESTS        | NUMBER         | Number of physical write I/O requests issued by the SQL statement                                                                                                                                                            |
| PHYSICAL_WRITE_BYTES           | NUMBER         | Number of bytes written to disk by the SQL statement                                                                                                                                                                         |
| PLSQL_EXEC_TIME                | NUMBER         | PL/SQL execution time (in microseconds) for the SQL statement                                                                                                                                                                |
| JAVA_EXEC_TIME                 | NUMBER         | Java execution time (in microseconds) for the SQL statement                                                                                                                                                                  |
| CLUSTER_WAIT_TIME              | NUMBER         | Cluster wait time (in microseconds) for the SQL statement                                                                                                                                                                    |
| CONCURRENCY_WAIT_TIME          | NUMBER         | Concurrency wait time (in microseconds) for the SQL statement                                                                                                                                                                |
| APPLICATION_WAIT_TIME          | NUMBER         | Application wait time (in microseconds) for the SQL statement                                                                                                                                                                |
| USER_IO_WAIT_TIME              | NUMBER         | User I/O Wait Time (in microseconds) for the SQL statement                                                                                                                                                                   |
| IO_CELL_UNCOMPRESSED_BYTES     | NUMBER         | Number of uncompressed bytes (that is, size after decompression) that are offloaded to the Exadata cells for the SQL statement<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information |
| IO_CELL_OFFLOAD_ELIGIBLE_BYTES | NUMBER         | Number of I/O bytes that can be filtered by the Exadata storage system for the SQL statement<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                   |
| SQL_TEXT                       | VARCHAR2 (100) | Up to the first 100 characters of the text of the SQL statement                                                                                                                                                              |
| PLAN_HASH_VALUE                | NUMBER         | SQL plan hash value                                                                                                                                                                                                          |
| SQL_EXEC_ID                    | NUMBER         | SQL execution identifier                                                                                                                                                                                                     |
| SQL_EXEC_START                 | DATE           | Time at which the SQL statement execution started                                                                                                                                                                            |
| LAST_ACTIVE_TIME               | DATE           | Time at which the SQL statement execution was last active                                                                                                                                                                    |
| SESSION_USER#                  | NUMBER         | Unique ID number for the session user who issued the SQL statement                                                                                                                                                           |
| CURRENT_USER#                  | NUMBER         | Unique number identifying the current user                                                                                                                                                                                   |
| CHILD_NUMBER                   | NUMBER         | Child number of the SQL statement                                                                                                                                                                                            |
| SID                            | NUMBER         | Session ID for the SQL statement's session                                                                                                                                                                                   |
| SESSION_SERIAL#                | NUMBER         | Session serial number for the SQL statement's session                                                                                                                                                                        |
| MODULE_HASH                    | NUMBER         | Hash value for the module name corresponding to the executing session                                                                                                                                                        |

| Column          | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACTION_HASH     | NUMBER       | Hash value for the action name corresponding to the executing session                                                                                                                                                                                                                                                                                                                                                                           |
| SERVICE_HASH    | NUMBER       | Hash value for the service name corresponding to the executing session                                                                                                                                                                                                                                                                                                                                                                          |
| IS_FULL_SQLTEXT | VARCHAR2 (1) | Indicates whether the SQL_TEXT column displays the entire SQL text (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                               |
| ERROR_SIGNALED  | VARCHAR2 (1) | Indicates whether the SQL statement generated an error (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                           |
| ERROR_NUMBER    | NUMBER       | If the SQL statement failed to execute, the error number (for example, 932 for error ORA-00932)                                                                                                                                                                                                                                                                                                                                                 |
| ERROR_FACILITY  | VARCHAR2 (4) | If the SQL statement failed to execute, the error facility (for example, ORA for error ORA-00932)                                                                                                                                                                                                                                                                                                                                               |
| STATEMENT_TYPE  | VARCHAR2 (5) | Type of SQL statement: <ul style="list-style-type: none"> <li>DDL</li> <li>DML</li> <li>PLSQL</li> <li>QUERY</li> <li>OTHER</li> </ul>                                                                                                                                                                                                                                                                                                          |
| IS_PARALLEL     | VARCHAR2 (1) | Indicates whether the SQL ran as a parallel execution (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID          | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

**See Also:**

"SQL\_HISTORY\_ENABLED"

## 10.70 V\$SQL\_JOIN\_FILTER

V\$SQL\_JOIN\_FILTER displays performance information about the characteristics of join filters when they are used for a parallel cursor. (A join filter is a bitmap filter applied to table rows before a join operation in order to avoid parallel communication.)

| Column        | Datatype | Description                                                                        |
|---------------|----------|------------------------------------------------------------------------------------|
| QC_SESSION_ID | NUMBER   | QC (Query Coordinator) session ID of the given cursor for the given parallel query |

| Column              | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QC_INSTANCE_ID      | NUMBER   | QC (Query Coordinator) instance ID of the given cursor for the given parallel query                                                                                                                                                                                                                                                                                                                                                             |
| SQL_PLAN_HASH_VALUE | NUMBER   | SQL plan hash value of the given cursor for the given parallel query                                                                                                                                                                                                                                                                                                                                                                            |
| FILTER_ID           | NUMBER   | An ID that identifies the join filter in the given cursor and corresponds to the filter ID in the execution plan                                                                                                                                                                                                                                                                                                                                |
| LENGTH              | NUMBER   | Total size of the join filter field                                                                                                                                                                                                                                                                                                                                                                                                             |
| BITS_SET            | NUMBER   | Number of bits set in this filter                                                                                                                                                                                                                                                                                                                                                                                                               |
| FILTERED            | NUMBER   | Number of rows seen by the join filter                                                                                                                                                                                                                                                                                                                                                                                                          |
| PROBED              | NUMBER   | Number of rows of the right table that have been tested against the bitmap filter. This is the sum of the filtered rows plus the non-filtered rows.                                                                                                                                                                                                                                                                                             |
| ACTIVE              | NUMBER   | Whether the filter is active (Yes) or not (No)                                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID              | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.71 V\$SQL\_MONITOR

V\$SQL\_MONITOR displays SQL statements whose execution have been (or are being) monitored by Oracle.

This view contains global, high-level information about simple and composite database operations.

Oracle Database monitors simple database operations, which are top SQL statements and PL/SQL subprograms, when any of the following conditions is true:

- The operations run in parallel.
- The operations have consumed at least 5 seconds of CPU or I/O time in a single execution.
- Tracking for the operations is forced by the /\*+ MONITOR \*/ hint.

For simple database operations, monitoring statistics are not cumulative over several executions. In this case, one entry in V\$SQL\_MONITOR is dedicated to a single execution of a SQL statement. If the database monitors two executions of the same SQL statement, then each execution has a separate entry in V\$SQL\_MONITOR.

For simple database operations, V\$SQL\_MONITOR has one entry for the parallel execution coordinator process and one entry for each parallel execution server process. Each entry has corresponding entries in V\$SQL\_PLAN\_MONITOR. Because the processes allocated for the parallel execution of a SQL statement are cooperating for the same execution, these entries share the same execution key (the combination of SQL\_ID, SQL\_EXEC\_START, and SQL\_EXEC\_ID).

Oracle Database monitors composite database operations when either of the following conditions is true:

- A database operation was started with `DBMS_SQL_MONITOR.BEGIN_OPERATION` and the operation has consumed at least 5 seconds of CPU or I/O time.
- Tracking for the operation is forced by setting `FORCE_TRACKING` to `Y` in `DBMS_SQL_MONITOR.BEGIN_OPERATION`.

For composite database operations, each row contains an operation whose statistics are accumulated over the SQL statements and PL/SQL subprograms that run in the same session as part of the operation.

The `V$SQL_MONITOR` view contains a subset of the statistics available in `V$SQL`. However, unlike `V$SQL`, monitoring statistics are not cumulative over several executions. Instead, one entry in `V$SQL_MONITOR` is dedicated to a single execution of a SQL statement. If the database monitors two executions of the same SQL statement, then each execution has a separate entry in `V$SQL_MONITOR`.

The primary key is the combination of the columns `SQL_ID`, `SQL_EXEC_START`, and `SQL_EXEC_ID`.

`V$SQL_MONITOR` has one entry for the parallel execution coordinator process, and one entry for each parallel execution server process. Each entry has corresponding entries in `V$SQL_PLAN_MONITOR`. Because the processes allocated for the parallel execution of a SQL statement are cooperating for the same execution, these entries share the same execution key (the composite `SQL_ID`, `SQL_EXEC_START`, and `SQL_EXEC_ID`). You can aggregate the execution key to determine the overall statistics for a parallel execution.

When the SQL statement being monitored is executing, statistics in `V$SQL_MONITOR` are generally refreshed in near real time, once every second. Once the execution ends, monitoring information is not deleted immediately. Instead, it is kept in `V$SQL_MONITOR` for at least one minute. The entry will eventually be deleted to reclaim its space as new statements are monitored.

| Column            | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KEY               | NUMBER         | Artificial join key to efficiently join <code>V\$SQL_MONITOR</code> with its corresponding plan level monitoring statistics stored in <code>V\$SQL_PLAN_MONITOR</code>                                                                                                                                                                                                                                                                                                        |
| REPORT_ID         | NUMBER         | Unique ID of the XML report stored in Automatic Workload Repository (AWR) for this monitored entity                                                                                                                                                                                                                                                                                                                                                                           |
| STATUS            | VARCHAR2 (19)  | SQL execution status: <ul style="list-style-type: none"> <li>• QUEUED - SQL statement is queued</li> <li>• EXECUTING - SQL statement is still executing</li> <li>• DONE (ERROR) - Execution terminated with an error</li> <li>• DONE (FIRST N ROWS) - Execution terminated by the application before all rows were fetched</li> <li>• DONE (ALL ROWS) - Execution terminated and all rows were fetched</li> <li>• DONE - Execution terminated (parallel execution)</li> </ul> |
| USER#             | NUMBER         | User ID of the database user who issued the SQL being monitored                                                                                                                                                                                                                                                                                                                                                                                                               |
| USERNAME          | VARCHAR2 (128) | User name of the database user who issued the SQL being monitored                                                                                                                                                                                                                                                                                                                                                                                                             |
| MODULE            | VARCHAR2 (64)  | Name of the executing module when sampled, as set by the <code>DBMS_APPLICATION_INFO.SET_MODULE</code> procedure                                                                                                                                                                                                                                                                                                                                                              |
| ACTION            | VARCHAR2 (64)  | Name of the executing action when sampled, as set by the <code>DBMS_APPLICATION_INFO.SET_ACTION</code> procedure                                                                                                                                                                                                                                                                                                                                                              |
| SERVICE_NAME      | VARCHAR2 (64)  | Service name of the user session                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CLIENT_IDENTIFIER | VARCHAR2 (64)  | Client identifier from the user session                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CLIENT_INFO       | VARCHAR2 (64)  | Client information for the user session                                                                                                                                                                                                                                                                                                                                                                                                                                       |



| Column                    | Datatype        | Description                                                                                                                                                                                                                                                                                                                                        |
|---------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROGRAM                   | VARCHAR2 (84)   | Name of the operating system program that issued the monitored SQL                                                                                                                                                                                                                                                                                 |
| PLSQL_ENTRY_OBJECT_ID     | NUMBER          | Object ID of the top-most PL/SQL subprogram on the stack; NULL if there is no PL/SQL subprogram on the stack                                                                                                                                                                                                                                       |
| PLSQL_ENTRY_SUBPROGRAM_ID | NUMBER          | Subprogram ID of the top-most PL/SQL subprogram on the stack; NULL if there is no PL/SQL subprogram on the stack                                                                                                                                                                                                                                   |
| PLSQL_OBJECT_ID           | NUMBER          | Object ID of the currently executing PL/SQL subprogram; NULL if executing SQL                                                                                                                                                                                                                                                                      |
| PLSQL_SUBPROGRAM_ID       | NUMBER          | Subprogram ID of the currently executing PL/SQL object; NULL if executing SQL                                                                                                                                                                                                                                                                      |
| FIRST_REFRESH_TIME        | DATE            | Time when monitoring of the SQL statement started, generally a few seconds after execution start time                                                                                                                                                                                                                                              |
| LAST_REFRESH_TIME         | DATE            | Time when statistics in V\$SQL_MONITOR were last updated for the SQL statement. Statistics are generally refreshed every second when the statement executes.                                                                                                                                                                                       |
| REFRESH_COUNT             | NUMBER          | Number of times V\$SQL_MONITOR statistics have been refreshed (generally once every second when the SQL statement executes)                                                                                                                                                                                                                        |
| DBOP_EXEC_ID              | NUMBER          | Database operation execution identifier for the current execution. If the type is SQL, the DBOP_EXEC_ID will be NULL.                                                                                                                                                                                                                              |
| DBOP_NAME                 | VARCHAR2 (30)   | Database operation name. If the type is SQL, the DBOP_NAME will be NULL.                                                                                                                                                                                                                                                                           |
| SID                       | NUMBER          | Session identifier executing (or having executed) the SQL statement being monitored                                                                                                                                                                                                                                                                |
| PROCESS_NAME              | VARCHAR2 (5)    | Process name identifier executing (or having executed) the statement; ora if the process is foreground, else the background process name (for example, p001 for PX server p001)                                                                                                                                                                    |
| SQL_ID                    | VARCHAR2 (13)   | SQL identifier of the statement being monitored                                                                                                                                                                                                                                                                                                    |
| SQL_TEXT                  | VARCHAR2 (2000) | Up to the first 2000 characters of the text of the SQL being monitored                                                                                                                                                                                                                                                                             |
| IS_FULL_SQLTEXT           | VARCHAR2 (1)    | Indicates whether the SQL_TEXT column has the entire SQL text (Y) or not (N)                                                                                                                                                                                                                                                                       |
| SQL_EXEC_START            | DATE            | Time when the execution started                                                                                                                                                                                                                                                                                                                    |
| SQL_EXEC_ID               | NUMBER          | Execution identifier. Together, the three columns SQL_ID, SQL_EXEC_START, and SQL_EXEC_ID represent the execution key. The execution key is used to uniquely identify one execution of the SQL statement.                                                                                                                                          |
| SQL_PLAN_HASH_VALUE       | NUMBER          | SQL plan hash value                                                                                                                                                                                                                                                                                                                                |
| SQL_FULL_PLAN_HASH_VALUE  | NUMBER          | Numeric representation of the complete SQL plan for this cursor. Comparing one SQL_FULL_PLAN_HASH_VALUE to another easily identifies whether or not two plans are the same (rather than comparing the two plans line by line). Note that the SQL_FULL_PLAN_HASH_VALUE cannot be compared across databases releases. It is not backward compatible. |
| EXACT_MATCHING_SIGNATURE  | NUMBER          | Signature calculated on the normalized SQL text. The normalization includes the removal of white space and the uppercasing of all non-literal strings.                                                                                                                                                                                             |
| FORCE_MATCHING_SIGNATURE  | NUMBER          | Same as EXACT_MATCHING_SIGNATURE but literals in the SQL text are replaced by binds                                                                                                                                                                                                                                                                |
| SQL_CHILD_ADDRESS         | RAW (4   8)     | Address of the child cursor (can be used with SQL_ID to join with V\$SQL)                                                                                                                                                                                                                                                                          |
| SESSION_SERIAL#           | NUMBER          | Session serial number executing the statement being monitored                                                                                                                                                                                                                                                                                      |

| Column               | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PX_IS_CROSS_INSTANCE | VARCHAR2 (1)   | Indicates whether the SQL statement ran parallel across multiple instances (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PX_MAXDOP            | NUMBER         | Maximum degree of parallelism for any plan operation executed on behalf of the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PX_MAXDOP_INSTANCES  | NUMBER         | Number of database instances touched at the maximum degree of parallelism                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PX_SERVERS_REQUESTED | NUMBER         | Total number of parallel execution servers requested to execute the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PX_SERVERS_ALLOCATED | NUMBER         | Actual number of parallel execution servers allocated to execute the query                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PX_SERVER#           | NUMBER         | Logical parallel execution server process number executing (or having executed) the statement being monitored; NULL if this monitoring entry is not associated with an execution server. This is a logical number within the parallel server set (see <code>SERVER#</code> in <code>V\$PX_SESSION</code> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| PX_SERVER_GROUP      | NUMBER         | Logical parallel execution server group number to which <code>PX_SERVER#</code> belongs (see <code>SERVER_GROUP</code> in <code>V\$PX_SESSION</code> ); NULL if this monitoring entry is not associated with a parallel execution server. This value is generally 1 unless the SQL statement has one or more parallel sub-queries.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PX_SERVER_SET        | NUMBER         | Number (1 or 2) of the logical set of parallel execution servers to which <code>PX_SERVER#</code> belongs (see <code>SERVER_SET</code> in <code>V\$PX_SESSION</code> ); NULL if this monitoring entry is not associated with a parallel execution server                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PX_QCINST_ID         | NUMBER         | Instance identifier where the parallel execution coordinator runs; NULL if <code>PX_SERVER#</code> is NULL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PX_QCSID             | NUMBER         | Session identifier for the parallel execution coordinator; NULL if <code>PX_SERVER#</code> is NULL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ERROR_NUMBER         | VARCHAR2 (40)  | Error number encountered in case a SQL fails to execute successfully (for example, 932 in case of ORA-00932)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| ERROR_FACILITY       | VARCHAR2 (4)   | Error facility in case a SQL fails to execute successfully (for example, ORA in case of ORA-00932)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ERROR_MESSAGE        | VARCHAR2 (256) | Detailed error message displayed corresponding to the error number and error facility when a SQL fails to execute successfully                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| BINDS_XML            | CLOB           | Information about bind variables used with the SQL, such as name, position, value, data type, and so on (stored in XML format)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| OTHER_XML            | CLOB           | Provides extra information specific to an execution step of the execution plan. The content of this column is structured using XML, which allows multiple pieces of information to be stored, including the following: <ul style="list-style-type: none"> <li>• Name of the schema against which the query was parsed</li> <li>• Release number of the Oracle Database that produced the explain plan</li> <li>• Hash value associated with the execution plan</li> <li>• Name (if any) of the outline or the SQL profile used to build the execution plan</li> <li>• Indication of whether or not dynamic statistics were used to produce the plan</li> <li>• The outline data, a set of optimizer hints that can be used to regenerate the same plan</li> <li>• Additional data that describes the relationship between rows in the plan table and subplans of adaptive plans</li> </ul> |
| ELAPSED_TIME         | NUMBER         | Elapsed time (in microseconds); updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Column                  | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QUEUING_TIME            | NUMBER         | Duration of time (in microseconds) spent by SQL in the statement queue                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CPU_TIME                | NUMBER         | CPU time (in microseconds); updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| FETCHES                 | NUMBER         | Number of fetches associated with the SQL statement; updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                            |
| BUFFER_GETS             | NUMBER         | Number of buffer get operations; updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                                |
| DISK_READS              | NUMBER         | Number of disk reads; updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DIRECT_WRITES           | NUMBER         | Number of direct writes; updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| IO_INTERCONNECT_BYTES   | NUMBER         | Number of I/O bytes exchanged between Oracle Database and the storage system                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PHYSICAL_READ_REQUESTS  | NUMBER         | Number of physical read I/O requests issued by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PHYSICAL_READ_BYTES     | NUMBER         | Number of bytes read from disks by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| PHYSICAL_WRITE_REQUESTS | NUMBER         | Number of physical write I/O requests issued by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PHYSICAL_WRITE_BYTES    | NUMBER         | Number of bytes written to disks by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| APPLICATION_WAIT_TIME   | NUMBER         | Application wait time (in microseconds); updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CONCURRENCY_WAIT_TIME   | NUMBER         | Concurrency wait time (in microseconds); updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CLUSTER_WAIT_TIME       | NUMBER         | Cluster wait time (in microseconds); updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                            |
| USER_IO_WAIT_TIME       | NUMBER         | User I/O Wait Time (in microseconds); updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                           |
| PLSQL_EXEC_TIME         | NUMBER         | PL/SQL execution time (in microseconds); updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                        |
| JAVA_EXEC_TIME          | NUMBER         | Java execution time (in microseconds); updated as the statement executes                                                                                                                                                                                                                                                                                                                                                                                                                          |
| RM_LAST_ACTION          | VARCHAR2 (48)  | <p>The most recent action that was taken on this SQL operation by Resource Manager. Its value is one of the following:</p> <ul style="list-style-type: none"> <li>• CANCEL_SQL</li> <li>• KILL_SESSION</li> <li>• LOG_ONLY</li> <li>• SWITCH TO &lt;CG NAME&gt;</li> </ul> <p>For the last value, &lt;CG NAME&gt; is the name of the consumer group that the SQL operation was switched to. If the Resource Plan has since been changed then &lt;CG NAME&gt; is the ID of the consumer group.</p> |
| RM_LAST_ACTION_REASON   | VARCHAR2 (128) | <p>The reason for the most recent action that was taken on this SQL operation by Resource Manager. Its value is one of the following:</p> <ul style="list-style-type: none"> <li>• SWITCH_CPU_TIME</li> <li>• SWITCH_IO_REQS</li> <li>• SWITCH_IO_MBS</li> <li>• SWITCH_ELAPSED_TIME</li> <li>• SWITCH_IO_LOGICAL</li> </ul>                                                                                                                                                                      |
| RM_LAST_ACTION_TIME     | DATE           | The time of the most recent action that was taken on this SQL operation by Resource Manager                                                                                                                                                                                                                                                                                                                                                                                                       |
| RM_CONSUMER_GROUP       | VARCHAR2 (128) | The current consumer group for this SQL operation                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Column                         | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID                         | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| CON_NAME                       | VARCHAR2 (128) | Container name of the object. The value of this column is NULL in non-CDBs.                                                                                                                                                                                                                                                                                                                                                                     |
| ECID                           | VARCHAR2 (64)  | Execution context identifier (sent by Application Server)                                                                                                                                                                                                                                                                                                                                                                                       |
| IS_ADAPTIVE_PLAN               | VARCHAR2 (1)   | Indicates whether the statistics are from an adaptive plan (Y) or not (N).                                                                                                                                                                                                                                                                                                                                                                      |
| IS_FINAL_PLAN                  | VARCHAR2 (1)   | Indicates whether the statistics are from the final plan (Y) or not (N).                                                                                                                                                                                                                                                                                                                                                                        |
| IN_DBOP_NAME                   | VARCHAR2 (30)  | If the SQL that is monitored was executed by a session that was also monitored by a database operation (DBOP), then this column specifies the name of that DBOP                                                                                                                                                                                                                                                                                 |
| IN_DBOP_EXEC_ID                | NUMBER         | If the SQL that is monitored was executed by a session that was also monitored by a database operation (DBOP), then this column specifies the execution ID of that DBO                                                                                                                                                                                                                                                                          |
| IO_CELL_UNCOMPRESSED_BYTES     | NUMBER         | Number of uncompressed bytes (that is, size after decompression) that are offloaded to the Exadata cells<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                                                                                                                                                                                          |
| IO_CELL_OFFLOAD_ELIGIBLE_BYTES | NUMBER         | Number of I/O bytes which can be filtered by the Exadata storage system<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                                                                                                                                                                                                                           |
| IO_CELL_OFFLOAD_RETURNED_BYTES | NUMBER         | Number of filtered bytes returned by Exadata cells (that is, the number of bytes returned after processing has been offloaded on the Exadata cells)<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                                                                                                                                               |
| CURRENT_USER#                  | NUMBER         | Unique number identifying the current user                                                                                                                                                                                                                                                                                                                                                                                                      |
| CURRENT_USERNAME               | VARCHAR2 (128) | Username for the current user                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PDB_REPORT_ID                  | NUMBER         | Unique ID of the XML report of a PDB monitored entity that is stored in the CDB's Automatic Workload Repository (AWR) tables                                                                                                                                                                                                                                                                                                                    |
| PDB_ID                         | NUMBER         | Container ID of the PDB                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PARSING_SCHEMA#                | NUMBER         | Identifier of the parsing schema                                                                                                                                                                                                                                                                                                                                                                                                                |
| PARSING_SCHEMA_NAME            | VARCHAR2 (128) | Name of the parsing schema                                                                                                                                                                                                                                                                                                                                                                                                                      |

 **See Also:**

- ["V\\$SQL\\_PLAN\\_MONITOR"](#)
- ["V\\$ALL\\_SQL\\_MONITOR"](#)
- *Oracle Database SQL Tuning Guide* for more information about monitoring database operations
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_APPLICATION_INFO.SET_MODULE` procedure
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_APPLICATION_INFO.SET_ACTION` procedure

## 10.72 V\$SQL\_MONITOR\_SESSTAT

V\$SQL\_MONITOR\_SESSTAT displays information about statistics that are exposed in V\$SESSTAT.

| Column     | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID     | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |
| KEY        | NUMBER   | Artificial join key to efficiently join with other database operation views                                                                                                                                                                                                                                                                                                                                                                       |
| STATISTIC# | NUMBER   | Statistic number                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| VALUE      | NUMBER   | Value associated with the statistic                                                                                                                                                                                                                                                                                                                                                                                                               |

 **See Also:**

["V\\$SESSTAT"](#)

## 10.73 V\$SQL\_MONITOR\_STATNAME

V\$SQL\_MONITOR\_STATNAME provides information about the plan line statistics exposed in V\$SQL\_PLAN\_MONITOR. A plan line statistic is identified by its group ID (column `GROUP_ID`) and its ID (column `ID`).

| Column      | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID      | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| ID          | NUMBER         | Plan line statistic ID                                                                                                                                                                                                                                                                                                                                                                                                                          |
| GROUP_ID    | NUMBER         | Plan line statistic group ID                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NAME        | VARCHAR2 (40)  | Short name for the statistic                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DESCRIPTION | VARCHAR2 (200) | Short description for the statistic                                                                                                                                                                                                                                                                                                                                                                                                             |
| TYPE        | NUMBER         | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                       |
| FLAGS       | NUMBER         | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                       |



**See Also:**

"V\$SQL\_PLAN\_MONITOR"

## 10.74 V\$SQL\_OPTIMIZER\_ENV

V\$SQL\_OPTIMIZER\_ENV displays the contents of the optimizer environment used to build the execution plan of a SQL cursor. This view can be joined with V\$SQLAREA on (HASH\_VALUE, ADDRESS) and with V\$SQL on (HASH\_VALUE, CHILD\_ADDRESS).

| Column        | Datatype      | Description                                                                                                                                                                                            |
|---------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADDRESS       | RAW (4   8)   | Address of the parent cursor                                                                                                                                                                           |
| HASH_VALUE    | NUMBER        | Hash value of the parent cursor in the library cache. The hash value is the fixed index for the view and should be used when querying V\$SQL_OPTIMIZER_ENV to avoid scanning the entire library cache. |
| SQL_ID        | VARCHAR2 (13) | SQL identifier                                                                                                                                                                                         |
| CHILD_ADDRESS | RAW (4   8)   | Address of the child cursor                                                                                                                                                                            |
| CHILD_NUMBER  | NUMBER        | Child cursor number                                                                                                                                                                                    |
| ID            | NUMBER        | Unique identifier of the parameter in the optimizer environment                                                                                                                                        |
| NAME          | VARCHAR2 (40) | Name of the parameter                                                                                                                                                                                  |
| ISDEFAULT     | VARCHAR2 (3)  | Indicates whether the parameter is set to the default value (YES) or not (NO)                                                                                                                          |
| VALUE         | VARCHAR2 (25) | Value of the parameter                                                                                                                                                                                 |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.75 V\$SQL\_PLAN

V\$SQL\_PLAN contains the execution plan information for each child cursor loaded in the library cache.

| Column               | Datatype       | Description                                                                                                                                                                                                                                                                                                                                |
|----------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADDRESS              | RAW (4   8)    | Address of the handle to the parent for this cursor                                                                                                                                                                                                                                                                                        |
| HASH_VALUE           | NUMBER         | Hash value of the parent statement in the library cache. The two columns ADDRESS and HASH_VALUE can be used to join with V\$SQLAREA to add the cursor-specific information.                                                                                                                                                                |
| SQL_ID               | VARCHAR2 (13)  | SQL identifier of the parent cursor in the library cache                                                                                                                                                                                                                                                                                   |
| PLAN_HASH_VALUE      | NUMBER         | Numerical representation of the current SQL plan for this cursor. Comparing one PLAN_HASH_VALUE to another easily identifies whether or not two plans are the same (rather than comparing the two plans line by line).                                                                                                                     |
| FULL_PLAN_HASH_VALUE | NUMBER         | Numeric representation of the complete SQL plan for this cursor. Comparing one FULL_PLAN_HASH_VALUE to another easily identifies whether or not two plans are the same (rather than comparing the two plans line by line). Note that the FULL_PLAN_HASH_VALUE cannot be compared across databases releases. It is not backward compatible. |
| CHILD_ADDRESS        | RAW (4   8)    | Address of the child cursor                                                                                                                                                                                                                                                                                                                |
| CHILD_NUMBER         | NUMBER         | Number of the child cursor that uses this execution plan. The columns ADDRESS, HASH_VALUE, and CHILD_NUMBER can be used to join with V\$SQL to add the child cursor-specific information.                                                                                                                                                  |
| TIMESTAMP            | DATE           | Date and time when the execution plan was generated                                                                                                                                                                                                                                                                                        |
| OPERATION            | VARCHAR2 (30)  | Name of the internal operation performed in this step (for example, TABLE ACCESS)                                                                                                                                                                                                                                                          |
| OPTIONS              | VARCHAR2 (30)  | A variation on the operation described in the OPERATION column (for example, FULL)                                                                                                                                                                                                                                                         |
| OBJECT_NODE          | VARCHAR2 (40)  | Name of the database link used to reference the object (a table name or view name). For local queries that use parallel execution, this column describes the order in which output from operations is consumed.                                                                                                                            |
| OBJECT#              | NUMBER         | Object number of the table or the index                                                                                                                                                                                                                                                                                                    |
| OBJECT_OWNER         | VARCHAR2 (128) | Name of the user who owns the schema containing the table or index                                                                                                                                                                                                                                                                         |
| OBJECT_NAME          | VARCHAR2 (128) | Name of the table or index                                                                                                                                                                                                                                                                                                                 |
| OBJECT_ALIAS         | VARCHAR2 (261) | Alias for the object                                                                                                                                                                                                                                                                                                                       |
| OBJECT_TYPE          | VARCHAR2 (20)  | Type of the object                                                                                                                                                                                                                                                                                                                         |

| Column            | Datatype        | Description                                                                                                                                                                                                                                                                 |
|-------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OPTIMIZER         | VARCHAR2 (20)   | Current mode of the optimizer for the first row in the plan (statement line), for example, <code>ALL_ROWS</code> . When the operation is a database access (for example, <code>TABLE ACCESS</code> ), this column indicates whether or not the object is analyzed.          |
| ID                | NUMBER          | A number assigned to each step in the execution plan                                                                                                                                                                                                                        |
| PARENT_ID         | NUMBER          | ID of the next execution step that operates on the output of the current step                                                                                                                                                                                               |
| DEPTH             | NUMBER          | Depth (or level) of the operation in the tree. It is not necessary to issue a <code>CONNECT BY</code> statement to get the level information, which is generally used to indent the rows from the <code>PLAN_TABLE</code> table. The root operation (statement) is level 0. |
| POSITION          | NUMBER          | Order of processing for all operations that have the same <code>PARENT_ID</code>                                                                                                                                                                                            |
| SEARCH_COLUMNS    | NUMBER          | Number of index columns with start and stop keys (that is, the number of columns with matching predicates)                                                                                                                                                                  |
| COST              | NUMBER          | Cost of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is null.                                                                                                                            |
| CARDINALITY       | NUMBER          | Estimate, by the cost-based optimizer, of the number of rows produced by the operation                                                                                                                                                                                      |
| BYTES             | NUMBER          | Estimate, by the cost-based optimizer, of the number of bytes produced by the operation                                                                                                                                                                                     |
| OTHER_TAG         | VARCHAR2 (35)   | Describes the contents of the <code>OTHER</code> column. See <code>EXPLAIN PLAN</code> for values.                                                                                                                                                                          |
| PARTITION_START   | VARCHAR2 (64)   | Start partition of a range of accessed partitions                                                                                                                                                                                                                           |
| PARTITION_STOP    | VARCHAR2 (64)   | Stop partition of a range of accessed partitions                                                                                                                                                                                                                            |
| PARTITION_ID      | NUMBER          | Step that computes the pair of values of the <code>PARTITION_START</code> and <code>PARTITION_STOP</code> columns                                                                                                                                                           |
| OTHER             | VARCHAR2 (4000) | Other information specific to the execution step that users may find useful. See <code>EXPLAIN PLAN</code> for values.                                                                                                                                                      |
| DISTRIBUTION      | VARCHAR2 (20)   | Stores the method used to distribute rows from producer query servers to consumer query servers                                                                                                                                                                             |
| CPU_COST          | NUMBER          | CPU cost of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is null.                                                                                                                        |
| IO_COST           | NUMBER          | I/O cost of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is null.                                                                                                                        |
| TEMP_SPACE        | NUMBER          | Temporary space usage of the operation (sort or hash-join) as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is null.                                                                                       |
| ACCESS_PREDICATES | VARCHAR2 (4000) | Predicates used to locate rows in an access structure. For example, start or stop predicates for an index range scan.                                                                                                                                                       |
| FILTER_PREDICATES | VARCHAR2 (4000) | Predicates used to filter rows before producing them                                                                                                                                                                                                                        |
| PROJECTION        | VARCHAR2 (4000) | Expressions produced by the operation                                                                                                                                                                                                                                       |
| TIME              | NUMBER          | Elapsed time (in seconds) of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is null.                                                                                                       |
| QBLOCK_NAME       | VARCHAR2 (128)  | Name of the query block                                                                                                                                                                                                                                                     |



| Column    | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REMARKS   | VARCHAR2 (4000) | Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| OTHER_XML | CLOB            | Provides extra information specific to an execution step of the execution plan. The content of this column is structured using XML, which allows multiple pieces of information to be stored, including the following: <ul style="list-style-type: none"> <li>Name of the schema against which the query was parsed</li> <li>Release number of the Oracle Database that produced the explain plan</li> <li>Hash value associated with the execution plan</li> <li>Name (if any) of the outline or the SQL profile used to build the execution plan</li> <li>Indication of whether or not dynamic statistics were used to produce the plan</li> <li>The outline data, a set of optimizer hints that can be used to regenerate the same plan</li> <li>Additional data that describes the relationship between rows in the plan table and subplans of adaptive plans</li> </ul> |
| CON_ID    | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                              |

## 10.76 V\$SQL\_PLAN\_MONITOR

V\$SQL\_PLAN\_MONITOR displays plan level monitoring statistics for each SQL statement found in V\$SQL\_MONITOR. Each row in V\$SQL\_PLAN\_MONITOR corresponds to an operation of the execution plan being monitored. As with V\$SQL\_MONITOR, statistics exposed in V\$SQL\_PLAN\_MONITOR are generally updated every second when the statement executes. These statistics are recycled on the same basis as V\$SQL\_MONITOR.

To eliminate the overhead of SQL plan monitoring, statistics collected for each operation of the plan do not record timing information such as elapsed time, CPU time, or I/O time. Instead, this timing information can be estimated quite accurately by joining V\$SQL\_PLAN\_MONITOR with V\$ACTIVE\_SESSION\_HISTORY on SQL\_ID, SQL\_EXEC\_START, SQL\_EXEC\_ID, and SQL\_PLAN\_LINE\_ID (simply named PLAN\_LINE\_ID in V\$SQL\_PLAN\_MONITOR). The result of that join is a sample of the activity performed by each operation in the plan, from which an estimate of CPU time and wait time can be derived. This can be achieved by breaking statement level monitoring time statistics found in V\$SQL\_MONITOR in proportion to the number of samples found in V\$ACTIVE\_SESSION\_HISTORY for the corresponding activity type.

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

| Column              | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KEY                 | NUMBER         | Foreign key to efficiently join V\$SQL_PLAN_MONITOR with V\$SQL_MONITOR (see V\$SQL_MONITOR)                                                                                                                                                                                                                                                                                                                            |
| STATUS              | VARCHAR2 (19)  | SQL execution status: <ul style="list-style-type: none"> <li>EXECUTING - SQL statement is still executing</li> <li>DONE (ERROR) - Execution terminated with an error</li> <li>DONE (FIRST N ROWS) - Execution terminated by the application before all rows were fetched</li> <li>DONE (ALL ROWS) - Execution terminated and all rows were fetched</li> <li>DONE - Execution terminated (parallel execution)</li> </ul> |
| FIRST_REFRESH_TIME  | DATE           | Time when monitoring of the SQL statement started                                                                                                                                                                                                                                                                                                                                                                       |
| LAST_REFRESH_TIME   | DATE           | Time when statistics were last updated for the SQL statement                                                                                                                                                                                                                                                                                                                                                            |
| FIRST_CHANGE_TIME   | DATE           | First time a row was produced by this operation                                                                                                                                                                                                                                                                                                                                                                         |
| LAST_CHANGE_TIME    | DATE           | Last time a row was produced by this operation                                                                                                                                                                                                                                                                                                                                                                          |
| REFRESH_COUNT       | NUMBER         | Number of times statistics have been refreshed                                                                                                                                                                                                                                                                                                                                                                          |
| SID                 | NUMBER         | Session identifier executing (or having executed) the SQL statement being monitored                                                                                                                                                                                                                                                                                                                                     |
| PROCESS_NAME        | VARCHAR2 (5)   | Process name identifier                                                                                                                                                                                                                                                                                                                                                                                                 |
| SQL_ID              | VARCHAR2 (13)  | SQL identifier                                                                                                                                                                                                                                                                                                                                                                                                          |
| SQL_EXEC_START      | DATE           | Time when the execution started                                                                                                                                                                                                                                                                                                                                                                                         |
| SQL_EXEC_ID         | NUMBER         | Execution identifier                                                                                                                                                                                                                                                                                                                                                                                                    |
| SQL_PLAN_HASH_VALUE | NUMBER         | SQL plan hash value                                                                                                                                                                                                                                                                                                                                                                                                     |
| SQL_CHILD_ADDRESS   | RAW (4   8)    | Address of the child cursor                                                                                                                                                                                                                                                                                                                                                                                             |
| PLAN_PARENT_ID      | NUMBER         | ID of the next execution step that operates on the output of the current step                                                                                                                                                                                                                                                                                                                                           |
| PLAN_LINE_ID        | NUMBER         | Plan line number for the entry                                                                                                                                                                                                                                                                                                                                                                                          |
| PLAN_OPERATION      | VARCHAR2 (30)  | Plan operation name (from V\$SQL_PLAN)                                                                                                                                                                                                                                                                                                                                                                                  |
| PLAN_OPTIONS        | VARCHAR2 (30)  | Plan option name (from V\$SQL_PLAN)                                                                                                                                                                                                                                                                                                                                                                                     |
| PLAN_OBJECT_OWNER   | VARCHAR2 (128) | Name of the user who owns the schema containing the table or index                                                                                                                                                                                                                                                                                                                                                      |
| PLAN_OBJECT_NAME    | VARCHAR2 (128) | Name of the table or index                                                                                                                                                                                                                                                                                                                                                                                              |
| PLAN_OBJECT_TYPE    | VARCHAR2 (20)  | Type of the object                                                                                                                                                                                                                                                                                                                                                                                                      |
| PLAN_DEPTH          | NUMBER         | Depth (or level) of the operation in the tree. It is not necessary to issue a CONNECT BY statement to get the level information, which is generally used to indent the rows from the PLAN_TABLE table. The root operation (statement) is level 0.                                                                                                                                                                       |
| PLAN_POSITION       | NUMBER         | Order of processing for all operations that have the same PARENT_ID                                                                                                                                                                                                                                                                                                                                                     |
| PLAN_COST           | NUMBER         | Cost of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is NULL.                                                                                                                                                                                                                                                                        |
| PLAN_CARDINALITY    | NUMBER         | Estimate, by the cost-based optimizer, of the number of rows produced by the operation                                                                                                                                                                                                                                                                                                                                  |
| PLAN_BYTES          | NUMBER         | Estimate, by the cost-based optimizer, of the number of bytes produced by the operation                                                                                                                                                                                                                                                                                                                                 |
| PLAN_TIME           | NUMBER         | Elapsed time (in seconds) of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is NULL.                                                                                                                                                                                                                                                   |

| Column                  | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PLAN_PARTITION_START    | VARCHAR2 (64) | Start partition of a range of accessed partitions                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PLAN_PARTITION_STOP     | VARCHAR2 (64) | Stop partition of a range of accessed partitions                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PLAN_CPU_COST           | NUMBER        | CPU cost of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is NULL.                                                                                                                                                                                                                                                                                                               |
| PLAN_IO_COST            | NUMBER        | I/O cost of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is NULL.                                                                                                                                                                                                                                                                                                               |
| PLAN_TEMP_SPACE         | NUMBER        | Temporary space usage of the operation (sort or hash-join) as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is NULL.                                                                                                                                                                                                                                                                              |
| STARTS                  | NUMBER        | Number of times this operation was executed. For example, an operation is executed multiple times when it is on the right side of a nested-loop join (once for each row of the left input of that nested-loop join).                                                                                                                                                                                                                                               |
| OUTPUT_ROWS             | NUMBER        | Number of rows produced by this operation since the execution started. This number is cumulated for all executions of this operation. Divide by the value of the STARTS column to compute the average number of rows per execution of the operation. Note that the value in the STARTS column is equal to or higher than the value in the OUTPUT_ROWS column. The value will usually be equal, but depending on internal optimizations a higher value may be seen. |
| IO_INTERCONNECT_BYTES   | NUMBER        | Number of I/O bytes exchanged between Oracle Database and the storage system. Maintained only after Oracle starts to monitor the execution.                                                                                                                                                                                                                                                                                                                        |
| PHYSICAL_READ_REQUESTS  | NUMBER        | Number of physical read I/O requests issued by the monitored SQL. Maintained only after Oracle starts to monitor the execution.                                                                                                                                                                                                                                                                                                                                    |
| PHYSICAL_READ_BYTES     | NUMBER        | Number of bytes read from disks by the monitored SQL. Maintained only after Oracle starts to monitor the execution.                                                                                                                                                                                                                                                                                                                                                |
| PHYSICAL_WRITE_REQUESTS | NUMBER        | Number of physical write I/O requests issued by the monitored SQL. Maintained only after Oracle starts to monitor the execution.                                                                                                                                                                                                                                                                                                                                   |
| PHYSICAL_WRITE_BYTES    | NUMBER        | Number of bytes written to disks by the monitored SQL. Maintained only after Oracle starts to monitor the execution.                                                                                                                                                                                                                                                                                                                                               |
| WORKAREA_MEM            | NUMBER        | Amount of memory (in bytes) used by the operation when the query is executing; NULL if the execution is done. This applies only to operations using a work area, such as sort, hash-join, group-by, and so on.                                                                                                                                                                                                                                                     |
| WORKAREA_MAX_MEM        | NUMBER        | Maximum value (in bytes) for WORKAREA_MEM; NULL if the operation is not using a work area. When the execution is finished, this value will hold the maximum amount of memory consumed by this operation during the execution of the statement.                                                                                                                                                                                                                     |
| WORKAREA_TEMPSEG        | NUMBER        | Amount of temporary space (in bytes) used by the operation when the query is executing; NULL if the operation has not spilled to disk or if the execution is finished                                                                                                                                                                                                                                                                                              |
| WORKAREA_MAX_TEMPSEG    | NUMBER        | Maximum value (in bytes) for WORKAREA_TEMPSEG; NULL if this operation never spilled to disk. When the execution is done, this value will hold the maximum amount of temporary space consumed by this operation during the entire execution.                                                                                                                                                                                                                        |
| OTHERSTAT_GROUP_ID      | NUMBER        | Plan line statistic group identifier (see GROUP_ID column in V\$SQL_MONITOR_STATNAME)                                                                                                                                                                                                                                                                                                                                                                              |

| Column             | Datatype | Description                                                                                               |
|--------------------|----------|-----------------------------------------------------------------------------------------------------------|
| OTHERSTAT_1_ID     | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 1 of that plan line  |
| OTHERSTAT_1_TYPE   | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_1_VALUE  | NUMBER   | Value of statistic number 1 of that plan line                                                             |
| OTHERSTAT_2_ID     | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 2 of that plan line  |
| OTHERSTAT_2_TYPE   | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_2_VALUE  | NUMBER   | Value of statistic number 2 of that plan line                                                             |
| OTHERSTAT_3_ID     | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 3 of that plan line  |
| OTHERSTAT_3_TYPE   | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_3_VALUE  | NUMBER   | Value of statistic number 3 of that plan line                                                             |
| OTHERSTAT_4_ID     | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 4 of that plan line  |
| OTHERSTAT_4_TYPE   | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_4_VALUE  | NUMBER   | Value of statistic number 4 of that plan line                                                             |
| OTHERSTAT_5_ID     | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 5 of that plan line  |
| OTHERSTAT_5_TYPE   | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_5_VALUE  | NUMBER   | Value of statistic number 5 of that plan line                                                             |
| OTHERSTAT_6_ID     | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 6 of that plan line  |
| OTHERSTAT_6_TYPE   | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_6_VALUE  | NUMBER   | Value of statistic number 6 of that plan line                                                             |
| OTHERSTAT_7_ID     | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 7 of that plan line  |
| OTHERSTAT_7_TYPE   | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_7_VALUE  | NUMBER   | Value of statistic number 7 of that plan line                                                             |
| OTHERSTAT_8_ID     | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 8 of that plan line  |
| OTHERSTAT_8_TYPE   | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_8_VALUE  | NUMBER   | Value of statistic number 8 of that plan line                                                             |
| OTHERSTAT_9_ID     | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 9 of that plan line  |
| OTHERSTAT_9_TYPE   | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_9_VALUE  | NUMBER   | Value of statistic number 9 of that plan line                                                             |
| OTHERSTAT_10_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 10 of that plan line |
| OTHERSTAT_10_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_10_VALUE | NUMBER   | Value of statistic number 10 of that plan line                                                            |
| OTHERSTAT_11_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 11 of that plan line |
| OTHERSTAT_11_TYPE  | NUMBER   | Reserved for internal use                                                                                 |

| Column             | Datatype | Description                                                                                               |
|--------------------|----------|-----------------------------------------------------------------------------------------------------------|
| OTHERSTAT_11_VALUE | NUMBER   | Value of statistic number 11 of that plan line                                                            |
| OTHERSTAT_12_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 12 of that plan line |
| OTHERSTAT_12_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_12_VALUE | NUMBER   | Value of statistic number 12 of that plan line                                                            |
| OTHERSTAT_13_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 13 of that plan line |
| OTHERSTAT_13_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_13_VALUE | NUMBER   | Value of statistic number 13 of that plan line                                                            |
| OTHERSTAT_14_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 14 of that plan line |
| OTHERSTAT_14_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_14_VALUE | NUMBER   | Value of statistic number 14 of that plan line                                                            |
| OTHERSTAT_15_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 15 of that plan line |
| OTHERSTAT_15_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_15_VALUE | NUMBER   | Value of statistic number 15 of that plan line                                                            |
| OTHERSTAT_16_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 16 of that plan line |
| OTHERSTAT_16_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_16_VALUE | NUMBER   | Value of statistic number 16 of that plan line                                                            |
| OTHERSTAT_17_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 17 of that plan line |
| OTHERSTAT_17_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_17_VALUE | NUMBER   | Value of statistic number 17 of that plan line                                                            |
| OTHERSTAT_18_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 18 of that plan line |
| OTHERSTAT_18_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_18_VALUE | NUMBER   | Value of statistic number 18 of that plan line                                                            |
| OTHERSTAT_19_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 19 of that plan line |
| OTHERSTAT_19_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_19_VALUE | NUMBER   | Value of statistic number 19 of that plan line                                                            |
| OTHERSTAT_20_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 20 of that plan line |
| OTHERSTAT_20_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_20_VALUE | NUMBER   | Value of statistic number 20 of that plan line                                                            |
| OTHERSTAT_21_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 21 of that plan line |
| OTHERSTAT_21_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_21_VALUE | NUMBER   | Value of statistic number 21 of that plan line                                                            |
| OTHERSTAT_22_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 22 of that plan line |

| Column             | Datatype | Description                                                                                               |
|--------------------|----------|-----------------------------------------------------------------------------------------------------------|
| OTHERSTAT_22_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_22_VALUE | NUMBER   | Value of statistic number 22 of that plan line                                                            |
| OTHERSTAT_23_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 23 of that plan line |
| OTHERSTAT_23_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_23_VALUE | NUMBER   | Value of statistic number 23 of that plan line                                                            |
| OTHERSTAT_24_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 24 of that plan line |
| OTHERSTAT_24_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_24_VALUE | NUMBER   | Value of statistic number 24 of that plan line                                                            |
| OTHERSTAT_25_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 25 of that plan line |
| OTHERSTAT_25_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_25_VALUE | NUMBER   | Value of statistic number 25 of that plan line                                                            |
| OTHERSTAT_26_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 26 of that plan line |
| OTHERSTAT_26_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_26_VALUE | NUMBER   | Value of statistic number 26 of that plan line                                                            |
| OTHERSTAT_27_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 27 of that plan line |
| OTHERSTAT_27_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_27_VALUE | NUMBER   | Value of statistic number 27 of that plan line                                                            |
| OTHERSTAT_28_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 28 of that plan line |
| OTHERSTAT_28_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_28_VALUE | NUMBER   | Value of statistic number 28 of that plan line                                                            |
| OTHERSTAT_29_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 29 of that plan line |
| OTHERSTAT_29_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_29_VALUE | NUMBER   | Value of statistic number 29 of that plan line                                                            |
| OTHERSTAT_30_ID    | NUMBER   | Statistic identifier (see ID column in V\$SQL_MONITOR_STATNAME) for statistic number 30 of that plan line |
| OTHERSTAT_30_TYPE  | NUMBER   | Reserved for internal use                                                                                 |
| OTHERSTAT_30_VALUE | NUMBER   | Value of statistic number 30 of that plan line                                                            |

| Column                  | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTHER_XML               | CLOB     | Provides extra information specific to an execution step of the execution plan. The content of this column is structured using XML, which allows multiple pieces of information to be stored, including the following: <ul style="list-style-type: none"> <li>Name of the schema against which the query was parsed</li> <li>Release number of the Oracle Database that produced the explain plan</li> <li>Hash value associated with the execution plan</li> <li>Name (if any) of the outline or the SQL profile used to build the execution plan</li> <li>Indication of whether or not dynamic statistics were used to produce the plan</li> <li>The outline data, a set of optimizer hints that can be used to regenerate the same plan</li> <li>Additional data that describes the relationship between rows in the plan table and subplans of adaptive plans</li> </ul> |
| PLAN_OPERATION_INACTIVE | NUMBER   | Indicates whether this plan operation was part of the final resolved plan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| PDB_ID                  | NUMBER   | Container ID of the PDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |



#### See Also:

- "V\$SQL\_MONITOR\_STATNAME"
- "V\$ALL\_SQL\_PLAN\_MONITOR"

## 10.77 V\$SQL\_PLAN\_STATISTICS

V\$SQL\_PLAN\_STATISTICS provides execution statistics at the row source level for each child cursor.

| Column               | Datatype      | Description                                                                                                                                                                                                                                                                                                                                |
|----------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADDRESS              | RAW (4   8)   | Address of the handle to the parent for this cursor                                                                                                                                                                                                                                                                                        |
| HASH_VALUE           | NUMBER        | Hash value of the parent statement in the library cache. The two columns ADDRESS and HASH_VALUE can be used to join with V\$SQLAREA to locate the parent cursor.                                                                                                                                                                           |
| SQL_ID               | VARCHAR2 (13) | SQL identifier of the parent statement in the library cache                                                                                                                                                                                                                                                                                |
| PLAN_HASH_VALUE      | NUMBER        | Numerical representation of the current SQL plan for this cursor. Comparing one PLAN_HASH_VALUE to another easily identifies whether or not two plans are the same (rather than comparing the two plans line by line)                                                                                                                      |
| FULL_PLAN_HASH_VALUE | NUMBER        | Numeric representation of the complete SQL plan for this cursor. Comparing one FULL_PLAN_HASH_VALUE to another easily identifies whether or not two plans are the same (rather than comparing the two plans line by line). Note that the FULL_PLAN_HASH_VALUE cannot be compared across databases releases. It is not backward compatible. |
| CHILD_ADDRESS        | RAW (4   8)   | Address of the child cursor                                                                                                                                                                                                                                                                                                                |

| Column              | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CHILD_NUMBER        | NUMBER   | Number of the child cursor that uses this work area. The columns ADDRESS, HASH_VALUE, and CHILD_NUMBER can be used to join with V\$SQL to locate the child cursor using this area.                                                                                                                                                                                                                                                                     |
| OPERATION_ID        | NUMBER   | A number assigned to each step in the execution plan                                                                                                                                                                                                                                                                                                                                                                                                   |
| EXECUTIONS          | NUMBER   | Number of times this cursor has been executed                                                                                                                                                                                                                                                                                                                                                                                                          |
| LAST_STARTS         | NUMBER   | Number of times this operation has been started, during the last execution                                                                                                                                                                                                                                                                                                                                                                             |
| STARTS              | NUMBER   | Number of times this operation has been started, accumulated over the past executions                                                                                                                                                                                                                                                                                                                                                                  |
| LAST_OUTPUT_ROWS    | NUMBER   | Number of rows produced by the row source, during the last execution                                                                                                                                                                                                                                                                                                                                                                                   |
| OUTPUT_ROWS         | NUMBER   | Number of rows produced by the row source, accumulated over the past executions                                                                                                                                                                                                                                                                                                                                                                        |
| LAST_CR_BUFFER_GETS | NUMBER   | Number of buffers retrieved in consistent mode, during the last execution. Buffers are usually retrieved in consistent mode for queries.                                                                                                                                                                                                                                                                                                               |
| CR_BUFFER_GETS      | NUMBER   | Number of buffers retrieved in consistent mode, accumulated over the past executions. Buffers are usually retrieved in consistent mode for queries.                                                                                                                                                                                                                                                                                                    |
| LAST_CU_BUFFER_GETS | NUMBER   | Number of buffers retrieved in current mode, during the last execution. Buffers are retrieved in current mode for statements such as INSERT, UPDATE, and DELETE.                                                                                                                                                                                                                                                                                       |
| CU_BUFFER_GETS      | NUMBER   | Number of buffers retrieved in current mode, accumulated over the past executions. Buffers are retrieved in current mode for statements such as INSERT, UPDATE, and DELETE.                                                                                                                                                                                                                                                                            |
| LAST_DISK_READS     | NUMBER   | Number of physical disk reads performed by the operation, during the last execution                                                                                                                                                                                                                                                                                                                                                                    |
| DISK_READS          | NUMBER   | Number of physical disk reads performed by the operation, accumulated over the past executions                                                                                                                                                                                                                                                                                                                                                         |
| LAST_DISK_WRITES    | NUMBER   | Number of physical disk writes performed by the operation, during the last execution                                                                                                                                                                                                                                                                                                                                                                   |
| DISK_WRITES         | NUMBER   | Number of physical disk writes performed by the operation, accumulated over the past executions                                                                                                                                                                                                                                                                                                                                                        |
| LAST_ELAPSED_TIME   | NUMBER   | Elapsed time (in microseconds) corresponding to this operation, during the last execution                                                                                                                                                                                                                                                                                                                                                              |
| ELAPSED_TIME        | NUMBER   | Elapsed time (in microseconds) corresponding to this operation, accumulated over the past executions                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID              | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$SQLAREA"



## 10.78 V\$SQL\_PLAN\_STATISTICS\_ALL

V\$SQL\_PLAN\_STATISTICS\_ALL contains memory usage statistics for row sources that use SQL memory (sort or hash-join). This view concatenates information in V\$SQL\_PLAN with execution statistics from V\$SQL\_PLAN\_STATISTICS and V\$SQL\_WORKAREA.

| Column               | Datatype      | Description                                                                                                                                                                                                                                                                                                                                |
|----------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADDRESS              | RAW(4   8)    | Address of the handle to the parent for this cursor                                                                                                                                                                                                                                                                                        |
| HASH_VALUE           | NUMBER        | Hash value of the parent statement in the library cache. The two columns ADDRESS and HASH_VALUE can be used to join with V\$SQLAREA to add the cursor-specific information.                                                                                                                                                                |
| SQL_ID               | VARCHAR2(13)  | SQL identifier of the parent statement in the library cache                                                                                                                                                                                                                                                                                |
| PLAN_HASH_VALUE      | NUMBER        | Numerical representation of the current SQL plan for this cursor. Comparing one PLAN_HASH_VALUE to another easily identifies whether or not two plans are the same (rather than comparing the two plans line by line)                                                                                                                      |
| FULL_PLAN_HASH_VALUE | NUMBER        | Numeric representation of the complete SQL plan for this cursor. Comparing one FULL_PLAN_HASH_VALUE to another easily identifies whether or not two plans are the same (rather than comparing the two plans line by line). Note that the FULL_PLAN_HASH_VALUE cannot be compared across databases releases. It is not backward compatible. |
| CHILD_ADDRESS        | RAW(4   8)    | Address of the child cursor                                                                                                                                                                                                                                                                                                                |
| CHILD_NUMBER         | NUMBER        | Number of the child cursor that uses this execution plan. The columns ADDRESS, HASH_VALUE, and CHILD_NUMBER can be used to join with V\$SQL to add the child cursor-specific information.                                                                                                                                                  |
| TIMESTAMP            | DATE          | Date and time when the execution plan was generated                                                                                                                                                                                                                                                                                        |
| OPERATION            | VARCHAR2(30)  | Name of the internal operation performed in this step (for example, TABLE ACCESS)                                                                                                                                                                                                                                                          |
| OPTIONS              | VARCHAR2(30)  | A variation on the operation described in the OPERATION column (for example, FULL)                                                                                                                                                                                                                                                         |
| OBJECT_NODE          | VARCHAR2(40)  | Name of the database link used to reference the object (a table name or view name). For local queries that use parallel execution, this column describes the order in which output from operations is consumed.                                                                                                                            |
| OBJECT#              | NUMBER        | Object number of the table or the index                                                                                                                                                                                                                                                                                                    |
| OBJECT_OWNER         | VARCHAR2(128) | Name of the user who owns the schema containing the table or index                                                                                                                                                                                                                                                                         |
| OBJECT_NAME          | VARCHAR2(128) | Name of the table or index                                                                                                                                                                                                                                                                                                                 |
| OBJECT_ALIAS         | VARCHAR2(261) | Alias for the object                                                                                                                                                                                                                                                                                                                       |
| OBJECT_TYPE          | VARCHAR2(20)  | Type of the object                                                                                                                                                                                                                                                                                                                         |
| OPTIMIZER            | VARCHAR2(20)  | Current mode of the optimizer for the first row in the plan (statement line), for example, CHOOSE. When the operation is a database access (for example, TABLE ACCESS), this column indicates whether or not the object is analyzed.                                                                                                       |
| ID                   | NUMBER        | A number assigned to each step in the execution plan                                                                                                                                                                                                                                                                                       |
| PARENT_ID            | NUMBER        | ID of the next execution step that operates on the output of the current step                                                                                                                                                                                                                                                              |
| DEPTH                | NUMBER        | Depth (or level) of the operation in the tree. It is not necessary to issue a CONNECT BY statement to get the level information, which is generally used to indent the rows from the PLAN_TABLE table. The root operation (statement) is level 0.                                                                                          |

| Column            | Datatype        | Description                                                                                                                                                                           |
|-------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POSITION          | NUMBER          | Order of processing for all operations that have the same PARENT_ID                                                                                                                   |
| SEARCH_COLUMNS    | NUMBER          | Number of index columns with start and stop keys (that is, the number of columns with matching predicates)                                                                            |
| COST              | NUMBER          | Cost of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is null.                                      |
| CARDINALITY       | NUMBER          | Estimate, by the cost-based optimizer, of the number of rows produced by the operation                                                                                                |
| BYTES             | NUMBER          | Estimate, by the cost-based optimizer, of the number of bytes produced by the operation                                                                                               |
| OTHER_TAG         | VARCHAR2 (35)   | Describes the contents of the OTHER column. See EXPLAIN PLAN for values.                                                                                                              |
| PARTITION_START   | VARCHAR2 (64)   | Start partition of a range of accessed partitions                                                                                                                                     |
| PARTITION_STOP    | VARCHAR2 (64)   | Stop partition of a range of accessed partitions                                                                                                                                      |
| PARTITION_ID      | NUMBER          | Step that computes the pair of values of the PARTITION_START and PARTITION_STOP columns                                                                                               |
| OTHER             | VARCHAR2 (4000) | Other information specific to the execution step that users may find useful. See EXPLAIN PLAN for values.                                                                             |
| DISTRIBUTION      | VARCHAR2 (20)   | Stores the method used to distribute rows from producer query servers to consumer query servers                                                                                       |
| CPU_COST          | NUMBER          | CPU cost of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is null.                                  |
| IO_COST           | NUMBER          | I/O cost of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is null.                                  |
| TEMP_SPACE        | NUMBER          | Temporary space usage of the operation (sort or hash-join) as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is null. |
| ACCESS_PREDICATES | VARCHAR2 (4000) | Predicates used to locate rows in an access structure. For example, start or stop predicates for an index range scan.                                                                 |
| FILTER_PREDICATES | VARCHAR2 (4000) | Predicates used to filter rows before producing them                                                                                                                                  |
| PROJECTION        | VARCHAR2 (4000) | Expressions produced by the operation                                                                                                                                                 |
| TIME              | NUMBER          | Elapsed time (in seconds) of the operation as estimated by the optimizer's cost-based approach. For statements that use the rule-based approach, this column is null.                 |
| QBLOCK_NAME       | VARCHAR2 (128)  | Name of the query block                                                                                                                                                               |
| REMARKS           | VARCHAR2 (4000) | Remarks                                                                                                                                                                               |

| Column              | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTHER_XML           | CLOB         | Provides extra information specific to an execution step of the execution plan. The content of this column is structured using XML, which allows multiple pieces of information to be stored, including the following: <ul style="list-style-type: none"> <li>Name of the schema against which the query was parsed</li> <li>Release number of the Oracle Database that produced the explain plan</li> <li>Hash value associated with the execution plan</li> <li>Name (if any) of the outline or the SQL profile used to build the execution plan</li> <li>Indication of whether or not dynamic statistics were used to produce the plan</li> <li>The outline data, a set of optimizer hints that can be used to regenerate the same plan</li> <li>Additional data that describes the relationship between rows in the plan table and subplans of adaptive plans</li> </ul> |
| EXECUTIONS          | NUMBER       | Number of times this cursor has been executed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| LAST_STARTS         | NUMBER       | Number of times this operation has been started, during the last execution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| STARTS              | NUMBER       | Number of times this operation has been started, accumulated over the past executions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| LAST_OUTPUT_ROWS    | NUMBER       | Number of rows produced by the row source, during the last execution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| OUTPUT_ROWS         | NUMBER       | Number of rows produced by the row source, accumulated over the past executions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| LAST_CR_BUFFER_GETS | NUMBER       | Number of buffers retrieved in consistent mode, during the last execution. Buffers are usually retrieved in consistent mode for queries.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CR_BUFFER_GETS      | NUMBER       | Number of buffers retrieved in consistent mode, accumulated over the past executions. Buffers are usually retrieved in consistent mode for queries.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| LAST_CU_BUFFER_GETS | NUMBER       | Number of buffers retrieved in current mode, during the last execution. Buffers are retrieved in current mode for statements such as INSERT, UPDATE, and DELETE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CU_BUFFER_GETS      | NUMBER       | Number of buffers retrieved in current mode, accumulated over the past executions. Buffers are retrieved in current mode for statements such as INSERT, UPDATE, and DELETE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| LAST_DISK_READS     | NUMBER       | Number of physical disk reads performed by the operation, during the last execution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DISK_READS          | NUMBER       | Number of physical disk reads performed by the operation, accumulated over the past executions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LAST_DISK_WRITES    | NUMBER       | Number of physical disk writes performed by the operation, during the last execution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| DISK_WRITES         | NUMBER       | Number of physical disk writes performed by the operation, accumulated over the past executions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| LAST_ELAPSED_TIME   | NUMBER       | Elapsed time (in microseconds) corresponding to this operation, during the last execution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ELAPSED_TIME        | NUMBER       | Elapsed time (in microseconds) corresponding to this operation, accumulated over the past executions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| POLICY              | VARCHAR2(10) | Sizing policy for this work area: <ul style="list-style-type: none"> <li>MANUAL</li> <li>AUTO</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Column                 | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ESTIMATED_OPTIMAL_SIZE | NUMBER        | Estimated size (in KB) required by this work area to execute the operation completely in memory (optimal execution). This is either derived from optimizer statistics or from previous executions.                                                                                                                                                                                                                                          |
| ESTIMATED_ONEPASS_SIZE | NUMBER        | Estimated size (in KB) required by this work area to execute the operation in a single pass. This is either derived from optimizer statistics or from previous executions.                                                                                                                                                                                                                                                                  |
| LAST_MEMORY_USED       | NUMBER        | Memory size (in KB) used by this work area during the last execution of the cursor                                                                                                                                                                                                                                                                                                                                                          |
| LAST_EXECUTION         | VARCHAR2 (10) | Indicates whether this work area ran using <code>OPTIMAL</code> , <code>ONE PASS</code> , or under <code>ONE PASS</code> memory requirement ( <code>MULTI-PASS</code> ), during the last execution of the cursor                                                                                                                                                                                                                            |
| LAST_DEGREE            | NUMBER        | Degree of parallelism used, during the last execution of the cursor                                                                                                                                                                                                                                                                                                                                                                         |
| TOTAL_EXECUTIONS       | NUMBER        | Number of times this work area was active                                                                                                                                                                                                                                                                                                                                                                                                   |
| OPTIMAL_EXECUTIONS     | NUMBER        | Number of times this work area ran in optimal mode                                                                                                                                                                                                                                                                                                                                                                                          |
| ONEPASS_EXECUTIONS     | NUMBER        | Number of times this work area ran in one pass mode                                                                                                                                                                                                                                                                                                                                                                                         |
| MULTIPASSES_EXECUTIONS | NUMBER        | Number of times this work area ran below the one pass memory requirement                                                                                                                                                                                                                                                                                                                                                                    |
| ACTIVE_TIME            | NUMBER        | Average time this work area is active (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                           |
| MAX_TEMPSEG_SIZE       | NUMBER        | Maximum temporary segment size (in bytes) created by an instantiation of this work area. This column is null if this work area has never spilled to disk.                                                                                                                                                                                                                                                                                   |
| LAST_TEMPSEG_SIZE      | NUMBER        | Temporary segment size (in bytes) created in the last instantiation of this work area. This column is null if the last instantiation of this work area did not spill to disk.                                                                                                                                                                                                                                                               |
| CON_ID                 | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |
| CON_DBID               | NUMBER        | The database ID of the PDB                                                                                                                                                                                                                                                                                                                                                                                                                  |

**See Also:**

- ["V\\$SQL\\_PLAN\\_STATISTICS"](#)
- ["V\\$SQL\\_WORKAREA"](#)

## 10.79 V\$SQL\_REDIRECTION

V\$SQL\_REDIRECTION displays SQL statements that are redirected.

| Column  | Datatype    | Description                  |
|---------|-------------|------------------------------|
| ADDRESS | RAW (4   8) | Address of the cursor handle |

| Column            | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PARENT_HANDLE     | RAW (4   8)     | Address of the parent cursor handle                                                                                                                                                                                                                                                                                                                                                                                                             |
| HASH_VALUE        | NUMBER          | Hash value of the SQL statement                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SQL_ID            | VARCHAR2 (13)   | SQL identifier of the SQL statement                                                                                                                                                                                                                                                                                                                                                                                                             |
| CHILD_NUMBER      | NUMBER          | Number of the child (instance) for the hash                                                                                                                                                                                                                                                                                                                                                                                                     |
| PARSING_USER_ID   | NUMBER          | Parsing user ID                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PARSING_SCHEMA_ID | NUMBER          | Parsing schema ID                                                                                                                                                                                                                                                                                                                                                                                                                               |
| COMMAND_TYPE      | NUMBER          | SELECT, UPDATE, INSERT, MERGE                                                                                                                                                                                                                                                                                                                                                                                                                   |
| REASON            | VARCHAR2 (14)   | Reason for redirection ('INVALID OBJECT', 'ROWID', 'QUERY REWRITE', 'READ ONLY')                                                                                                                                                                                                                                                                                                                                                                |
| ERROR_CODE        | NUMBER          | Error code for local parse                                                                                                                                                                                                                                                                                                                                                                                                                      |
| POSITION          | NUMBER          | Error position, 0 if unknown                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SQL_TEXT_PIECE    | VARCHAR2 (1000) | SQL Text containing position, usually a (qualified) identifier                                                                                                                                                                                                                                                                                                                                                                                  |
| ERROR_MESSAGE     | VARCHAR2 (1000) | Error code's corresponding error message resolved in the database language, no arguments resolved                                                                                                                                                                                                                                                                                                                                               |
| CON_ID            | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.80 V\$SQL\_SHARD

V\$SQL\_SHARD displays the shard information for a shard query's previous execution. This view uniquely maps a shard SQL fragment of a cross shard query to the target shard database.

| Column             | Datatype      | Description                                                                                                            |
|--------------------|---------------|------------------------------------------------------------------------------------------------------------------------|
| SQL_ID             | VARCHAR2 (13) | SQL identifier of a cross shard query on the coordinator                                                               |
| CHILD_NUMBER       | NUMBER        | Cursor child number of a cross shard query on the coordinator                                                          |
| OPERATION_ID       | NUMBER        | Operation ID of a remote node for a shard SQL fragment of a cross shard query                                          |
| SHARD_SQL_ID       | VARCHAR2 (13) | SQL ID of the SQL segment associated with a remote operation identified by the operation ID in the OPERATION_ID column |
| SHARD_ID           | NUMBER        | IDs of shards where the shard SQL fragment was executed                                                                |
| SHARD_CHILD_NUMBER | NUMBER        | Cursor child number of a shard SQL fragment on a shard. The default value is 0.                                        |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

*Oracle Globally Distributed Database Guide* for more information about the V\$SQL\_SHARD view

## 10.81 V\$SQL\_SHARED\_CURSOR

V\$SQL\_SHARED\_CURSOR explains why a particular child cursor is not shared with existing child cursors. Each column identifies a specific reason why the cursor cannot be shared.

| Column                | Datatype      | Description                                                                                                                                                                                       |
|-----------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQL_ID                | VARCHAR2 (13) | SQL identifier                                                                                                                                                                                    |
| ADDRESS               | RAW (4   8)   | Address of the parent cursor                                                                                                                                                                      |
| CHILD_ADDRESS         | RAW (4   8)   | Address of the child cursor                                                                                                                                                                       |
| CHILD_NUMBER          | NUMBER        | Child number                                                                                                                                                                                      |
| UNBOUND_CURSOR        | VARCHAR2 (1)  | (Y N) The existing child cursor was not fully built (in other words, it was not optimized)                                                                                                        |
| SQL_TYPE_MISMATCH     | VARCHAR2 (1)  | (Y N) The SQL type does not match the existing child cursor                                                                                                                                       |
| OPTIMIZER_MISMATCH    | VARCHAR2 (1)  | (Y N) The optimizer environment does not match the existing child cursor                                                                                                                          |
| OUTLINE_MISMATCH      | VARCHAR2 (1)  | (Y N) The outlines do not match the existing child cursor                                                                                                                                         |
| STATS_ROW_MISMATCH    | VARCHAR2 (1)  | (Y N) The existing statistics do not match the existing child cursor                                                                                                                              |
| LITERAL_MISMATCH      | VARCHAR2 (1)  | (Y N) Non-data literal values do not match the existing child cursor                                                                                                                              |
| FORCE_HARD_PARSE      | VARCHAR2 (1)  | (Y N) For internal use                                                                                                                                                                            |
| EXPLAIN_PLAN_CURSOR   | VARCHAR2 (1)  | (Y N) The child cursor is an explain plan cursor and should not be shared                                                                                                                         |
| BUFFERED_DML_MISMATCH | VARCHAR2 (1)  | (Y N) Buffered DML does not match the existing child cursor                                                                                                                                       |
| PDML_ENV_MISMATCH     | VARCHAR2 (1)  | (Y N) PDML environment does not match the existing child cursor                                                                                                                                   |
| INST_DRTLD_MISMATCH   | VARCHAR2 (1)  | (Y N) Insert direct load does not match the existing child cursor                                                                                                                                 |
| SLAVE_QC_MISMATCH     | VARCHAR2 (1)  | (Y N) The existing child cursor is a worker cursor and the new one was issued by the coordinator (or, the existing child cursor was issued by the coordinator and the new one is a worker cursor) |
| TYPECHECK_MISMATCH    | VARCHAR2 (1)  | (Y N) The existing child cursor is not fully optimized                                                                                                                                            |
| AUTH_CHECK_MISMATCH   | VARCHAR2 (1)  | (Y N) Authorization/translation check failed for the existing child cursor                                                                                                                        |

| Column                    | Datatype     | Description                                                                                                                                                                                                                                         |
|---------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BIND_MISMATCH             | VARCHAR2 (1) | (Y N) The bind metadata does not match the existing child cursor                                                                                                                                                                                    |
| DESCRIBE_MISMATCH         | VARCHAR2 (1) | (Y N) The typecheck heap is not present during the describe for the child cursor                                                                                                                                                                    |
| LANGUAGE_MISMATCH         | VARCHAR2 (1) | (Y N) The language handle does not match the existing child cursor                                                                                                                                                                                  |
| TRANSLATION_MISMATCH      | VARCHAR2 (1) | (Y N) The base objects of the existing child cursor do not match                                                                                                                                                                                    |
| BIND_EQUIV_FAILURE        | VARCHAR2 (1) | (Y N) The bind value's selectivity does not match that used to optimize the existing child cursor                                                                                                                                                   |
| INSUFF_PRIVS              | VARCHAR2 (1) | (Y N) Insufficient privileges on objects referenced by the existing child cursor                                                                                                                                                                    |
| INSUFF_PRIVS_REM          | VARCHAR2 (1) | (Y N) Insufficient privileges on remote objects referenced by the existing child cursor                                                                                                                                                             |
| REMOTE_TRANS_MISMATCH     | VARCHAR2 (1) | (Y N) The remote base objects of the existing child cursor do not match                                                                                                                                                                             |
| LOGMINER_SESSION_MISMATCH | VARCHAR2 (1) | (Y N) LogMiner Session parameters mismatch                                                                                                                                                                                                          |
| INCOMP_LTRL_MISMATCH      | VARCHAR2 (1) | (Y N) Cursor might have some binds (literals) which may be unsafe/non-data. Value mismatch.                                                                                                                                                         |
| OVERLAP_TIME_MISMATCH     | VARCHAR2 (1) | (Y N) Mismatch caused by setting session parameter<br>ERROR_ON_OVERLAP_TIME                                                                                                                                                                         |
| EDITION_MISMATCH          | VARCHAR2 (1) | (Y N) Cursor edition mismatch                                                                                                                                                                                                                       |
| MV_QUERY_GEN_MISMATCH     | VARCHAR2 (1) | (Y N) Internal, used to force a hard-parse when analyzing materialized view queries                                                                                                                                                                 |
| USER_BIND_PEEK_MISMATCH   | VARCHAR2 (1) | (Y N) Cursor is not shared because value of one or more user binds is different and this has a potential to change the execution plan                                                                                                               |
| TYPCHK_DEP_MISMATCH       | VARCHAR2 (1) | (Y N) Cursor has typecheck dependencies                                                                                                                                                                                                             |
| NO_TRIGGER_MISMATCH       | VARCHAR2 (1) | (Y N) Cursor and child have no trigger mismatch                                                                                                                                                                                                     |
| FLASHBACK_CURSOR          | VARCHAR2 (1) | (Y N) Cursor non-shareability due to flashback                                                                                                                                                                                                      |
| ANYDATA_TRANSFORMATION    | VARCHAR2 (1) | (Y N) Is criteria for opaque type transformation and does not match                                                                                                                                                                                 |
| PDDL_ENV_MISMATCH         | VARCHAR2 (1) | (Y N) Environment setting mismatch for parallel DDL cursor (that is, one or more of the following parameter values have changed:<br>PARALLEL_EXECUTION_ENABLED, PARALLEL_DDL_MODE,<br>PARALLEL_DDL_FORCED_DEGREE, or PARALLEL_DDL_FORCED_INSTANCES) |
| TOP_LEVEL_RPI_CURSOR      | VARCHAR2 (1) | (Y N) Is top level RPI cursor                                                                                                                                                                                                                       |
| DIFFERENT_LONG_LENGTH     | VARCHAR2 (1) | (Y N) Value of LONG does not match                                                                                                                                                                                                                  |
| LOGICAL_STANDBY_APPLY     | VARCHAR2 (1) | (Y N) Logical standby apply context does not match                                                                                                                                                                                                  |
| DIFF_CALL_DURN            | VARCHAR2 (1) | (Y N) If worker SQL cursor/single call                                                                                                                                                                                                              |
| BIND_UACS_DIFF            | VARCHAR2 (1) | (Y N) One cursor has bind UACs and one does not                                                                                                                                                                                                     |
| PLSQL_CMP_SWITCHES_DIFF   | VARCHAR2 (1) | (Y N) PL/SQL anonymous block compiled with different PL/SQL compiler switches                                                                                                                                                                       |
| CURSOR_PARTS_MISMATCH     | VARCHAR2 (1) | (Y N) Cursor was compiled with subexecution (cursor parts were executed)                                                                                                                                                                            |

| Column                        | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STB_OBJECT_MISMATCH           | VARCHAR2 (1) | (Y N) STB is an internal name for a SQL Management Object Mismatch. A SQL Management Object Mismatch means that either a SQL plan baseline, or a SQL profile, or a SQL patch has been created for your SQL statement between the executions. Because a cursor is a read-only entity, a hard parse is forced to be able to create a new cursor that contains information about the new SQL management object related to this SQL statement. |
| CROSSEDITION_TRIGGER_MISMATCH | VARCHAR2 (1) | (Y N) The set of crossedition triggers to execute might differ                                                                                                                                                                                                                                                                                                                                                                             |
| PQ_SLAVE_MISMATCH             | VARCHAR2 (1) | (Y N) Top-level worker decides not to share cursor                                                                                                                                                                                                                                                                                                                                                                                         |
| TOP_LEVEL_DDL_MISMATCH        | VARCHAR2 (1) | (Y N) Is top-level DDL cursor                                                                                                                                                                                                                                                                                                                                                                                                              |
| MULTI_PX_MISMATCH             | VARCHAR2 (1) | (Y N) Cursor has multiple parallelizers and is worker-compiled                                                                                                                                                                                                                                                                                                                                                                             |
| BIND_PEEKED_PQ_MISMATCH       | VARCHAR2 (1) | (Y N) Cursor based around bind peeked values                                                                                                                                                                                                                                                                                                                                                                                               |
| MV_REWRITE_MISMATCH           | VARCHAR2 (1) | (Y N) Cursor needs recompilation because an SCN was used during compile time due to being rewritten by materialized view                                                                                                                                                                                                                                                                                                                   |
| ROLL_INVALID_MISMATCH         | VARCHAR2 (1) | (Y N) Marked for rolling invalidation and invalidation window exceeded                                                                                                                                                                                                                                                                                                                                                                     |
| OPTIMIZER_MODE_MISMATCH       | VARCHAR2 (1) | (Y N) Parameter OPTIMIZER_MODE mismatch (for example, all_rows versus first_rows_1)                                                                                                                                                                                                                                                                                                                                                        |
| PX_MISMATCH                   | VARCHAR2 (1) | (Y N) Mismatch in one parameter affecting the parallelization of a SQL statement. For example, one cursor was compiled with parallel DML enabled while the other was not.                                                                                                                                                                                                                                                                  |
| MV_STALEOBJ_MISMATCH          | VARCHAR2 (1) | (Y N) Cursor cannot be shared because there is a mismatch in the list of materialized views which were stale when the cursor was built                                                                                                                                                                                                                                                                                                     |
| FLASHBACK_TABLE_MISMATCH      | VARCHAR2 (1) | (Y N) Cursor cannot be shared because there is a mismatch with triggers being enabled and/or referential integrity constraints being deferred                                                                                                                                                                                                                                                                                              |
| LITREP_COMP_MISMATCH          | VARCHAR2 (1) | (Y N) Mismatch in use of literal replacement                                                                                                                                                                                                                                                                                                                                                                                               |
| PLSQL_DEBUG                   | VARCHAR2 (1) | (Y N) Value of the PLSQL_DEBUG parameter for the current session does not match the value used to build the cursor                                                                                                                                                                                                                                                                                                                         |
| LOAD_OPTIMIZER_STATS          | VARCHAR2 (1) | (Y N) A hard parse is forced to initialize extended cursor sharing                                                                                                                                                                                                                                                                                                                                                                         |
| ACL_MISMATCH                  | VARCHAR2 (1) | (Y N) Cached ACL evaluation result stored in the child cursor is not valid for the current session or user                                                                                                                                                                                                                                                                                                                                 |
| FLASHBACK_ARCHIVE_MISMATCH    | VARCHAR2 (1) | (Y N) Value of the FLASHBACK_DATA_ARCHIVE_INTERNAL_CURSOR parameter for the current session does not match the value used to build the cursor                                                                                                                                                                                                                                                                                              |
| LOCK_USER_SCHEMA_FAILED       | VARCHAR2 (1) | (Y N) User or schema used to build the cursor no longer exists<br><b>Note:</b> This sharing criterion is deprecated                                                                                                                                                                                                                                                                                                                        |
| REMOTE_MAPPING_MISMATCH       | VARCHAR2 (1) | (Y N) Reloaded cursor was previously remote-mapped and is currently not remote-mapped. Therefore, the cursor must be reparsed.                                                                                                                                                                                                                                                                                                             |
| LOAD_RUNTIME_HEAP_FAILED      | VARCHAR2 (1) | (Y N) Loading of run-time heap for the new cursor (or reload of aged out cursor) failed                                                                                                                                                                                                                                                                                                                                                    |
| HASH_MATCH_FAILED             | VARCHAR2 (1) | (Y N) No existing child cursors have the unsafe literal bind hash values required by the current cursor                                                                                                                                                                                                                                                                                                                                    |
| PURGED_CURSOR                 | VARCHAR2 (1) | (Y N) Child cursor is marked for purging                                                                                                                                                                                                                                                                                                                                                                                                   |
| BIND_LENGTH_UPGRADEABLE       | VARCHAR2 (1) | (Y N) Bind length(s) required for the current cursor are longer than the bind length(s) used to build the child cursor                                                                                                                                                                                                                                                                                                                     |



| Column             | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USE_FEEDBACK_STATS | VARCHAR2 (1) | (Y N) A hard parse is forced so that the optimizer can reoptimize the query with improved optimizer inputs (for example, cardinality estimates)                                                                                                                                                                                                                                                                                                 |
| REASON             | CLOB         | Child number, id, and reason the cursor is not shared. The content of this column is structured using XML.<br><br>If this column is null, the <code>FORCE_HARD_PARSE</code> , <code>LOAD_RUNTIME_HEAP_FAILED</code> , and <code>HASH_MATCH_FAILED</code> columns may enable you to determine why the child cursor is not shared.                                                                                                                |
| CON_ID             | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.82 V\$SQL\_SHARED\_MEMORY

`V$SQL_SHARED_MEMORY` displays information about the cursor shared memory snapshot. Each SQL statement stored in the shared pool has one or more child objects associated with it. Each child object has several parts, one of which is the context heap, which holds, among other things, the query plan.

| Column       | Datatype        | Description                                                                                                                                                                                                 |
|--------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQL_TEXT     | VARCHAR2 (1000) | SQL text of the shared cursor child object for which this row is displaying information                                                                                                                     |
| SQL_FULLTEXT | CLOB            | Full text for the SQL statement exposed as a CLOB column. The full text of a SQL statement can be retrieved using this column instead of joining with the <code>V\$SQLTEXT</code> dynamic performance view. |
| HASH_VALUE   | NUMBER          | Hash value of the above SQL text in the shared pool                                                                                                                                                         |
| SQL_ID       | VARCHAR2 (13)   | SQL identifier of the above SQL text in the shared pool                                                                                                                                                     |
| HEAP_DESC    | RAW (4   8)     | Address of the descriptor for the context heap of the child cursor described in this row                                                                                                                    |
| STRUCTURE    | VARCHAR2 (64)   | If the memory chunk described in this row was allocated using a comment of the form "X : Y", then this is the "X" part of the comment                                                                       |
| FUNCTION     | VARCHAR2 (64)   | Similar to the <code>STRUCTURE</code> column, this is the "Y" field of the comment                                                                                                                          |
| CHUNK_COM    | VARCHAR2 (16)   | Whole comment field that was supplied when this memory chunk was allocated                                                                                                                                  |
| CHUNK_PTR    | RAW (4   8)     | Starting address of the allocated memory chunk                                                                                                                                                              |
| CHUNK_SIZE   | NUMBER          | Amount of memory allocated for this chunk                                                                                                                                                                   |
| ALLOC_CLASS  | VARCHAR2 (8)    | Class of memory that this chunk of memory belongs to. It will usually be either <code>FREEABLE</code> or <code>PERMANENT</code> .                                                                           |
| CHUNK_TYPE   | NUMBER          | An index into a table of callback functions that tell the server how to re-create this chunk of memory should it need to be removed from the shared pool based on an LRU algorithm                          |
| SUBHEAP_DESC | RAW (4   8)     | If the parent heap of this context heap is itself a subheap, then this is the address of the descriptor of the parent heap                                                                                  |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.83 V\$SQL\_TESTCASES

V\$SQL\_TESTCASES displays information about test cases exported by SQL Test Case Builder.

You can use this view in conjunction with the V\$DIAG\_INCIDENT view. Join the INCIDENT\_ID column in this view with the INCIDENT\_ID column in V\$DIAG\_INCIDENT to view information about the test case associated with a particular incident.

The V\$SQL\_TESTCASES view requires the existence of a TCB root directory named SQL\_TCB\_DIR. This view will not contain any rows if a TCB root directory does not exist, or if the TCB root directory exists with a name other than SQL\_TCB\_DIR. The operating system directory to which the TCB root directory refers must be writable by the owner of the Oracle Database binaries.

- In Oracle Autonomous Database environments, the TCB root directory is created automatically on each POD during provisioning.
- For on-premises databases, a user who has been granted the DBA role must explicitly create the TCB root directory. See *Oracle Database Administrator's Guide* for more information.

| Column        | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TESTCASE_NAME | VARCHAR2 (512)  | Test case name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SQL_ID        | VARCHAR2 (13)   | SQL identifier of the SQL statement in the test case                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SQL_TEXT      | VARCHAR2 (1000) | First 1000 characters of text for the SQL statement in the test case                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SQL_TEXT_FULL | CLOB            | Full text for the SQL statement in the test case, exposed as a CLOB column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| INCIDENT_ID   | NUMBER          | ID for the incident associated with the test case                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PROBLEM_TYPE  | NUMBER          | <p>Type of problem for the incident associated with the test case. Possible values:</p> <ul style="list-style-type: none"> <li>1: Performance problem (PROBLEM_TYPE_PERFORMANCE)</li> <li>2: Inconsistent results (PROBLEM_TYPE_WRONG_RESULTS)</li> <li>3: Crash in compilation (PROBLEM_TYPE_COMPILATION_ERROR)</li> <li>4: Crash in execution (PROBLEM_TYPE_EXECUTION_ERROR)</li> </ul> <p>These numeric values, and their associated constant values shown in parentheses, correspond to the numeric and constant values for problem type constants in the DBMS_SQLDIAG package. See <i>Oracle Database PL/SQL Packages and Types Reference</i> for more information.</p> |
| CREATION_DATE | TIMESTAMP (6)   | Creation time for the incident associated with the test case                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS | VARCHAR2 (10) | Current status for the incident associated with the test case. Possible values: <ul style="list-style-type: none"><li>COMPLETE: The test case export completed successfully</li><li>INCOMPLETE: The test case export failed due to an error</li></ul>                                                                                                                                                                         |
| CON_ID | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li>n: Where n is the applicable container ID for the rows containing data</li></ul> |

**See Also:****"V\$DIAG\_INCIDENT"**

## 10.84 V\$SQL\_WORKAREA

V\$SQL\_WORKAREA displays information about work areas used by SQL cursors. Each SQL statement stored in the shared pool has one or more child cursors that are listed in the V\$SQL view. V\$SQL\_WORKAREA lists all work areas needed by these child cursors; V\$SQL\_WORKAREA can be joined with V\$SQLAREA on (ADDRESS, HASH\_VALUE) and with V\$SQL on (ADDRESS, HASH\_VALUE, CHILD\_NUMBER).

You can use this view to find out answers to the following questions:

- What are the top 10 work areas that require the most cache area?
- For work areas allocated in AUTO mode, what percentage of work areas are running using maximum memory?

| Column           | Datatype       | Description                                                                                                                                                                              |
|------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADDRESS          | RAW (4   8)    | Address of the parent cursor handle                                                                                                                                                      |
| HASH_VALUE       | NUMBER         | Hash value of the parent statement in the library cache. Two columns PARENT_HANDLE and HASH_VALUE can be used to join with V\$SQLAREA to locate the parent cursor.                       |
| SQL_ID           | VARCHAR2 (13)  | SQL identifier of the parent statement in the library cache                                                                                                                              |
| CHILD_NUMBER     | NUMBER         | Number of the child cursor that uses this work area. The columns PARENT_HANDLE, HASH_VALUE, and CHILD_NUMBER can be used to join with V\$SQL to locate the child cursor using this area. |
| WORKAREA_ADDRESS | RAW (4   8)    | Address of the work area handle. This is the primary key for the view.                                                                                                                   |
| OPERATION_TYPE   | VARCHAR2 (160) | Type of operation using the work area. Can include values such as SORT, HASH JOIN, GROUP BY, BUFFER, BITMAP MERGE, and BITMAP CONSTRUCTION.                                              |
| OPERATION_ID     | NUMBER         | A unique number used to identify the operation in the execution plan. This identifier can be joined to V\$SQL_PLAN to locate the operation that uses this work area.                     |

| Column                 | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POLICY                 | VARCHAR2 (40) | Sizing policy for this work area (MANUAL or AUTO)                                                                                                                                                                                                                                                                                                                                                                                               |
| ESTIMATED_OPTIMAL_SIZE | NUMBER        | Estimated size (in bytes) required by this work area to execute the operation completely in memory (optimal execution). Derived from either optimizer statistics or previous executions.                                                                                                                                                                                                                                                        |
| ESTIMATED_ONEPASS_SIZE | NUMBER        | Estimated size (in bytes) required by this work area to execute the operation in a single pass. Derived from either optimizer statistics or previous executions.                                                                                                                                                                                                                                                                                |
| LAST_MEMORY_USED       | NUMBER        | Memory (in bytes) used by this work area during the last execution of the cursor                                                                                                                                                                                                                                                                                                                                                                |
| LAST_EXECUTION         | VARCHAR2 (40) | Indicates whether this work area runs using OPTIMAL, ONE PASS, or ONE PASS memory requirement (or MULTI-PASS), during the last execution of the cursor                                                                                                                                                                                                                                                                                          |
| LAST_DEGREE            | NUMBER        | Degree of parallelism used during the last execution of this operation                                                                                                                                                                                                                                                                                                                                                                          |
| TOTAL_EXECUTIONS       | NUMBER        | Number of times this work area was active                                                                                                                                                                                                                                                                                                                                                                                                       |
| OPTIMAL_EXECUTIONS     | NUMBER        | Number of times this work area ran in optimal mode                                                                                                                                                                                                                                                                                                                                                                                              |
| ONEPASS_EXECUTIONS     | NUMBER        | Number of times this work area ran in one-pass mode                                                                                                                                                                                                                                                                                                                                                                                             |
| MULTIPASSES_EXECUTIONS | NUMBER        | Number of times this work area ran below the one-pass memory requirement                                                                                                                                                                                                                                                                                                                                                                        |
| ACTIVE_TIME            | NUMBER        | Average time this work area is active (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                               |
| MAX_TEMPSEG_SIZE       | NUMBER        | Maximum temporary segment size (in bytes) created by an instantiation of this work area. This column is NULL if this work area has never spilled to disk.                                                                                                                                                                                                                                                                                       |
| LAST_TEMPSEG_SIZE      | NUMBER        | Temporary segment size (in bytes) created in the last instantiation of this work area. This column is NULL if the last instantiation of this work area did not spill to disk.                                                                                                                                                                                                                                                                   |
| CON_ID                 | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

- "V\$SQLAREA"
- "V\$SQL"

## 10.85 V\$SQL\_WORKAREA\_ACTIVE

V\$SQL\_WORKAREA\_ACTIVE contains an instantaneous view of the work areas currently allocated by the system. You can join this view against V\$SQL\_WORKAREA on WORKAREA\_ADDRESS to access

the definition of that work area. If a work area spills to disk, then this view contains information for the temporary segment created on behalf of this work area.

The last three columns are included to enable joining V\$SQL\_WORKAREA\_ACTIVE with V\$TEMPSEG\_USAGE to retrieve more information on this temporary segment.

You can use this view to answer the following:

- What are the top 10 largest work areas currently allocated in the system?
- What percentage of memory is over-allocated (`EXPECTED_SIZE < ACTUAL_MEM_USED`) and under-allocated (`EXPECTED_SIZE > ACTUAL_MEM_USED`)?
- What are the active work areas using more memory than what is expected by the memory manager?
- What are the active work areas that have spilled to disk?

| Column           | Datatype       | Description                                                                                                                                                                                                                                                                                        |
|------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQL_HASH_VALUE   | NUMBER         | Hash value of the SQL statement that is currently being executed                                                                                                                                                                                                                                   |
| SQL_ID           | VARCHAR2 (13)  | SQL identifier of the SQL statement that is currently being executed                                                                                                                                                                                                                               |
| SQL_EXEC_START   | DATE           | Time when the execution of the SQL currently executed by this session started                                                                                                                                                                                                                      |
| SQL_EXEC_ID      | NUMBER         | SQL execution identifier (see V\$SQL_MONITOR)                                                                                                                                                                                                                                                      |
| WORKAREA_ADDRESS | RAW (4   8)    | Address of the work area handle. This is the primary key for the view.                                                                                                                                                                                                                             |
| OPERATION_TYPE   | VARCHAR2 (160) | Type of operation using the work area. Can include values such as SORT, HASH JOIN, GROUP BY, BUFFER, BITMAP MERGE, and BITMAP CONSTRUCTION.                                                                                                                                                        |
| OPERATION_ID     | NUMBER         | A unique number used to identify the operation in the execution plan. This identifier can be joined to V\$SQL_PLAN to locate the operation that uses this work area.                                                                                                                               |
| POLICY           | VARCHAR2 (24)  | Sizing policy for this work area (MANUAL or AUTO)                                                                                                                                                                                                                                                  |
| SID              | NUMBER         | Session identifier                                                                                                                                                                                                                                                                                 |
| QCINST_ID        | NUMBER         | Query coordinator instance identifier. Along with QCSID, enables you to uniquely identify the query coordinator.                                                                                                                                                                                   |
| QCSID            | NUMBER         | Query coordinator session identifier. This is the same as the SID if the work area is allocated by a serial cursor.                                                                                                                                                                                |
| ACTIVE_TIME      | NUMBER         | Average time this work area is active (in microseconds)                                                                                                                                                                                                                                            |
| WORK_AREA_SIZE   | NUMBER         | Maximum size (in bytes) of the work area as it is currently used by the operation                                                                                                                                                                                                                  |
| EXPECTED_SIZE    | NUMBER         | Expected size (in bytes) for this work area. EXPECTED_SIZE is set on behalf of the operation by the memory manager. Memory can be over-allocated when WORK_AREA_SIZE has a higher value than EXPECTED_SIZE. This can occur when the operation using this work area takes a long time to resize it. |
| ACTUAL_MEM_USED  | NUMBER         | Amount of PGA memory (in bytes) currently allocated on behalf of this work area. This value should range between 0 and WORK_AREA_SIZE.                                                                                                                                                             |
| MAX_MEM_USED     | NUMBER         | Maximum memory amount (in bytes) used by this work area                                                                                                                                                                                                                                            |
| NUMBER_PASSES    | NUMBER         | Number of passes corresponding to this work area (0 if running in OPTIMAL mode)                                                                                                                                                                                                                    |
| TEMPSEG_SIZE     | NUMBER         | Size (in bytes) of the temporary segment used on behalf of this work area. This column is NULL if this work area has not (yet) spilled to disk.                                                                                                                                                    |

| Column   | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABSPACE | VARCHAR2 (128) | Tablespace name for the temporary segment created on behalf of this work area. This column is NULL if this work area has not (yet) spilled to disk.                                                                                                                                                                                                                                                                                               |
| SEGRFNO# | NUMBER         | Relative file number within the tablespace for the temporary segment created on behalf of this work area. This column is NULL if this work area has not (yet) spilled to disk.                                                                                                                                                                                                                                                                    |
| SEGBLK#  | NUMBER         | Block number for the temporary segment created on behalf of this work area. This column is NULL if this work area has not (yet) spilled to disk.                                                                                                                                                                                                                                                                                                  |
| CON_ID   | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

- ["V\\$SQL\\_WORKAREA"](#)
- *Oracle Database Concepts* for more information about SQL work areas

## 10.86 V\$SQL\_WORKAREA\_HISTOGRAM

V\$SQL\_WORKAREA\_HISTOGRAM displays the cumulative work area execution statistics (cumulated since instance startup) for different work area groups. The work areas are split into 33 groups based on their optimal memory requirements with the requirements increasing in powers of two. That is, work areas whose optimal requirement varies from 0 KB to 1 KB, 1 KB to 2 KB, 2 KB to 4 KB, ... and 2 TB to 4 TB.

For each work area group, the V\$SQL\_WORKAREA\_HISTOGRAM view shows how many work areas in that group were able to run in optimal mode, how many were able to run in one-pass mode, and finally how many ran in multi-pass mode. The DBA can take a snapshot at the beginning and the end of a desired time interval to derive the same statistics for that interval.

| Column             | Datatype | Description                                                                                                                                                                       |
|--------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LOW_OPTIMAL_SIZE   | NUMBER   | Lower bound for the optimal memory requirement of work areas included in this row (bytes)                                                                                         |
| HIGH_OPTIMAL_SIZE  | NUMBER   | Upper bound for the optimal memory requirement of work areas included in this row (bytes)                                                                                         |
| OPTIMAL_EXECUTIONS | NUMBER   | Number of work areas with an optimal memory requirement comprised between LOW_OPTIMAL_SIZE and HIGH_OPTIMAL_SIZE which have been executed in optimal mode since instance startup  |
| ONEPASS_EXECUTIONS | NUMBER   | Number of work areas with an optimal memory requirement comprised between LOW_OPTIMAL_SIZE and HIGH_OPTIMAL_SIZE which have been executed in one-pass mode since instance startup |

| Column                 | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MULTIPASSES_EXECUTIONS | NUMBER   | Number of work areas with an optimal memory requirement comprised between LOW_OPTIMAL_SIZE and HIGH_OPTIMAL_SIZE which have been executed in multi-pass mode since instance startup                                                                                                                                                                                                                                                             |
| TOTAL_EXECUTIONS       | NUMBER   | Sum of OPTIMAL_EXECUTIONS, ONEPASS_EXECUTIONS, and MULTIPASSES_EXECUTIONS                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID                 | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

 **See Also:**

*Oracle Database Performance Tuning Guide* for detailed information on how to monitor automatic PGA memory performance using this view

## 10.87 V\$SQLAREA

V\$SQLAREA displays statistics on shared SQL areas and contains one row per SQL string. It provides statistics on SQL statements that are in memory, parsed, and ready for execution.

| Column          | Datatype        | Description                                                                                                                                                                         |
|-----------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQL_TEXT        | VARCHAR2 (1000) | First thousand characters of the SQL text for the current cursor                                                                                                                    |
| SQL_FULLTEXT    | CLOB            | All characters of the SQL text for the current cursor                                                                                                                               |
| SQL_ID          | VARCHAR2 (13)   | SQL identifier of the parent cursor in the library cache                                                                                                                            |
| SHARABLE_MEM    | NUMBER          | Amount of shared memory used by a cursor. If multiple child cursors exist, then the sum of all shared memory used by all child cursors.                                             |
| PERSISTENT_MEM  | NUMBER          | Fixed amount of memory used for the lifetime of an open cursor. If multiple child cursors exist, then the fixed sum of memory used for the lifetime of all the child cursors.       |
| RUNTIME_MEM     | NUMBER          | Fixed amount of memory required during execution of a cursor. If multiple child cursors exist, then the fixed sum of all memory required during execution of all the child cursors. |
| SORTS           | NUMBER          | Sum of the number of sorts that were done for all the child cursors                                                                                                                 |
| VERSION_COUNT   | NUMBER          | Number of child cursors that are present in the cache under this parent                                                                                                             |
| LOADED_VERSIONS | NUMBER          | Number of child cursors that are present in the cache and have their context heap loaded                                                                                            |
| OPEN_VERSIONS   | NUMBER          | Number of child cursors that are currently open under this current parent                                                                                                           |
| USERS_OPENING   | NUMBER          | Number of users that have any of the child cursors open                                                                                                                             |
| FETCHES         | NUMBER          | Number of fetches associated with the SQL statement                                                                                                                                 |
| EXECUTIONS      | NUMBER          | Total number of executions, totalled over all the child cursors                                                                                                                     |

| Column                   | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PX_SERVERS_EXECUTIONS    | NUMBER         | Total number of executions performed by parallel execution servers (0 when the statement has never been executed in parallel)                                                                                                                                                                                                                                                                                                                                                                                 |
| END_OF_FETCH_COUNT       | NUMBER         | Number of times this cursor was fully executed since the cursor was brought into the library cache. The value of this statistic is not incremented when the cursor is partially executed, either because it failed during the execution or because only the first few rows produced by this cursor are fetched before the cursor is closed or re-executed. By definition, the value of the <code>END_OF_FETCH_COUNT</code> column should be less or equal to the value of the <code>EXECUTIONS</code> column. |
| USERS_EXECUTING          | NUMBER         | Total number of users executing the statement over all child cursors                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| LOADS                    | NUMBER         | Number of times the object was loaded or reloaded                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| FIRST_LOAD_TIME          | VARCHAR2 (76)  | Timestamp of the parent creation time                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| INVALIDATIONS            | NUMBER         | Total number of invalidations over all the child cursors                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PARSE_CALLS              | NUMBER         | Sum of all parse calls to all the child cursors under this parent                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| DISK_READS               | NUMBER         | Sum of the number of disk reads over all child cursors                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| DIRECT_WRITES            | NUMBER         | Sum of the number of direct writes over all child cursors                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DIRECT_READS             | NUMBER         | Sum of the number of direct reads over all child cursors                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| BUFFER_GETS              | NUMBER         | Sum of buffer gets over all child cursors                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| APPLICATION_WAIT_TIME    | NUMBER         | Application wait time (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CONCURRENCY_WAIT_TIME    | NUMBER         | Concurrency wait time (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CLUSTER_WAIT_TIME        | NUMBER         | Cluster wait time (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| USER_IO_WAIT_TIME        | NUMBER         | User I/O Wait Time (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PLSQL_EXEC_TIME          | NUMBER         | PL/SQL execution time (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| JAVA_EXEC_TIME           | NUMBER         | Java execution time (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ROWS_PROCESSED           | NUMBER         | Total number of rows processed on behalf of this SQL statement                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMMAND_TYPE             | NUMBER         | Oracle command type definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| OPTIMIZER_MODE           | VARCHAR2 (10)  | Mode under which the SQL statement was executed                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| OPTIMIZER_COST           | NUMBER         | Cost of this query given by the optimizer                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| OPTIMIZER_ENV            | RAW (2000)     | Optimizer environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| OPTIMIZER_ENV_HASH_VALUE | NUMBER         | Hash value for the optimizer environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PARSING_USER_ID          | NUMBER         | User ID of the user that has parsed the very first cursor under this parent                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PARSING_SCHEMA_ID        | NUMBER         | Schema ID that was used to parse this child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PARSING_SCHEMA_NAME      | VARCHAR2 (128) | Schema name that was used to parse this child cursor                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| KEPT_VERSIONS            | NUMBER         | Number of child cursors that have been marked to be kept using the <code>DBMS_SHARED_POOL</code> package                                                                                                                                                                                                                                                                                                                                                                                                      |
| ADDRESS                  | RAW (4   8)    | Address of the handle to the parent for this cursor                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| HASH_VALUE               | NUMBER         | Hash value of the parent statement in the library cache                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| OLD_HASH_VALUE           | NUMBER         | Old SQL hash value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PLAN_HASH_VALUE          | NUMBER         | Numeric representation of the current SQL plan for this cursor. Comparing one <code>PLAN_HASH_VALUE</code> to another easily identifies whether or not two plans are the same (rather than comparing the two plans line by line).                                                                                                                                                                                                                                                                             |



| Column                        | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FULL_PLAN_HASH_VALUE          | NUMBER        | Numeric representation of the complete SQL plan for this cursor. Comparing one FULL_PLAN_HASH_VALUE to another easily identifies whether or not two plans are the same (rather than comparing the two plans line by line). Note that the FULL_PLAN_HASH_VALUE cannot be compared across databases releases. It is not backward compatible.                                                                                    |
| MODULE                        | VARCHAR2 (64) | Contains the name of the module that was executing when the SQL statement was first parsed as set by calling DBMS_APPLICATION_INFO.SET_MODULE                                                                                                                                                                                                                                                                                 |
| MODULE_HASH                   | NUMBER        | Hash value of the module that is named in the MODULE column                                                                                                                                                                                                                                                                                                                                                                   |
| ACTION                        | VARCHAR2 (64) | Contains the name of the action that was executing when the SQL statement was first parsed as set by calling DBMS_APPLICATION_INFO.SET_ACTION                                                                                                                                                                                                                                                                                 |
| ACTION_HASH                   | NUMBER        | Hash value of the action that is named in the ACTION column                                                                                                                                                                                                                                                                                                                                                                   |
| SERIALIZABLE_ABORTS           | NUMBER        | Number of times the transaction failed to serialize, producing ORA-08177 errors, totalled over all the child cursors                                                                                                                                                                                                                                                                                                          |
| OUTLINE_CATEGORY              | VARCHAR2 (64) | If an outline was applied during construction of the cursor, then this column displays the category of that outline. Otherwise the column is left blank.                                                                                                                                                                                                                                                                      |
| CPU_TIME                      | NUMBER        | CPU time (in microseconds) used by this cursor for parsing, executing, and fetching                                                                                                                                                                                                                                                                                                                                           |
| ELAPSED_TIME                  | NUMBER        | Elapsed time (in microseconds) used by this cursor for parsing, executing, and fetching. If the cursor uses parallel execution, then ELAPSED_TIME is the cumulative time for the query coordinator, plus all parallel query worker processes.                                                                                                                                                                                 |
| OUTLINE_SID                   | VARCHAR2 (40) | Outline session identifier                                                                                                                                                                                                                                                                                                                                                                                                    |
| LAST_ACTIVE_CHILD_ADDRES<br>S | RAW (4   8)   | Address (identifier) of the child cursor that was the last to be active in the group (that is, the child cursor on behalf of which statistics in V\$SQL were updated)                                                                                                                                                                                                                                                         |
| REMOTE                        | VARCHAR2 (1)  | Indicates whether the cursor is remote mapped (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                  |
| OBJECT_STATUS                 | VARCHAR2 (19) | Status of the cursor: <ul style="list-style-type: none"> <li>VALID - Valid, authorized without errors</li> <li>VALID_AUTH_ERROR - Valid, authorized with authorization errors</li> <li>VALID_COMPILE_ERROR - Valid, authorized with compilation errors</li> <li>VALID_UNAUTH - Valid, unauthorized</li> <li>INVALID_UNAUTH - Invalid, unauthorized</li> <li>INVALID - Invalid, unauthorized but keep the timestamp</li> </ul> |
| LITERAL_HASH_VALUE            | NUMBER        | Hash value of the literals which are replaced with system-generated bind variables and are to be matched, when CURSOR_SHARING is used. This is not the hash value for the SQL statement. If CURSOR_SHARING is not used, then the value is 0.                                                                                                                                                                                  |
| LAST_LOAD_TIME                | DATE          | Time at which the query plan was loaded into the library cache                                                                                                                                                                                                                                                                                                                                                                |
| IS_OBSOLETE                   | VARCHAR2 (1)  | Indicates whether the cursor has become obsolete (Y) or not (N). This can happen if the number of child cursors is too large.                                                                                                                                                                                                                                                                                                 |
| IS_BIND_SENSITIVE             | VARCHAR2 (1)  | Indicates whether the cursor is bind sensitive (Y) or not (N). A query is considered bind-sensitive if the optimizer peeked at one of its bind variable values when computing predicate selectivities and where a change in a bind variable value may cause the optimizer to generate a different plan.                                                                                                                       |

| Column                         | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IS_BIND_AWARE                  | VARCHAR2 (1)   | Indicates whether the cursor is bind aware (Y) or not (N). A query is considered bind-aware if it has been marked to use extended cursor sharing. The query would already have been marked as bind-sensitive.                                                                                                                                                                                                                                   |
| CHILD_LATCH                    | NUMBER         | Child latch number that is protecting the cursor. This column is obsolete and maintained for backward compatibility.                                                                                                                                                                                                                                                                                                                            |
| SQL_PROFILE                    | VARCHAR2 (64)  | SQL profile used for this statement, if any                                                                                                                                                                                                                                                                                                                                                                                                     |
| SQL_PATCH                      | VARCHAR2 (128) | SQL patch used for this statement, if any                                                                                                                                                                                                                                                                                                                                                                                                       |
| SQL_PLAN_BASELINE              | VARCHAR2 (128) | SQL plan baseline used for this statement, if any                                                                                                                                                                                                                                                                                                                                                                                               |
| PROGRAM_ID                     | NUMBER         | Program identifier                                                                                                                                                                                                                                                                                                                                                                                                                              |
| PROGRAM_LINE#                  | NUMBER         | Program line number                                                                                                                                                                                                                                                                                                                                                                                                                             |
| EXACT_MATCHING_SIGNATURE       | NUMBER         | Signature used when the <code>CURSOR_SHARING</code> parameter is set to <code>EXACT</code>                                                                                                                                                                                                                                                                                                                                                      |
| FORCE_MATCHING_SIGNATURE       | NUMBER         | Signature used when the <code>CURSOR_SHARING</code> parameter is set to <code>FORCE</code>                                                                                                                                                                                                                                                                                                                                                      |
| LAST_ACTIVE_TIME               | DATE           | Time at which the query plan was last active                                                                                                                                                                                                                                                                                                                                                                                                    |
| BIND_DATA                      | RAW (2000)     | Bind data                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TYPECHECK_MEM                  | NUMBER         | Typecheck memory                                                                                                                                                                                                                                                                                                                                                                                                                                |
| IO_CELL_OFFLOAD_ELIGIBLE_BYTES | NUMBER         | Number of I/O bytes which can be filtered by the Exadata storage system<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                                                                                                                                                                                                                           |
| IO_INTERCONNECT_BYTES          | NUMBER         | Number of I/O bytes exchanged between Oracle Database and the storage system                                                                                                                                                                                                                                                                                                                                                                    |
| PHYSICAL_READ_REQUESTS         | NUMBER         | Number of physical read I/O requests issued by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                |
| PHYSICAL_READ_BYTES            | NUMBER         | Number of bytes read from disks by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                            |
| PHYSICAL_WRITE_REQUESTS        | NUMBER         | Number of physical write I/O requests issued by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                               |
| PHYSICAL_WRITE_BYTES           | NUMBER         | Number of bytes written to disks by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                           |
| OPTIMIZED_PHY_READ_REQUESTS    | NUMBER         | Number of physical read I/O requests from Database Smart Flash Cache issued by the monitored SQL                                                                                                                                                                                                                                                                                                                                                |
| LOCKED_TOTAL                   | NUMBER         | Total number of times the child cursor has been locked                                                                                                                                                                                                                                                                                                                                                                                          |
| PINNED_TOTAL                   | NUMBER         | Total number of times the child cursor has been pinned                                                                                                                                                                                                                                                                                                                                                                                          |
| IO_CELL_UNCOMPRESSED_BYTES     | NUMBER         | Number of uncompressed bytes (that is, size after decompression) that are offloaded to the Exadata cells<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                                                                                                                                                                                          |
| IO_CELL_OFFLOAD_RETURNED_BYTES | NUMBER         | Number of bytes that are returned by Exadata cell through the regular I/O path<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                                                                                                                                                                                                                    |
| CON_ID                         | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

| Column                        | Datatype    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IS_REOPTIMIZABLE              | VARCHAR2(1) | This column shows whether the next execution matching this child cursor will trigger a reoptimization. The values are: <ul style="list-style-type: none"> <li>Y: If the next execution will trigger a reoptimization</li> <li>R: If the child cursor contains reoptimization information, but will not trigger reoptimization because the cursor was compiled in reporting mode</li> <li>N: If the child cursor has no reoptimization information</li> </ul>                                                                                                                               |
| IS_RESOLVED_ADAPTIVE_PLA<br>N | VARCHAR2(1) | This column shows whether all of the adaptive parts of a plan have been resolved to the final plan. Once the plan is resolved, the plan hash value and the plan displayed by DBMS_XPLAN will not change through the end of execution. The values for this column are: <ul style="list-style-type: none"> <li>NULL: If the plan is not adaptive</li> <li>Y: If the plan is fully resolved</li> <li>N: If the plan is not yet fully resolved</li> </ul> <p><b>See Also:</b> <i>Oracle Database PL/SQL Packages and Types Reference</i> for more information about the DBMS_XPLAN package</p> |



#### See Also:

- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_SHARED\_POOL package
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_APPLICATION\_INFO.SET\_MODULE procedure
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_APPLICATION\_INFO.SET\_ACTION procedure
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_XPLAN package

## 10.88 V\$SQLAREA\_PLAN\_HASH

V\$SQLAREA\_PLAN\_HASH displays statistics on shared SQL areas (V\$SQL) by grouping on the SQL\_ID and PLAN\_HASH\_VALUE columns. It can potentially create several rows for one parent cursor, one for each distinct value of the column PLAN\_HASH\_VALUE.

| Column          | Datatype       | Description                                                                                                                                                                                                          |
|-----------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQL_TEXT        | VARCHAR2(1000) | First thousand characters of the SQL text for the current cursor                                                                                                                                                     |
| SQL_FULLTEXT    | CLOB           | All characters of the SQL text for the current cursor                                                                                                                                                                |
| ADDRESS         | RAW(4   8)     | Address of the handle to the parent for this cursor                                                                                                                                                                  |
| HASH_VALUE      | NUMBER         | Hash value of the parent statement in the library cache                                                                                                                                                              |
| SQL_ID          | VARCHAR2(13)   | SQL identifier of the parent cursor in the library cache                                                                                                                                                             |
| PLAN_HASH_VALUE | NUMBER         | Numeric representation of the current SQL plan for this cursor. Comparing one PLAN_HASH_VALUE to another easily identifies whether or not two plans are the same (rather than comparing the two plans line by line). |

| Column                        | Datatype    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VERSION_COUNT                 | NUMBER      | Number of child cursors that are present in the cache under this parent                                                                                                                                                                                                                                                                                                                                                                                                             |
| LAST_ACTIVE_CHILD_ADDRES<br>S | RAW (4   8) | Address (identifier) of the child cursor that was the last to be active in the group (that is, the child cursor on behalf of which statistics in V\$SQL were updated)                                                                                                                                                                                                                                                                                                               |
| SHARABLE_MEM                  | NUMBER      | Amount of shared memory used by a cursor. If multiple child cursors exist, then it is the sum of all shared memory used by all child cursors.                                                                                                                                                                                                                                                                                                                                       |
| PERSISTENT_MEM                | NUMBER      | Fixed amount of memory used for the lifetime of an open cursor. If multiple child cursors exist, then it is the fixed sum of memory used for the lifetime of all the child cursors.                                                                                                                                                                                                                                                                                                 |
| RUNTIME_MEM                   | NUMBER      | Fixed amount of memory required during execution of a cursor. If multiple child cursors exist, then the fixed sum of all memory required during execution of all the child cursors.                                                                                                                                                                                                                                                                                                 |
| SORTS                         | NUMBER      | Sum of the number of sorts that were done for all the child cursors                                                                                                                                                                                                                                                                                                                                                                                                                 |
| LOADED_VERSIONS               | NUMBER      | Number of child cursors that are present in the cache and that have their context heap loaded                                                                                                                                                                                                                                                                                                                                                                                       |
| OPEN_VERSIONS                 | NUMBER      | Number of child cursors that are currently open under this parent                                                                                                                                                                                                                                                                                                                                                                                                                   |
| USERS_OPENING                 | NUMBER      | Number of users that have any of the child cursors open                                                                                                                                                                                                                                                                                                                                                                                                                             |
| USERS_EXECUTING               | NUMBER      | Total number of users executing the statement over all child cursors                                                                                                                                                                                                                                                                                                                                                                                                                |
| FETCHES                       | NUMBER      | Number of fetches associated with the SQL statement                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EXECUTIONS                    | NUMBER      | Total number of executions, totalled over all the child cursors                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PX_SERVERS_EXECUTIONS         | NUMBER      | Total number of executions performed by parallel execution servers (0 when the statement has never been executed in parallel)                                                                                                                                                                                                                                                                                                                                                       |
| END_OF_FETCH_COUNT            | NUMBER      | Number of times this cursor was fully executed since the cursor was brought into the library cache. The value of this statistic is not incremented when the cursor is partially executed, either because it failed during the execution or because only the first few rows produced by this cursor are fetched before the cursor is closed or re-executed. By definition, the value of the END_OF_FETCH_COUNT column should be less or equal to the value of the EXECUTIONS column. |
| LOADS                         | NUMBER      | Number of times the object was loaded or reloaded                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| FIRST_LOAD_TIME               | DATE        | Timestamp of the parent creation time                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LAST_LOAD_TIME                | DATE        | Time at which the query plan was loaded into the library cache                                                                                                                                                                                                                                                                                                                                                                                                                      |
| LAST_ACTIVE_TIME              | DATE        | Time at which the query plan was last active                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| LAST_EXEC_START_TIME          | DATE        | Time at which the most recent execution of this SQL started                                                                                                                                                                                                                                                                                                                                                                                                                         |
| INVALIDATIONS                 | NUMBER      | Total number of invalidations over all the child cursors                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PARSE_CALLS                   | NUMBER      | Sum of all parse calls to all the child cursors under this parent                                                                                                                                                                                                                                                                                                                                                                                                                   |
| DISK_READS                    | NUMBER      | Sum of the number of disk reads over all child cursors                                                                                                                                                                                                                                                                                                                                                                                                                              |
| DIRECT_WRITES                 | NUMBER      | Sum of the number of direct writes over all child cursors                                                                                                                                                                                                                                                                                                                                                                                                                           |
| BUFFER_GETS                   | NUMBER      | Sum of buffer gets over all child cursors                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CPU_TIME                      | NUMBER      | CPU time (in microseconds) used by this cursor for parsing, executing, and fetching                                                                                                                                                                                                                                                                                                                                                                                                 |
| ELAPSED_TIME                  | NUMBER      | Elapsed time (in microseconds) used by this cursor for parsing, executing, and fetching                                                                                                                                                                                                                                                                                                                                                                                             |
| APPLICATION_WAIT_TIME         | NUMBER      | Application wait time (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CONCURRENCY_WAIT_TIME         | NUMBER      | Concurrency wait time (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CLUSTER_WAIT_TIME             | NUMBER      | Cluster wait time (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Column                   | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USER_IO_WAIT_TIME        | NUMBER         | User I/O wait time (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                          |
| PLSQL_EXEC_TIME          | NUMBER         | PL/SQL execution time (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                       |
| JAVA_EXEC_TIME           | NUMBER         | Java execution time (in microseconds)                                                                                                                                                                                                                                                                                                                                                                                         |
| ROWS_PROCESSED           | NUMBER         | Total number of rows processed on behalf of this SQL statement                                                                                                                                                                                                                                                                                                                                                                |
| COMMAND_TYPE             | NUMBER         | Oracle command type definition                                                                                                                                                                                                                                                                                                                                                                                                |
| OPTIMIZER_MODE           | VARCHAR2 (10)  | Mode under which the SQL statement was executed                                                                                                                                                                                                                                                                                                                                                                               |
| OPTIMIZER_COST           | NUMBER         | Cost of this query given by the optimizer                                                                                                                                                                                                                                                                                                                                                                                     |
| OPTIMIZER_ENV            | RAW (2000)     | Optimizer environment                                                                                                                                                                                                                                                                                                                                                                                                         |
| OPTIMIZER_ENV_HASH_VALUE | NUMBER         | Hash value for the optimizer environment                                                                                                                                                                                                                                                                                                                                                                                      |
| PARSING_USER_ID          | NUMBER         | User ID of the user that has parsed the very first cursor under this parent                                                                                                                                                                                                                                                                                                                                                   |
| PARSING_SCHEMA_ID        | NUMBER         | Schema ID that was used to parse this child cursor                                                                                                                                                                                                                                                                                                                                                                            |
| PARSING_SCHEMA_NAME      | VARCHAR2 (128) | Schema name that was used to parse this child cursor                                                                                                                                                                                                                                                                                                                                                                          |
| KEPT_VERSIONS            | NUMBER         | Number of child cursors that have been marked to be kept using the DBMS_SHARED_POOL package                                                                                                                                                                                                                                                                                                                                   |
| MODULE                   | VARCHAR2 (64)  | Contains the name of the module that was executing when the SQL statement was first parsed as set by calling DBMS_APPLICATION_INFO.SET_MODULE                                                                                                                                                                                                                                                                                 |
| MODULE_HASH              | NUMBER         | Hash value of the module that is named in the MODULE column                                                                                                                                                                                                                                                                                                                                                                   |
| ACTION                   | VARCHAR2 (64)  | Contains the name of the action that was executing when the SQL statement was first parsed as set by calling DBMS_APPLICATION_INFO.SET_ACTION                                                                                                                                                                                                                                                                                 |
| ACTION_HASH              | NUMBER         | Hash value of the action that is named in the ACTION column                                                                                                                                                                                                                                                                                                                                                                   |
| SERIALIZABLE_ABORTS      | NUMBER         | Number of times the transaction failed to serialize, producing ORA-08177 errors, totalled over all the child cursors                                                                                                                                                                                                                                                                                                          |
| OUTLINE_CATEGORY         | VARCHAR2 (64)  | If an outline was applied during construction of the cursor, then this column displays the category of that outline. Otherwise, the column is left blank.                                                                                                                                                                                                                                                                     |
| OUTLINE_SID              | VARCHAR2 (40)  | Outline session identifier                                                                                                                                                                                                                                                                                                                                                                                                    |
| REMOTE                   | VARCHAR2 (1)   | Indicates whether the cursor is remote mapped (Y) or not (N)                                                                                                                                                                                                                                                                                                                                                                  |
| OBJECT_STATUS            | VARCHAR2 (19)  | Status of the cursor: <ul style="list-style-type: none"> <li>VALID - Valid, authorized without errors</li> <li>VALID_AUTH_ERROR - Valid, authorized with authorization errors</li> <li>VALID_COMPILE_ERROR - Valid, authorized with compilation errors</li> <li>VALID_UNAUTH - Valid, unauthorized</li> <li>INVALID_UNAUTH - Invalid, unauthorized</li> <li>INVALID - Invalid, unauthorized but keep the timestamp</li> </ul> |
| LITERAL_HASH_VALUE       | NUMBER         | Hash value of the literals which are replaced with system-generated bind variables and are to be matched, when CURSOR_SHARING is used. This is not the hash value for the SQL statement. If CURSOR_SHARING is not used, then the value is 0.                                                                                                                                                                                  |
| SQL_PROFILE              | VARCHAR2 (64)  | SQL profile used for this statement, if any                                                                                                                                                                                                                                                                                                                                                                                   |
| PROGRAM_ID               | NUMBER         | Program identifier                                                                                                                                                                                                                                                                                                                                                                                                            |
| PROGRAM_LINE#            | NUMBER         | Program line number                                                                                                                                                                                                                                                                                                                                                                                                           |
| EXACT_MATCHING_SIGNATURE | NUMBER         | Signature used when the CURSOR_SHARING parameter is set to EXACT                                                                                                                                                                                                                                                                                                                                                              |

| Column                         | Datatype  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FORCE_MATCHING_SIGNATURE       | NUMBER    | Signature used when the <code>CURSOR_SHARING</code> parameter is set to <code>FORCE</code>                                                                                                                                                                                                                                                                                                                                                      |
| BIND_DATA                      | RAW(2000) | Bind data                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TYPECHECK_MEM                  | NUMBER    | Typecheck memory                                                                                                                                                                                                                                                                                                                                                                                                                                |
| IO_CELL_OFFLOAD_ELIGIBLE_BYTES | NUMBER    | Number of I/O bytes which can be filtered by the Exadata storage system<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                                                                                                                                                                                                                           |
| IO_INTERCONNECT_BYTES          | NUMBER    | Number of I/O bytes exchanged between Oracle Database and the storage system                                                                                                                                                                                                                                                                                                                                                                    |
| PHYSICAL_READ_REQUESTS         | NUMBER    | Number of physical read I/O requests issued by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                |
| PHYSICAL_READ_BYTES            | NUMBER    | Number of bytes read from disks by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                            |
| PHYSICAL_WRITE_REQUESTS        | NUMBER    | Number of physical write I/O requests issued by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                               |
| PHYSICAL_WRITE_BYTES           | NUMBER    | Number of bytes written to disks by the monitored SQL                                                                                                                                                                                                                                                                                                                                                                                           |
| OPTIMIZED_PHY_READ_REQUESTS    | NUMBER    | Number of physical read I/O requests from Database Smart Flash Cache issued by the monitored SQL                                                                                                                                                                                                                                                                                                                                                |
| IO_CELL_UNCOMPRESSED_BYTES     | NUMBER    | Number of uncompressed bytes (that is, size after decompression) that are offloaded to the Exadata cells<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                                                                                                                                                                                          |
| IO_CELL_OFFLOAD_RETURNED_BYTES | NUMBER    | Number of bytes that are returned by Exadata cell through the regular I/O path<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                                                                                                                                                                                                                    |
| CON_ID                         | NUMBER    | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| CON_DBID                       | NUMBER    | The database ID of the PDB                                                                                                                                                                                                                                                                                                                                                                                                                      |



#### See Also:

- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_SHARED_POOL` package
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_APPLICATION_INFO.SET_MODULE` procedure
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_APPLICATION_INFO.SET_ACTION` procedure

## 10.89 V\$SQLCOMMAND

V\$SQLCOMMAND displays the mapping between SQL opcodes and names.

| Column       | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMMAND_TYPE | NUMBER        | SQL command number                                                                                                                                                                                                                                                                                                                                                                                                                          |
| COMMAND_NAME | VARCHAR2 (64) | SQL command name                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID       | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 10.90 V\$SQLFN\_ARG\_METADATA

V\$SQLFN\_ARG\_METADATA contains metadata about function arguments. There is one row for each argument of every function found in V\$SQLFN\_METADATA. There are no rows for functions that do not have any arguments.

| Column   | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FUNC_ID  | NUMBER         | Internal function identification number. This column can be used to join with the V\$SQLFN_METADATA view.                                                                                                                                                                                                                                                                                                                                   |
| ARGNUM   | NUMBER         | Argument number                                                                                                                                                                                                                                                                                                                                                                                                                             |
| DATATYPE | VARCHAR2 (8)   | Data type of the argument. The value is NULL if this argument is not used. Otherwise, it can take values of any Oracle data type, family data type, or EXPR data type.                                                                                                                                                                                                                                                                      |
| DESCR    | VARCHAR2 (128) | This column is reserved for future use.                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID   | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



**See Also:**

["V\\$SQLFN\\_METADATA"](#)

## 10.91 V\$SQLFN\_METADATA

V\$SQLFN\_METADATA contains metadata about operators and built-in functions. Note that this view does not contain information about arguments because the number of arguments will be different for various functions. Information about arguments is contained in V\$SQLFN\_ARG\_METADATA, which can be joined with V\$SQLFN\_METADATA to get information about any function and its arguments.

| Column      | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FUNC_ID     | NUMBER          | Internal function identification number                                                                                                                                                                                                                                                                                                                                                                                             |
| NAME        | VARCHAR2 (128)  | Name of the built-in function                                                                                                                                                                                                                                                                                                                                                                                                       |
| MINARGS     | NUMBER          | Minimum number of arguments for the function                                                                                                                                                                                                                                                                                                                                                                                        |
| MAXARGS     | NUMBER          | Maximum number of arguments for the function                                                                                                                                                                                                                                                                                                                                                                                        |
| DATATYPE    | VARCHAR2 (8)    | Return data type, which can take any Oracle data type values, data type family values, or ARG[n] data types                                                                                                                                                                                                                                                                                                                         |
| VERSION     | VARCHAR2 (12)   | Minimum version of the database that has this function                                                                                                                                                                                                                                                                                                                                                                              |
| ANALYTIC    | VARCHAR2 (3)    | Indicates whether the function is an analytic function (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                            |
| AGGREGATE   | VARCHAR2 (3)    | Indicates whether the function is an aggregate function (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                           |
| OFFLOADABLE | VARCHAR2 (3)    | Indicates whether execution of the function can be offloaded to the Oracle Exadata Storage Server (YES) or not (NO)<br><br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                                                                                                                                                               |
| DISP_TYPE   | VARCHAR2 (13)   | Function display type: <ul style="list-style-type: none"><li>• NORMAL</li><li>• ARITHMETIC</li><li>• PARENTHESIS</li><li>• REL-OP</li><li>• CASELIKE</li><li>• NOPARENTHESIS</li></ul>                                                                                                                                                                                                                                              |
| USAGE       | VARCHAR2 (128)  | A text explanation of how to use this function. The text is based on the syntax diagram for the function in the <i>Oracle Database SQL Language Reference</i> .                                                                                                                                                                                                                                                                     |
| DESCR       | VARCHAR2 (4000) | Description of the function                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID      | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• n: Where n is the applicable container ID for the rows containing data</li></ul> |



### See Also:

["V\\$SQLFN\\_ARG\\_METADATA"](#)



## 10.92 V\$SQLSTATS

V\$SQLSTATS displays basic performance statistics for SQL cursors and contains one row per SQL statement (that is, one row per unique value of SQL\_ID). The column definitions for columns in V\$SQLSTATS are identical to those in the V\$SQL and V\$SQLAREA views. However, the V\$SQLSTATS view differs from V\$SQL and V\$SQLAREA in that it is faster, more scalable, and has a greater data retention (the statistics may still appear in this view, even after the cursor has been aged out of the shared pool). Note that V\$SQLSTATS contains a subset of columns that appear in V\$SQL and V\$SQLAREA.

| Column                        | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQL_TEXT                      | VARCHAR2(1000) | First thousand characters of the SQL text for the current cursor                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SQL_FULLTEXT                  | CLOB           | Full text for the SQL statement exposed as a CLOB column. The full text of a SQL statement can be retrieved using this column instead of joining with the V\$SQLTEXT view.                                                                                                                                                                                                                                                                                                          |
| SQL_ID                        | VARCHAR2(13)   | SQL identifier of the parent cursor in the library cache                                                                                                                                                                                                                                                                                                                                                                                                                            |
| LAST_ACTIVE_TIME              | DATE           | Last time the statistics of a contributing cursor were updated                                                                                                                                                                                                                                                                                                                                                                                                                      |
| LAST_ACTIVE_CHILD_ADDRES<br>S | RAW(4   8)     | Address of the contributing cursor that last updated these statistics                                                                                                                                                                                                                                                                                                                                                                                                               |
| PLAN_HASH_VALUE               | NUMBER         | Numeric representation of the current SQL plan for this cursor. Comparing one PLAN_HASH_VALUE to another easily identifies whether or not two plans are the same (rather than comparing the two plans line by line).                                                                                                                                                                                                                                                                |
| PARSE_CALLS                   | NUMBER         | Number of parse calls for all cursors with this SQL text and plan                                                                                                                                                                                                                                                                                                                                                                                                                   |
| DISK_READS                    | NUMBER         | Number of disk reads for all cursors with this SQL text and plan                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DIRECT_WRITES                 | NUMBER         | Number of direct writes for all cursors with this SQL text and plan                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DIRECT_READS                  | NUMBER         | Number of direct reads for all cursors with this SQL text and plan                                                                                                                                                                                                                                                                                                                                                                                                                  |
| BUFFER_GETS                   | NUMBER         | Number of buffer gets for all cursors with this SQL text and plan                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ROWS_PROCESSED                | NUMBER         | Total number of rows the parsed SQL statement returns                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SERIALIZABLE_ABORTS           | NUMBER         | Number of times the transaction failed to serialize, producing ORA-08177 errors, per cursor                                                                                                                                                                                                                                                                                                                                                                                         |
| FETCHES                       | NUMBER         | Number of fetches associated with the SQL statement                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EXECUTIONS                    | NUMBER         | Number of executions that took place on this object since it was brought into the library cache                                                                                                                                                                                                                                                                                                                                                                                     |
| END_OF_FETCH_COUNT            | NUMBER         | Number of times this cursor was fully executed since the cursor was brought into the library cache. The value of this statistic is not incremented when the cursor is partially executed, either because it failed during the execution or because only the first few rows produced by this cursor are fetched before the cursor is closed or re-executed. By definition, the value of the END_OF_FETCH_COUNT column should be less or equal to the value of the EXECUTIONS column. |
| LOADS                         | NUMBER         | Number of times the object was either loaded or reloaded                                                                                                                                                                                                                                                                                                                                                                                                                            |
| VERSION_COUNT                 | NUMBER         | number of cursors present in the cache with this SQL text and plan                                                                                                                                                                                                                                                                                                                                                                                                                  |
| INVALIDATIONS                 | NUMBER         | Number of times this child cursor has been invalidated                                                                                                                                                                                                                                                                                                                                                                                                                              |
| PX_SERVERS_EXECUTIONS         | NUMBER         | Total number of executions performed by parallel execution servers (0 when the statement has never been executed in parallel)                                                                                                                                                                                                                                                                                                                                                       |
| CPU_TIME                      | NUMBER         | CPU time (in microseconds) used by this cursor for parsing, executing, and fetching                                                                                                                                                                                                                                                                                                                                                                                                 |

| Column                         | Datatype | Description                                                                                                                                                                                                                                                                                      |
|--------------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ELAPSED_TIME                   | NUMBER   | Elapsed time (in microseconds) used by this cursor for parsing, executing, and fetching. If the cursor uses parallel execution, then <code>ELAPSED_TIME</code> is the cumulative time for the query coordinator, plus all parallel query worker processes.                                       |
| AVG_HARD_PARSE_TIME            | NUMBER   | Average hard parse time (in microseconds) used by this cursor                                                                                                                                                                                                                                    |
| APPLICATION_WAIT_TIME          | NUMBER   | Application wait time (in microseconds)                                                                                                                                                                                                                                                          |
| CONCURRENCY_WAIT_TIME          | NUMBER   | Concurrency wait time (in microseconds)                                                                                                                                                                                                                                                          |
| CLUSTER_WAIT_TIME              | NUMBER   | Cluster wait time (in microseconds). This value is specific to Oracle RAC. It shows the total time spent waiting for all waits that are categorized under the cluster class of wait events. The value in this column is an accumulated wait time spent waiting for Oracle RAC cluster resources. |
| USER_IO_WAIT_TIME              | NUMBER   | User I/O wait time (in microseconds)                                                                                                                                                                                                                                                             |
| PLSQL_EXEC_TIME                | NUMBER   | PL/SQL execution time (in microseconds)                                                                                                                                                                                                                                                          |
| JAVA_EXEC_TIME                 | NUMBER   | Java execution time (in microseconds)                                                                                                                                                                                                                                                            |
| SORTS                          | NUMBER   | Number of sorts that were done for the child cursor                                                                                                                                                                                                                                              |
| SHARABLE_MEM                   | NUMBER   | Total shared memory (in bytes) currently occupied by all cursors with this SQL text and plan                                                                                                                                                                                                     |
| TOTAL_SHARABLE_MEM             | NUMBER   | Total shared memory (in bytes) occupied by all cursors with this SQL text and plan if they were to be fully loaded in the shared pool (that is, cursor size)                                                                                                                                     |
| TYPECHECK_MEM                  | NUMBER   | Typecheck memory                                                                                                                                                                                                                                                                                 |
| IO_CELL_OFFLOAD_ELIGIBLE_BYTES | NUMBER   | Number of I/O bytes which can be filtered by the Exadata storage system<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                                                                            |
| IO_INTERCONNECT_BYTES          | NUMBER   | Number of I/O bytes exchanged between Oracle Database and the storage system. Typically used for Cache Fusion or parallel queries.                                                                                                                                                               |
| PHYSICAL_READ_REQUESTS         | NUMBER   | Number of physical read I/O requests issued by the monitored SQL. The requests may not be disk reads.                                                                                                                                                                                            |
| PHYSICAL_READ_BYTES            | NUMBER   | Number of bytes read from disks by the monitored SQL                                                                                                                                                                                                                                             |
| PHYSICAL_WRITE_REQUESTS        | NUMBER   | Number of physical write I/O requests issued by the monitored SQL                                                                                                                                                                                                                                |
| PHYSICAL_WRITE_BYTES           | NUMBER   | Number of bytes written to disks by the monitored SQL                                                                                                                                                                                                                                            |
| EXACT_MATCHING_SIGNATURE       | NUMBER   | Signature used when the <code>CURSOR_SHARING</code> parameter is set to <code>EXACT</code>                                                                                                                                                                                                       |
| FORCE_MATCHING_SIGNATURE       | NUMBER   | Signature used when the <code>CURSOR_SHARING</code> parameter is set to <code>FORCE</code>                                                                                                                                                                                                       |
| IO_CELL_UNCOMPRESSED_BYTES     | NUMBER   | Number of uncompressed bytes (that is, size after decompression) that are offloaded to the Exadata cells<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                                           |
| IO_CELL_OFFLOAD_RETURNED_BYTES | NUMBER   | Number of bytes that are returned by Exadata cell through the regular I/O path<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                                                                     |
| DELTA_PARSE_CALLS              | NUMBER   | Number of parse calls for the cursor since the last Automatic Workload Repository (AWR) snapshot<br><b>See Also:</b> <i>Oracle Database Performance Tuning Guide</i> for an introduction to AWR                                                                                                  |

| Column                                                                                     | Datatype | Description                                                                                                                 |
|--------------------------------------------------------------------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------|
| DELTA_DISK_READS                                                                           | NUMBER   | Number of disk reads for the cursor since the last AWR snapshot                                                             |
| DELTA_DIRECT_WRITES                                                                        | NUMBER   | Number of direct writes for the cursor since the last AWR snapshot                                                          |
| DELTA_DIRECT_READS                                                                         | NUMBER   | Number of direct reads for the cursor since the last AWR snapshot                                                           |
| DELTA_BUFFER_GETS                                                                          | NUMBER   | Number of buffer gets for the cursor since the last AWR snapshot                                                            |
| DELTA_ROWS_PROCESSED                                                                       | NUMBER   | Number of rows returned by the cursor since the last AWR snapshot                                                           |
| DELTA_FETCH_COUNT                                                                          | NUMBER   | Number of fetches for the cursor since the last AWR snapshot                                                                |
| DELTA_EXECUTION_COUNT                                                                      | NUMBER   | Number of executions for the cursor since the last AWR snapshot                                                             |
| DELTA_PX_SERVERS_EXECUTIONS                                                                | NUMBER   | Number of executions performed by parallel execution servers since the last AWR snapshot                                    |
| DELTA_END_OF_FETCH_COUNT                                                                   | NUMBER   | Number of times the cursor was fully executed since the last AWR snapshot                                                   |
| DELTA_CPU_TIME                                                                             | NUMBER   | CPU time (in microseconds) for the cursor since the last AWR snapshot                                                       |
| DELTA_ELAPSED_TIME                                                                         | NUMBER   | Database time (in microseconds) for the cursor since the last AWR snapshot                                                  |
| DELTA_APPLICATION_WAIT_TIME                                                                | NUMBER   | Time spent by the cursor (in microseconds) in the Application wait class since the last AWR snapshot                        |
| DELTA_CONCURRENCY_TIME                                                                     | NUMBER   | Time spent by the cursor (in microseconds) in the Concurrency wait class since the last AWR snapshot                        |
| DELTA_CLUSTER_WAIT_TIME                                                                    | NUMBER   | Time spent by the cursor (in microseconds) in the Cluster wait class since the last AWR snapshot                            |
| DELTA_USER_IO_WAIT_TIME                                                                    | NUMBER   | Time spent by the cursor (in microseconds) in the User I/O wait class since the last AWR snapshot                           |
| DELTA_PLSQL_EXEC_TIME                                                                      | NUMBER   | Time spent by the cursor (in microseconds) executing PL/SQL since the last AWR snapshot                                     |
| DELTA_JAVA_EXEC_TIME                                                                       | NUMBER   | Time spent by the cursor (in microseconds) executing Java since the last AWR snapshot                                       |
| DELTA_SORTS                                                                                | NUMBER   | Number of sorts for the cursor since the last AWR snapshot                                                                  |
| DELTA_LOADS                                                                                | NUMBER   | Number of times the cursor was loaded since the last AWR snapshot                                                           |
| DELTA_INVALIDATIONS                                                                        | NUMBER   | Number of times the cursor was invalidated since the last AWR snapshot                                                      |
| DELTA_PHYSICAL_READ_REQUESTS                                                               | NUMBER   | Number of physical read I/O requests for the cursor since the last AWR snapshot                                             |
| DELTA_PHYSICAL_READ_BYTES                                                                  | NUMBER   | Number of bytes read from disk for the cursor since the last AWR snapshot                                                   |
| DELTA_PHYSICAL_WRITE_REQUESTS                                                              | NUMBER   | Number of physical write I/O requests for the cursor since the last AWR snapshot                                            |
| DELTA_PHYSICAL_WRITE_BYTES                                                                 | NUMBER   | Number of bytes written to disk for the cursor since the last AWR snapshot                                                  |
| DELTA_IO_INTERCONNECT_BYTES                                                                | NUMBER   | Number of I/O bytes exchanged between the Oracle database and the storage system for the cursor since the last AWR snapshot |
| DELTA_CELL_OFFLOAD_ELIGIBLE_BYTES                                                          | NUMBER   | Number of I/O bytes which can be filtered by the Exadata storage system for the cursor since the last AWR snapshot          |
| <b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information |          |                                                                                                                             |

| Column                        | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DELTA_CELL_UNCOMPRESSED_BYTES | NUMBER   | Number of uncompressed bytes that are offloaded to the Exadata cell for the cursor since the last AWR snapshot<br><b>See Also:</b> Oracle Exadata Storage Server Software documentation for more information                                                                                                                                                                                                                                    |
| CON_ID                        | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| CON_DBID                      | NUMBER   | The database ID of the PDB                                                                                                                                                                                                                                                                                                                                                                                                                      |
| OBSOLETE_COUNT                | NUMBER   | Number of times that a parent cursor became obsolete                                                                                                                                                                                                                                                                                                                                                                                            |
| AVOIDED_EXECUTIONS            | NUMBER   | Number of executions attempted on this object, but prevented due to the SQL statement being in quarantine                                                                                                                                                                                                                                                                                                                                       |
| DELTA_AVOIDED_EXECUTIONS      | NUMBER   | Number of executions attempted on this object, but prevented due to the SQL statement being in quarantine, since the last AWR snapshot                                                                                                                                                                                                                                                                                                          |

**See Also:**

- "V\$SQL"
- "V\$SQLAREA"

## 10.93 V\$SQLSTATS\_PLAN\_HASH

V\$SQLSTATS\_PLAN\_HASH displays basic performance statistics for SQL cursors and contains one row per execution plan of a SQL statement (that is, one row per unique combination of SQL\_ID and PLAN\_HASH\_VALUE).

The columns for V\$SQLSTATS\_PLAN\_HASH are the same as those for V\$SQLSTATS.

**See Also:**

"V\$SQLSTATS"

## 10.94 V\$SQLTEXT

V\$SQLTEXT displays the text of SQL statements belonging to shared SQL cursors in the SGA.

| Column     | Datatype    | Description                                               |
|------------|-------------|-----------------------------------------------------------|
| ADDRESS    | RAW (4   8) | Used with HASH_VALUE to uniquely identify a cached cursor |
| HASH_VALUE | NUMBER      | Used with ADDRESS to uniquely identify a cached cursor    |

| Column       | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQL_ID       | VARCHAR2 (13) | SQL identifier of a cached cursor                                                                                                                                                                                                                                                                                                                                                                                                           |
| COMMAND_TYPE | NUMBER        | Code for the type of SQL statement (SELECT, INSERT, and so on)                                                                                                                                                                                                                                                                                                                                                                              |
| PIECE        | NUMBER        | Number used to order the pieces of SQL text                                                                                                                                                                                                                                                                                                                                                                                                 |
| SQL_TEXT     | VARCHAR2 (64) | A column containing one piece of the SQL text                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID       | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 10.95 V\$SQLTEXT\_WITH\_NEWLINES

V\$SQLTEXT\_WITH\_NEWLINES is identical to the V\$SQLTEXT view except that, to improve legibility, V\$SQLTEXT\_WITH\_NEWLINES does not replace newlines and tabs in the SQL statement with spaces.

| Column       | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADDRESS      | RAW (4   8)   | Used with HASH_VALUE to uniquely identify a cached cursor                                                                                                                                                                                                                                                                                                                                                                                   |
| HASH_VALUE   | NUMBER        | Used with ADDRESS to uniquely identify a cached cursor                                                                                                                                                                                                                                                                                                                                                                                      |
| SQL_ID       | VARCHAR2 (13) | SQL identifier of a cached cursor                                                                                                                                                                                                                                                                                                                                                                                                           |
| COMMAND_TYPE | NUMBER        | Code for the type of SQL statement (SELECT, INSERT, and so on)                                                                                                                                                                                                                                                                                                                                                                              |
| PIECE        | NUMBER        | Number used to order the pieces of SQL text                                                                                                                                                                                                                                                                                                                                                                                                 |
| SQL_TEXT     | VARCHAR2 (64) | A column containing one piece of the SQL text                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID       | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

 **See Also:**  
"V\$SQLTEXT"

## 10.96 V\$STANDBY\_EVENT\_HISTOGRAM

V\$STANDBY\_EVENT\_HISTOGRAM displays the histogram of apply lag on the physical standby. Each distinct value of apply lag has its own bucket and the count in the corresponding bucket

represents the number of occurrences so far. The physical standby samples the apply lag every second and increments the corresponding bucket in the histogram.

| Column            | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME              | VARCHAR2 (64) | Name of the event (currently <code>APPLY LAG</code> is the only valid value)                                                                                                                                                                                                                                                                                                                                                                    |
| TIME              | NUMBER        | Time duration that the bucket represents                                                                                                                                                                                                                                                                                                                                                                                                        |
| UNIT              | VARCHAR2 (16) | Time unit (seconds, minutes, hours, or days)                                                                                                                                                                                                                                                                                                                                                                                                    |
| COUNT             | NUMBER        | Each row is a histogram bucket for apply lag. <code>COUNT</code> is the number of occurrences the apply lag falls into the histogram bucket.                                                                                                                                                                                                                                                                                                    |
| LAST_TIME_UPDATED | VARCHAR2 (20) | Last time the bucket was updated by an event falling into that time duration                                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID            | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.97 V\$STANDBY\_LOG

`V$STANDBY_LOG` displays information about standby redo logs. Standby redo logs are similar to online redo logs, but standby redo logs are only used on a standby database that is receiving redo data from the primary database.

| Column        | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUP#        | NUMBER        | Log group number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| DBID          | VARCHAR2 (40) | Database ID of the primary database to which the standby redo logfile is assigned. If the standby redo logfile is unassigned, the value <code>UNASSIGNED</code> will be displayed.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| THREAD#       | NUMBER        | Log thread number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SEQUENCE#     | NUMBER        | Log sequence number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| BYTES         | NUMBER        | Size of the log (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| BLOCKSIZE     | NUMBER        | Block size of the logfile (512 or 4096)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| USED          | NUMBER        | Number of bytes used in the log                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ARCHIVED      | VARCHAR2 (3)  | Archive status (YES) or (NO). See the <code>STATUS</code> column for further details.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| STATUS        | VARCHAR2 (10) | Log status: <ul style="list-style-type: none"> <li><code>UNASSIGNED</code> - If <code>ARCHIVED</code> is NO, then the standby redo log has been archived and is again available. If <code>ARCHIVED</code> is YES, then the standby redo log has never been used and is available.</li> <li><code>ACTIVE</code> - If <code>ARCHIVED</code> is NO, then the standby redo log is complete and waiting to be archived. If <code>ARCHIVED</code> is YES, then the standby redo log is currently being written to and is therefore not ready to be archived. For a given thread, there should be only one such log.</li> </ul> |
| FIRST_CHANGE# | NUMBER        | Lowest SCN in the log                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| FIRST_TIME    | DATE          | Time of the first SCN in the log                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Column       | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NEXT_CHANGE# | NUMBER   | All redo records contained within this log will have an SCN lower than NEXT_CHANGE#. Only filled in once the log is complete. Also the lowest SCN of any redo record in the next log.                                                                                                                                                                                                                                                           |
| NEXT_TIME    | DATE     | All redo records contained within this log will have a timestamp lower than NEXT_TIME. Only filled in once the log is complete. Also the lowest timestamp of any redo record in the next log.                                                                                                                                                                                                                                                   |
| LAST_CHANGE# | NUMBER   | Redo in the standby redo log that recovery can possibly apply from the log has an SCN lower than LAST_CHANGE#                                                                                                                                                                                                                                                                                                                                   |
| LAST_TIME    | DATE     | Timestamp of LAST_CHANGE#                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID       | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.98 V\$STATISTICS\_LEVEL

V\$STATISTICS\_LEVEL displays the status of the statistics/advisories controlled by STATISTICS\_LEVEL.

| Column               | Datatype        | Description                                                                                                                                                                                                                                                     |
|----------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATISTICS_NAME      | VARCHAR2 (64)   | Name of the statistic/advisory                                                                                                                                                                                                                                  |
| DESCRIPTION          | VARCHAR2 (4000) | Description of the statistic/advisory                                                                                                                                                                                                                           |
| SESSION_STATUS       | VARCHAR2 (8)    | Status of the statistic/advisory for the session: <ul style="list-style-type: none"> <li>ENABLED</li> <li>DISABLED</li> </ul>                                                                                                                                   |
| SYSTEM_STATUS        | VARCHAR2 (8)    | System-wide status of the statistic/advisory: <ul style="list-style-type: none"> <li>ENABLED</li> <li>DISABLED</li> </ul>                                                                                                                                       |
| ACTIVATION_LEVEL     | VARCHAR2 (7)    | Indicates the level of STATISTICS_LEVEL that enables the statistic/advisory: <ul style="list-style-type: none"> <li>BASIC</li> <li>TYPICAL</li> <li>ALL</li> </ul>                                                                                              |
| STATISTICS_VIEW_NAME | VARCHAR2 (64)   | If there is a single view externalizing the statistic/advisory, then this column contains the name of that view. If there is no such view, then this column is null. If there are multiple views involved, then the DESCRIPTION column mentions the view names. |
| SESSION_SETTABLE     | VARCHAR2 (3)    | Indicates whether the statistic/advisory can be set at the session level (YES) or not (NO)                                                                                                                                                                      |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**["STATISTICS\\_LEVEL"](#)

## 10.99 V\$STATNAME

V\$STATNAME displays decoded statistic names for the statistics shown in the V\$SESSTAT and V\$SYSSTAT tables.

On some platforms, the NAME and CLASS columns contain additional operating system-specific statistics.

| Column       | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                |
|--------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATISTIC#   | NUMBER        | Statistic number<br><b>Note:</b> Statistics numbers are not guaranteed to remain constant from one release to another. Therefore, you should rely on the statistics name rather than its number in your applications.                                                                                                                                      |
| NAME         | VARCHAR2 (64) | Statistic name. Names that appear in this column remain stable across Oracle Database releases, and they can be relied on by customer scripts.                                                                                                                                                                                                             |
| CLASS        | NUMBER        | A number representing one or more statistics classes. The following class numbers are additive: <ul style="list-style-type: none"><li>• 1 - User</li><li>• 2 - Redo</li><li>• 4 - Enqueue</li><li>• 8 - Cache</li><li>• 16 - OS</li><li>• 32 - Real Application Clusters</li><li>• 64 - SQL</li><li>• 128 - Debug</li><li>• 256 - Instance level</li></ul> |
| STAT_ID      | NUMBER        | Identifier of the statistic                                                                                                                                                                                                                                                                                                                                |
| DISPLAY_NAME | VARCHAR2 (64) | A clearer and more descriptive name for the statistic that appears in the NAME column. Names that appear in the DISPLAY_NAME column can change across Oracle Database releases, therefore customer scripts should not rely on names that appear in the DISPLAY_NAME column across releases.                                                                |



| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

- "[V\\$SESSTAT](#)" and "[V\\$SYSSTAT](#)"
- "[Statistics Descriptions](#)" for statistic descriptions
- Your operating system-specific Oracle documentation

## 10.100 V\$STATS\_ADVISOR\_RULES

V\$STATS\_ADVISOR\_RULES displays the rule definition information for each Optimizer Statistics Advisor rule.

| Column      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RULE_ID     | NUMBER        | ID of the rule                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NAME        | VARCHAR2 (64) | Name of the rule                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| RULE_TYPE   | VARCHAR2 (9)  | Type of the rule: <ul style="list-style-type: none"><li>• OBJECT</li><li>• OPERATION</li><li>• SYSTEM</li></ul>                                                                                                                                                                                                                                                                                                                                   |
| DESCRIPTION | VARCHAR2 (64) | Description of the rule                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

*Oracle Database SQL Tuning Guide* for more information about Optimizer Statistics Advisor.

## 10.101 V\$STREAMS\_APPLY\_COORDINATOR

V\$STREAMS\_APPLY\_COORDINATOR displays information about each apply process coordinator. The coordinator for an apply process gets transactions from the apply process reader and passes them to apply servers. An apply process coordinator is a subcomponent of an apply process, outbound server, or inbound server.

| Column                   | Datatype       | Description                                                                                                                                                                                                                                                                                                           |
|--------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID                      | NUMBER         | Session ID of the coordinator's session                                                                                                                                                                                                                                                                               |
| SERIAL#                  | NUMBER         | Serial number of the coordinator's session                                                                                                                                                                                                                                                                            |
| STATE                    | VARCHAR2 (21)  | State of the coordinator: <ul style="list-style-type: none"> <li>INITIALIZING - Starting up</li> <li>IDLE - Performing no work</li> <li>APPLYING - Passing transactions to apply servers</li> <li>SHUTTING DOWN CLEANLY - Stopping without an error</li> <li>ABORTING - Stopping because of an apply error</li> </ul> |
| APPLY#                   | NUMBER         | Apply process number. An apply process coordinator is an Oracle background process, prefixed by ap.                                                                                                                                                                                                                   |
| APPLY_NAME               | VARCHAR2 (128) | Name of the apply process                                                                                                                                                                                                                                                                                             |
| TOTAL_APPLIED            | NUMBER         | Total number of transactions applied by the apply process since the apply process was last started                                                                                                                                                                                                                    |
| TOTAL_WAIT_DEPS          | NUMBER         | Number of times since the apply process was last started that an apply server waited to apply a logical change record (LCR) in a transaction until another apply server applied a transaction because of a dependency between the transactions                                                                        |
| TOTAL_WAIT_COMMITS       | NUMBER         | Number of times since the apply process was last started that an apply server waited to commit a transaction until another apply server committed a transaction to serialize commits                                                                                                                                  |
| TOTAL_ADMIN              | NUMBER         | Number of administrative jobs issued since the apply process was last started                                                                                                                                                                                                                                         |
| TOTAL_ASSIGNED           | NUMBER         | Number of transactions assigned to apply servers since the apply process was last started                                                                                                                                                                                                                             |
| TOTAL_RECEIVED           | NUMBER         | Total number of transactions received by the coordinator process since the apply process was last started                                                                                                                                                                                                             |
| TOTAL_IGNORED            | NUMBER         | Number of transactions which were received by the coordinator but were ignored because they had been previously applied                                                                                                                                                                                               |
| TOTAL_ROLLBACKS          | NUMBER         | Number of transactions which were rolled back due to unexpected contention                                                                                                                                                                                                                                            |
| TOTAL_ERRORS             | NUMBER         | Number of transactions applied by the apply process that resulted in an apply error since the apply process was last started                                                                                                                                                                                          |
| UNASSIGNED_COMPLETE_TXNS | NUMBER         | Total number of complete transactions that the coordinator has not assigned to any apply servers                                                                                                                                                                                                                      |
| AUTO_TXN_BUFFER_SIZE     | NUMBER         | Current value of transaction buffer size. Transaction buffer size refers to the number of transactions that the apply reader can assemble ahead of apply servers. The apply process periodically adjusts the transaction buffer size.                                                                                 |
| LWM_TIME                 | DATE           | Time when the message with the lowest message number was recorded. The creation time of the message with the lowest message number was also recorded at this time.                                                                                                                                                    |

| Column                   | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LWM_MESSAGE_NUMBER       | NUMBER   | Number of the message corresponding to the low watermark. That is, messages with a commit message number less than or equal to this message number have definitely been applied, but some messages with a higher commit message number also may have been applied.                                                                                                                                                                              |
| LWM_MESSAGE_CREATE_TIME  | DATE     | For captured messages, creation time at the source database of the message corresponding to the low watermark. For user-enqueued messages, time when the message corresponding to the low watermark was enqueued into the queue at the local database.                                                                                                                                                                                          |
| HWM_TIME                 | DATE     | Time when the message with the highest message number was recorded. The creation time of the message with the highest message number was also recorded at this time.                                                                                                                                                                                                                                                                            |
| HWM_MESSAGE_NUMBER       | NUMBER   | Number of the message corresponding to the high watermark. That is, no messages with a commit message number greater than this message number have been applied.                                                                                                                                                                                                                                                                                |
| HWM_MESSAGE_CREATE_TIME  | DATE     | For captured messages, creation time at the source database of the message corresponding to the high watermark. For user-enqueued messages, time when the message corresponding to the high watermark was enqueued into the queue at the local database.                                                                                                                                                                                        |
| STARTUP_TIME             | DATE     | Time when the apply process was last started                                                                                                                                                                                                                                                                                                                                                                                                    |
| ELAPSED_SCHEDULE_TIME    | NUMBER   | Time elapsed (in hundredths of a second) scheduling messages since the apply process was last started                                                                                                                                                                                                                                                                                                                                           |
| ELAPSED_IDLE_TIME        | NUMBER   | Elapsed idle time                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LWM_POSITION             | RAW (64) | Position of the low-watermark LCR                                                                                                                                                                                                                                                                                                                                                                                                               |
| HWM_POSITION             | RAW (64) | Position of the high-watermark LCR                                                                                                                                                                                                                                                                                                                                                                                                              |
| PROCESSED_MESSAGE_NUMBER | NUMBER   | Message number currently processed by the apply coordinator                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID                   | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| ACTIVE_SERVER_COUNT      | NUMBER   | Active server count                                                                                                                                                                                                                                                                                                                                                                                                                             |

**Note:**

The `ELAPSED_SCHEDULE_TIME` column is only populated if the `TIMED_STATISTICS` initialization parameter is set to `true`, or if the `STATISTICS_LEVEL` initialization parameter is set to `TYPICAL` or `ALL`.

**See Also:**

- ["TIMED\\_STATISTICS"](#)
- ["STATISTICS\\_LEVEL"](#)

## 10.102 V\$STREAMS\_APPLY\_READER

V\$STREAMS\_APPLY\_READER displays information about each apply reader. The apply reader is a process which reads (dequeues) messages from the queue, computes message dependencies, and builds transactions. It passes the transactions on to the coordinator in commit order for assignment to the apply servers. An apply reader is a subcomponent of an apply process, outbound server, or inbound server.

| Column                       | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID                          | NUMBER         | Session ID of the reader's session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| SERIAL#                      | NUMBER         | Serial number of the reader's session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| APPLY#                       | NUMBER         | Apply process number. An apply process is an Oracle background process, prefixed by <code>ap</code> .                                                                                                                                                                                                                                                                                                                                                                                                                             |
| APPLY_NAME                   | VARCHAR2 (128) | Name of the apply process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| STATE                        | VARCHAR2 (36)  | State of the reader: <ul style="list-style-type: none"> <li>INITIALIZING - Starting up</li> <li>IDLE - Performing no work</li> <li>DEQUEUE MESSAGES - Dequeuing messages from the queue</li> <li>SCHEDULE MESSAGES - Computing dependencies between messages and assembling messages into transactions</li> <li>SPILLING - Spilling unapplied messages from memory to hard disk</li> <li>PAUSED - WAITING FOR DDL TO COMPLETE - Waiting for a data definition language (DDL) logical change record (LCR) to be applied</li> </ul> |
| TOTAL_MESSAGES_DEQUEUED      | NUMBER         | Total number of messages dequeued since the apply process was last started                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TOTAL_MESSAGES_SPILLED       | NUMBER         | Number of messages spilled by the reader since the apply process was last started                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DEQUEUE_TIME                 | DATE           | Time when the last message was received                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DEQUEUED_MESSAGE_NUMBER      | NUMBER         | Number of the last message received                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DEQUEUED_MESSAGE_CREATE_TIME | DATE           | For captured messages, creation time at the source database of the last message received. For user-enqueued messages, time when the message was enqueued into the queue at the local database.                                                                                                                                                                                                                                                                                                                                    |
| SGA_USED                     | NUMBER         | Amount (in bytes) of SGA memory used by the apply process since it was last started                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| ELAPSED_DEQUEUE_TIME         | NUMBER         | Time elapsed (in hundredths of a second) dequeuing messages since the apply process was last started                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ELAPSED_SCHEDULE_TIME        | NUMBER         | Time elapsed (in hundredths of a second) scheduling messages since the apply process was last started. Scheduling includes computing dependencies between messages and assembling messages into transactions.                                                                                                                                                                                                                                                                                                                     |
| ELAPSED_SPILL_TIME           | NUMBER         | Elapsed time (in hundredths of a second) spent spilling messages since the apply process was last started                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LAST_BROWSE_NUM              | NUMBER         | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| OLDEST_SCN_NUM               | NUMBER         | Oldest SCN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| LAST_BROWSE_SEQ              | NUMBER         | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LAST_DEQ_SEQ                 | NUMBER         | Last dequeue sequence number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Column                 | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OLDEST_XIDUSN          | NUMBER         | Transaction ID undo segment number of the oldest transaction that either has been applied or is being applied                                                                                                                                                                                                                                                                                                                                   |
| OLDEST_XIDSLT          | NUMBER         | Transaction ID slot number of the oldest transaction that either has been applied or is being applied                                                                                                                                                                                                                                                                                                                                           |
| OLDEST_XIDSQN          | NUMBER         | Transaction ID sequence number of the oldest transaction that either has been applied or is being applied                                                                                                                                                                                                                                                                                                                                       |
| SPILL_LWM_SCN          | NUMBER         | Spill low-watermark SCN                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PROXY_SID              | NUMBER         | When the apply process uses combined capture and apply, the session ID of the propagation receiver that is responsible for direct communication between capture and apply. If the apply process does not use combined capture and apply, then this column is 0.                                                                                                                                                                                 |
| PROXY_SERIAL           | NUMBER         | When the apply process uses combined capture and apply, the serial number of the propagation receiver that is responsible for direct communication between capture and apply. If the apply process does not use combined capture and apply, then this column is 0.                                                                                                                                                                              |
| PROXY_SPID             | VARCHAR2 (12)  | When the apply process uses combined capture and apply, the process identification number of the propagation receiver that is responsible for direct communication between capture and apply. If the apply process does not use combined capture and apply, then this column is 0.                                                                                                                                                              |
| CAPTURE_BYTES_RECEIVED | NUMBER         | When the apply process uses combined capture and apply, the number of bytes received by the apply process from the capture process since the apply process last started. If the apply process does not use combined capture and apply, then this column is not populated.                                                                                                                                                                       |
| DEQUEUED_POSITION      | RAW (64)       | Dequeued position. This column is populated only for an apply process that is functioning as an XStream inbound server.                                                                                                                                                                                                                                                                                                                         |
| LAST_BROWSE_POSITION   | RAW (64)       | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                       |
| OLDEST_POSITION        | RAW (64)       | The earliest position of the transactions currently being dequeued and applied. This column is populated only for an apply process that is functioning as an XStream inbound server.                                                                                                                                                                                                                                                            |
| SPILL_LWM_POSITION     | RAW (64)       | Spill low-watermark position. This column is populated only for an apply process that is functioning as an XStream inbound server.                                                                                                                                                                                                                                                                                                              |
| OLDEST_TRANSACTION_ID  | VARCHAR2 (128) | Oldest transaction ID                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TOTAL_LCRS_WITH_DEP    | NUMBER         | Total number of LCRs with row-level dependencies since the apply process last started                                                                                                                                                                                                                                                                                                                                                           |
| TOTAL_LCRS_WITH_WMDEP  | NUMBER         | Total number of LCRs with watermark dependencies since the apply process last started.<br>A watermark dependency occurs when an apply process must wait until the apply process's low watermark reaches a particular threshold.                                                                                                                                                                                                                 |
| TOTAL_IN_MEMORY_LCRS   | NUMBER         | Total number of LCRs currently in memory                                                                                                                                                                                                                                                                                                                                                                                                        |
| SGA_ALLOCATED          | NUMBER         | The total amount of shared memory (in bytes) allocated from the Streams pool for the apply process since the apply process last started                                                                                                                                                                                                                                                                                                         |
| CON_ID                 | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

The `ELAPSED_DEQUEUE_TIME` and `ELAPSED_SCHEDULE_TIME` columns are only populated if the `TIMED_STATISTICS` initialization parameter is set to `true`, or if the `STATISTICS_LEVEL` initialization parameter is set to `TYPICAL` or `ALL`.

**See Also:**

- ["TIMED\\_STATISTICS"](#)
- ["STATISTICS\\_LEVEL"](#)

## 10.103 V\$STREAMS\_APPLY\_SERVER

`V$STREAMS_APPLY_SERVER` displays information about each apply server and its activities. An apply server receives messages from the apply coordinator for an apply process. For each message received, an apply server either applies the message or sends the message to the appropriate apply handler. An apply server is a subcomponent of an apply process, outbound server, or inbound server.

| Column                  | Datatype                    | Description                                                                                           |
|-------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| <code>SID</code>        | <code>NUMBER</code>         | Session ID of the apply server's session                                                              |
| <code>SERIAL#</code>    | <code>NUMBER</code>         | Serial number of the apply server's session                                                           |
| <code>APPLY#</code>     | <code>NUMBER</code>         | Apply process number. An apply process is an Oracle background process, prefixed by <code>ap</code> . |
| <code>APPLY_NAME</code> | <code>VARCHAR2 (128)</code> | Name of the apply process                                                                             |
| <code>SERVER_ID</code>  | <code>NUMBER</code>         | Parallel execution server number of the apply server                                                  |

| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATE            | VARCHAR2 (20) | <p>State of the apply server:</p> <ul style="list-style-type: none"> <li>INITIALIZING - Starting up</li> <li>IDLE - Performing no work</li> <li>RECORD LOW-WATERMARK - Performing an administrative job that maintains information about the apply progress, which is used in the ALL_APPLY_PROGRESS and DBA_APPLY_PROGRESS data dictionary views</li> <li>ADD PARTITION - Performing an administrative job that adds a partition that is used for recording information about in-progress transactions</li> <li>DROP PARTITION - Performing an administrative job that purges rows that were used to record information about in-progress transactions</li> <li>EXECUTE TRANSACTION - Applying a transaction</li> <li>WAIT COMMIT - Waiting to commit a transaction until all other transactions with a lower commit SCN are applied. This state is possible only if the COMMIT_SERIALIZATION apply process parameter is set to a value other than DEPENDENT_TRANSACTIONS and the PARALLELISM apply process parameter is set to a value greater than 1.</li> <li>WAIT DEPENDENCY - Waiting to apply a logical change record (LCR) in a transaction until another transaction, on which it has a dependency, is applied. This state is possible only if the PARALLELISM apply process parameter is set to a value greater than 1.</li> <li>ROLLBACK TRANSACTION - Rolling back a transaction</li> <li>TRANSACTION CLEANUP - Cleaning up an applied transaction, which includes removing LCRs from the apply process's queue</li> <li>WAIT FOR CLIENT - Waiting for an XStream client application to request more LCRs</li> <li>WAIT FOR NEXT CHUNK - Waiting for the next set of LCRs for a large transaction</li> </ul> |
| XIDUSN           | NUMBER        | Transaction ID undo segment number of the transaction currently being applied                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| XIDSLT           | NUMBER        | Transaction ID slot number of the transaction currently being applied                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| XIDSQN           | NUMBER        | Transaction ID sequence number of the transaction currently being applied                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMMITSCN        | NUMBER        | Commit system change number (SCN) of the transaction currently being applied                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| DEP_XIDUSN       | NUMBER        | Transaction ID undo segment number of a transaction on which the transaction being applied by this apply server depends                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DEP_XIDSLT       | NUMBER        | Transaction ID slot number of a transaction on which the transaction being applied by this apply server depends                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DEP_XIDSQN       | NUMBER        | Transaction ID sequence number of a transaction on which the transaction being applied by this apply server depends                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| DEP_COMMITSCN    | NUMBER        | Commit system change number (SCN) of the transaction on which this apply server depends                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| MESSAGE_SEQUENCE | NUMBER        | Number of the current message being applied by the apply server. This value is reset to 1 at the beginning of each transaction.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TOTAL_ASSIGNED   | NUMBER        | Total number of transactions assigned to the apply server since the apply process was last started                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Column                      | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TOTAL_ADMIN                 | NUMBER         | Total number of administrative jobs done by the apply server since the apply process was last started. See the <code>STATE</code> information in this view for the types of administrative jobs.                                                                                                                                                                                                                                                |
| TOTAL_ROLLBACKS             | NUMBER         | Number of transactions assigned to this server which were rolled back                                                                                                                                                                                                                                                                                                                                                                           |
| TOTAL_MESSAGES_APPLIED      | NUMBER         | Total number of messages applied by this apply server since the apply process was last started                                                                                                                                                                                                                                                                                                                                                  |
| APPLY_TIME                  | DATE           | Time the last message was applied                                                                                                                                                                                                                                                                                                                                                                                                               |
| APPLIED_MESSAGE_NUMBER      | NUMBER         | Number of the last message applied                                                                                                                                                                                                                                                                                                                                                                                                              |
| APPLIED_MESSAGE_CREATE_TIME | DATE           | Creation time at the source database of the last captured message applied. No information about user-enqueued messages is recorded in this column.                                                                                                                                                                                                                                                                                              |
| ELAPSED_DEQUEUE_TIME        | NUMBER         | Time elapsed (in hundredths of a second) dequeuing messages since the apply process was last started                                                                                                                                                                                                                                                                                                                                            |
| ELAPSED_APPLY_TIME          | NUMBER         | Time elapsed (in hundredths of a second) applying messages since the apply process was last started                                                                                                                                                                                                                                                                                                                                             |
| COMMIT_POSITION             | RAW (64)       | Commit position of the transaction. This column is populated only for an apply process that is functioning as an XStream outbound server or inbound server.                                                                                                                                                                                                                                                                                     |
| DEP_COMMIT_POSITION         | RAW (64)       | Commit position of the transaction the worker depends on. This column is populated only for an apply process that is functioning as an XStream inbound server.                                                                                                                                                                                                                                                                                  |
| LAST_APPLY_POSITION         | RAW (64)       | For inbound servers, the position of the last message applied; for outbound servers, the position of the last message sent to the XStream client application. This column is populated only for an apply process that is functioning as an XStream outbound server or inbound server.                                                                                                                                                           |
| TRANSACTION_ID              | VARCHAR2 (128) | Transaction ID that the worker is applying. This column is populated only for an apply process that is functioning as an XStream inbound server.                                                                                                                                                                                                                                                                                                |
| DEP_TRANSACTION_ID          | VARCHAR2 (128) | Transaction ID of the transaction the worker depends on. This column is populated only for an apply process that is functioning as an XStream inbound server.                                                                                                                                                                                                                                                                                   |
| CON_ID                      | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| TOTAL_LCRS_RETRIED          | NUMBER         | Total number of LCRs retried by this server                                                                                                                                                                                                                                                                                                                                                                                                     |
| LCR_RETRY_ITERATION         | NUMBER         | Retry iteration for this transaction by this server                                                                                                                                                                                                                                                                                                                                                                                             |
| TOTAL_TXNS_RETRIED          | NUMBER         | Total transactions retried by this server                                                                                                                                                                                                                                                                                                                                                                                                       |
| TXN_RETRY_ITERATION         | NUMBER         | Total retry iterations by this server                                                                                                                                                                                                                                                                                                                                                                                                           |
| TOTAL_TXNS_RECORDED         | NUMBER         | Total transactions recorded in error queue by this server                                                                                                                                                                                                                                                                                                                                                                                       |



**Note:**

The `ELAPSED_DEQUEUE_TIME` and `ELAPSED_APPLY_TIME` columns are only populated if the `TIMED_STATISTICS` initialization parameter is set to `true`, or if the `STATISTICS_LEVEL` initialization parameter is set to `TYPICAL` or `ALL`.

**See Also:**

- ["TIMED\\_STATISTICS"](#)
- ["STATISTICS\\_LEVEL"](#)

## 10.104 V\$STREAMS\_POOL\_ADVICE

`V$STREAMS_POOL_ADVICE` displays information about the estimated count of spilled or unspilled messages and the associated time spent in the spill or unspill activity for different Streams pool sizes. The sizes range from 10% to 200% of the current Streams pool size, in equal intervals. The value of the interval depends on the current size of the Streams pool.

| Column                                      | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>STREAMS_POOL_SIZE_FOR_ESTIMATE</code> | NUMBER   | Streams pool size (in megabytes) for the estimate. The size ranges from values smaller than the current Streams pool size to values larger than the current Streams pool size, and there is a separate row for each increment. There is always an entry that shows the current Streams pool size, and there are always 20 increments. The range and the size of the increments depend on the current size of the Streams pool.                        |
| <code>STREAMS_POOL_SIZE_FACTOR</code>       | NUMBER   | Size factor with respect to the current Streams pool size                                                                                                                                                                                                                                                                                                                                                                                             |
| <code>ESTD_SPILL_COUNT</code>               | NUMBER   | Estimated count of messages spilled from the Streams pool                                                                                                                                                                                                                                                                                                                                                                                             |
| <code>ESTD_SPILL_TIME</code>                | NUMBER   | Estimated elapsed time (in seconds) to spill                                                                                                                                                                                                                                                                                                                                                                                                          |
| <code>ESTD_UNSPILL_COUNT</code>             | NUMBER   | Estimated count of unspills (read back from disk)                                                                                                                                                                                                                                                                                                                                                                                                     |
| <code>ESTD_UNSPILL_TIME</code>              | NUMBER   | Estimated elapsed time (in seconds) to unspill                                                                                                                                                                                                                                                                                                                                                                                                        |
| <code>CON_ID</code>                         | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.105 V\$STREAMS\_POOL\_STATISTICS

`V$STREAMS_POOL_STATISTICS` displays information about the current Streams pool usage percentage.

| Column                 | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TOTAL_MEMORY_ALLOCATED | NUMBER   | Total memory allocated to the Streams pool (in bytes). It should always be less than the current size of the Streams pool. You can get the percentage of the Streams pool used by dividing <code>TOTAL_MEMORY_ALLOCATED</code> by <code>CURRENT_SIZE</code> .                                                                                                                                                                                   |
| CURRENT_SIZE           | NUMBER   | Current size of the Streams pool (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                     |
| SGA_TARGET_VALUE       | NUMBER   | Value of <code>SGA_TARGET</code> . Used to determine whether or not streams pool automatic tuning is enabled. This should be set even if <code>MEMORY_TARGET</code> is set and <code>SGA_TARGET</code> is not set.                                                                                                                                                                                                                              |
| SHRINK_PHASE           | NUMBER   | This only pertains to the Streams pool in an automatic tuning environment ( <code>SGA_TARGET</code> and <code>MEMORY_TARGET</code> set). In this case, this shows whether or not the Streams pool is being asked to shrink. During the shrink phase, enqueues are blocked, flow control is enabled for all components, and cached memory is returned to the SGA.                                                                                |
| ADVICE_DISABLED        | NUMBER   | This determines whether or not Streams pool advice in <code>V\$STREAMS_POOL_ADVICE</code> as well as all statistics gathering related to auto-tuning the Streams pool have been disabled.                                                                                                                                                                                                                                                       |
| CON_ID                 | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.106 V\$SUBCACHE

`V$SUBCACHE` displays information about the subordinate caches currently loaded into library cache memory. The view walks through the library cache, printing out a row for each loaded subordinate cache per library cache object.

| Column     | Datatype        | Description                                        |
|------------|-----------------|----------------------------------------------------|
| OWNER_NAME | VARCHAR2 (64)   | Owner of the object containing these cache entries |
| NAME       | VARCHAR2 (1000) | Object Name                                        |
| TYPE       | NUMBER          | Object Type                                        |
| HEAP_NUM   | NUMBER          | Heap number containing this subordinate cache      |
| CACHE_ID   | NUMBER          | Subordinate cache ID                               |
| CACHE_CNT  | NUMBER          | Number of entries for this cache in this object    |
| HEAP_SZ    | NUMBER          | Amount of extent space allocated to this heap      |
| HEAP_ALOC  | NUMBER          | Amount of extent space allocated from this heap    |
| HEAP_USED  | NUMBER          | Amount of space utilized in this heap              |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.107 V\$SUBSCR\_REGISTRATION\_STATS

V\$SUBSCR\_REGISTRATION\_STATS displays information for diagnosability of notifications.

| Column                   | Datatype                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REG_ID                   | NUMBER                      | Registration identifier                                                                                                                                                                                                                                                                                                                                                                                                                                |
| NUM_NTFNS                | NUMBER                      | Number of notifications                                                                                                                                                                                                                                                                                                                                                                                                                                |
| NUM_GROUPING_NTFNS       | NUMBER                      | Number of grouping notifications                                                                                                                                                                                                                                                                                                                                                                                                                       |
| NUM_NTFNS_CURRENT_GROUP  | NUMBER                      | Number of events received in the current group                                                                                                                                                                                                                                                                                                                                                                                                         |
| LAST_NTFN_START_TIME     | TIMESTAMP(3) WITH TIME ZONE | Time when the last notification was started                                                                                                                                                                                                                                                                                                                                                                                                            |
| LAST_NTFN_SENT_TIME      | TIMESTAMP(3) WITH TIME ZONE | Time when the last notification was sent                                                                                                                                                                                                                                                                                                                                                                                                               |
| TOTAL_EMON_LATENCY       | NUMBER                      | Total EMON latency (time taken by the EMON worker to process notifications)                                                                                                                                                                                                                                                                                                                                                                            |
| EMON#                    | NUMBER                      | Active EMON worker serving the registration                                                                                                                                                                                                                                                                                                                                                                                                            |
| ALL_EMON_SERVERS         | RAW(2000)                   | EMON workers that served the registration                                                                                                                                                                                                                                                                                                                                                                                                              |
| TOTAL_PAYLOAD_BYTES_SENT | NUMBER                      | Total payload bytes sent                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SHARD_ID                 | NUMBER                      | Shard number for current registration used for Key Based Messaging                                                                                                                                                                                                                                                                                                                                                                                     |
| NUM_RETRIES              | NUMBER                      | Number of retries in sending notifications                                                                                                                                                                                                                                                                                                                                                                                                             |
| TOTAL_PLSQL_EXEC_TIME    | NUMBER                      | Total PL/SQL callback execution time (relevant only for PL/SQL notifications)                                                                                                                                                                                                                                                                                                                                                                          |
| LAST_ERR                 | VARCHAR2(90)                | Last error message                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| LAST_ERR_TIME            | TIMESTAMP(3) WITH TIME ZONE | Time of the last error                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| LAST_UPDATE_TIME         | TIMESTAMP(3) WITH TIME ZONE | Time of the last update                                                                                                                                                                                                                                                                                                                                                                                                                                |
| NUM_PENDING_NTFNS        | NUMBER                      | Number of notifications pending to be sent                                                                                                                                                                                                                                                                                                                                                                                                             |
| TOTAL_PENDING_NTFN_BYTES | NUMBER                      | Total number of bytes for notifications pending to be sent                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID                   | NUMBER                      | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.108 V\$SYS\_OPTIMIZER\_ENV

V\$SYS\_OPTIMIZER\_ENV displays the contents of the optimizer environment for the instance. The optimizer environment stores the value of the main parameters used by the Oracle optimizer when building the execution plan of a SQL statement. Hence, modifying the value of one or more of these parameters (for example, by issuing an ALTER SYSTEM statement) could lead to plan changes.

The parameters displayed by this view are either regular initialization parameters (such as OPTIMIZER\_FEATURES\_ENABLE) or pseudo parameters (such as ACTIVE\_INSTANCE\_COUNT).

| Column        | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ID            | NUMBER        | Unique identifier of the parameter in the optimizer environment                                                                                                                                                                                                                                                                                                                                                               |
| NAME          | VARCHAR2 (40) | Name of the parameter                                                                                                                                                                                                                                                                                                                                                                                                         |
| SQL_FEATURE   | VARCHAR2 (64) | Associated feature control ID                                                                                                                                                                                                                                                                                                                                                                                                 |
| ISDEFAULT     | VARCHAR2 (3)  | Indicates whether the parameter is set to the default value (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                                 |
| VALUE         | VARCHAR2 (25) | Value of the parameter                                                                                                                                                                                                                                                                                                                                                                                                        |
| DEFAULT_VALUE | VARCHAR2 (25) | Default value of the parameter                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID        | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li>n: Where n is the applicable container ID for the rows containing data</li></ul> |



### See Also:

- "OPTIMIZER\_FEATURES\_ENABLE"
- "ACTIVE\_INSTANCE\_COUNT"

## 10.109 V\$SYS\_TIME\_MODEL

V\$SYS\_TIME\_MODEL displays the system-wide accumulated times for various operations. The time reported is the total elapsed or CPU time (in microseconds). Any timed operation will buffer at most 5 seconds of time data. Specifically, this means that if a timed operation (such as SQL execution) takes a long period of time to perform, the data published to this view is at most missing 5 seconds of the time accumulated for the operation.

The time values are 8-byte integers and can therefore hold approximately 580,000 years worth of time before wrapping. Background process time is not included in a statistic value unless the statistic is specifically for background processes.

| Column  | Datatype | Description                                 |
|---------|----------|---------------------------------------------|
| STAT_ID | NUMBER   | Statistic identifier for the time statistic |

| Column    | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STAT_NAME | VARCHAR2 (64) | Name of the statistic (see <a href="#">Table 10-1</a> )                                                                                                                                                                                                                                                                                                                                                                                     |
| VALUE     | NUMBER        | Amount of time (in microseconds) that the system has spent in this operation                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID    | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**Note:**

This view returns instance-wide data and a value of 0 in the CON\_ID column when queried from the root of a CDB.

## 10.110 V\$SYSAUX\_OCCUPANTS

V\$SYSAUX\_OCCUPANTS displays SYSAUX tablespace occupant information.

| Column              | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OCCUPANT_NAME       | VARCHAR2 (64) | Occupant name                                                                                                                                                                                                                                                                                                                                                                                                                               |
| OCCUPANT_DESC       | VARCHAR2 (64) | Occupant description                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SCHEMA_NAME         | VARCHAR2 (64) | Schema name for the occupant                                                                                                                                                                                                                                                                                                                                                                                                                |
| MOVE_PROCEDURE      | VARCHAR2 (64) | Name of the move procedure; null if not applicable                                                                                                                                                                                                                                                                                                                                                                                          |
| MOVE_PROCEDURE_DESC | VARCHAR2 (64) | Description of the move procedure                                                                                                                                                                                                                                                                                                                                                                                                           |
| SPACE_USAGE_KBYTES  | NUMBER        | Current space usage of the occupant (in KB)                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID              | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 10.111 V\$SYSMETRIC

V\$SYSMETRIC displays the system metric values captured for the most current time interval for both the long duration (60-second) and short duration (15-second) system metrics.

| Column     | Datatype | Description                |
|------------|----------|----------------------------|
| BEGIN_TIME | DATE     | Begin time of the interval |

| Column       | Datatype      | Description                                                                                                                                                                                                                                                                                                                                            |
|--------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| END_TIME     | DATE          | End time of the interval                                                                                                                                                                                                                                                                                                                               |
| INTSIZE_CSEC | NUMBER        | Interval size (in hundredths of a second)                                                                                                                                                                                                                                                                                                              |
| GROUP_ID     | NUMBER        | Metric group ID                                                                                                                                                                                                                                                                                                                                        |
| METRIC_ID    | NUMBER        | Metric ID                                                                                                                                                                                                                                                                                                                                              |
| METRIC_NAME  | VARCHAR2 (64) | Metric name                                                                                                                                                                                                                                                                                                                                            |
| VALUE        | NUMBER        | Metric value                                                                                                                                                                                                                                                                                                                                           |
| METRIC_UNIT  | VARCHAR2 (64) | Metric unit description                                                                                                                                                                                                                                                                                                                                |
| CON_ID       | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**See Also:**

- ["DBA\\_HIST\\_SYS\\_TIME\\_MODEL"](#)
- ["V\\$CON\\_SYSMETRIC"](#)
- ["DBA\\_HIST\\_CON\\_SYS\\_TIME\\_MODEL"](#)

## 10.112 V\$SYSMETRIC\_HISTORY

V\$SYSMETRIC\_HISTORY displays all system metric values available in the database. Both long duration (60-second with 1 hour history) and short duration (15-second with one-interval only) metrics are displayed by this view.

| Column       | Datatype      | Description                                                                                                                                                                                                                                                                                                                                            |
|--------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BEGIN_TIME   | DATE          | Begin time of the interval                                                                                                                                                                                                                                                                                                                             |
| END_TIME     | DATE          | End time of the interval                                                                                                                                                                                                                                                                                                                               |
| INTSIZE_CSEC | NUMBER        | Interval size (in hundredths of a second)                                                                                                                                                                                                                                                                                                              |
| GROUP_ID     | NUMBER        | Metric group ID                                                                                                                                                                                                                                                                                                                                        |
| METRIC_ID    | NUMBER        | Metric ID                                                                                                                                                                                                                                                                                                                                              |
| METRIC_NAME  | VARCHAR2 (64) | Metric name                                                                                                                                                                                                                                                                                                                                            |
| VALUE        | NUMBER        | Metric value                                                                                                                                                                                                                                                                                                                                           |
| METRIC_UNIT  | VARCHAR2 (64) | Metric unit description                                                                                                                                                                                                                                                                                                                                |
| CON_ID       | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

 **See Also:**

- ["DBA\\_HIST\\_SYSMETRIC\\_HISTORY"](#)
- ["V\\$CON\\_SYSMETRIC\\_HISTORY"](#)
- ["DBA\\_HIST\\_CON\\_SYSMETRIC\\_HIST"](#)

## 10.113 V\$SYSMETRIC\_SUMMARY

V\$SYSMETRIC\_SUMMARY displays a summary of all system metric values for the long-duration system metrics. The average, maximum value, minimum value, and the value of one standard deviation for the last hour are displayed for each metric item.

| Column             | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                |
|--------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BEGIN_TIME         | DATE          | Begin time of the interval                                                                                                                                                                                                                                                                                                                                 |
| END_TIME           | DATE          | End time of the interval                                                                                                                                                                                                                                                                                                                                   |
| INTSIZE_CSEC       | NUMBER        | Interval size (in hundredths of a second)                                                                                                                                                                                                                                                                                                                  |
| GROUP_ID           | NUMBER        | Metric group ID                                                                                                                                                                                                                                                                                                                                            |
| METRIC_ID          | NUMBER        | Metric ID                                                                                                                                                                                                                                                                                                                                                  |
| METRIC_NAME        | VARCHAR2 (64) | Metric name                                                                                                                                                                                                                                                                                                                                                |
| NUM_INTERVAL       | NUMBER        | Number of intervals observed                                                                                                                                                                                                                                                                                                                               |
| MAXVAL             | NUMBER        | Maximum value observed                                                                                                                                                                                                                                                                                                                                     |
| MINVAL             | NUMBER        | Minimum value observed                                                                                                                                                                                                                                                                                                                                     |
| AVERAGE            | NUMBER        | Average value over the period                                                                                                                                                                                                                                                                                                                              |
| STANDARD_DEVIATION | NUMBER        | One standard deviation                                                                                                                                                                                                                                                                                                                                     |
| METRIC_UNIT        | VARCHAR2 (64) | Metric unit description                                                                                                                                                                                                                                                                                                                                    |
| CON_ID             | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

 **See Also:**

- ["DBA\\_HIST\\_SYSMETRIC\\_SUMMARY"](#)
- ["V\\$CON\\_SYSMETRIC\\_SUMMARY"](#)
- ["DBA\\_HIST\\_CON\\_SYSMETRIC\\_SUMM"](#)

## 10.114 V\$SYSSTAT

V\$SYSSTAT displays system statistics. To find the name of the statistic associated with each statistic number (STATISTIC#), query the V\$STATNAME view.

| Column     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATISTIC# | NUMBER        | Statistic number<br><b>Note:</b> Statistics numbers are not guaranteed to remain constant from one release to another. Therefore, you should rely on the statistics name rather than its number in your applications.                                                                                                                                                                                                                             |
| NAME       | VARCHAR2 (64) | Statistic name. You can get a complete listing of statistic names by querying the V\$STATNAME view.                                                                                                                                                                                                                                                                                                                                               |
| CLASS      | NUMBER        | A number representing one or more statistics class. The following class numbers are additive: <ul style="list-style-type: none"><li>• 1 - User</li><li>• 2 - Redo</li><li>• 4 - Enqueue</li><li>• 8 - Cache</li><li>• 16 - OS</li><li>• 32 - Real Application Clusters</li><li>• 64 - SQL</li><li>• 128 - Debug</li><li>• 256 - Instance level</li></ul>                                                                                          |
| VALUE      | NUMBER        | Statistic value                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| STAT_ID    | NUMBER        | Identifier of the statistic                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CON_ID     | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |



### Note:

This view returns instance-wide data and a value of 0 in the CON\_ID column when queried from the root of a CDB.



### See Also:

"V\$STATNAME" and " [Statistics Descriptions](#)"



## 10.115 V\$SYSTEM\_CURSOR\_CACHE

V\$SYSTEM\_CURSOR\_CACHE displays system wide information on cursor usage.



**See Also:**

["V\\$SESSION\\_CURSOR\\_CACHE"](#)

| Column    | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OPENS     | NUMBER   | Cumulative total of cursor opens                                                                                                                                                                                                                                                                                                                                                                                                            |
| HITS      | NUMBER   | Cumulative total of cursor open hits                                                                                                                                                                                                                                                                                                                                                                                                        |
| HIT_RATIO | NUMBER   | Ratio of the number of times an open cursor was found divided by the number of times a cursor was sought                                                                                                                                                                                                                                                                                                                                    |
| CON_ID    | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 10.116 V\$SYSTEM\_EVENT

V\$SYSTEM\_EVENT displays information on total waits for an event. Note that the `TIME_WAITED` and `AVERAGE_WAIT` columns will contain a value of zero on those platforms that do not support a fast timing mechanism. If you are running on one of these platforms and you want this column to reflect true wait times, then you must set `TIMED_STATISTICS` to `TRUE` in the parameter file; doing this will have a small negative effect on system performance.



**See Also:**

["TIMED\\_STATISTICS"](#)

| Column            | Datatype      | Description                                                                                                                             |
|-------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| EVENT             | VARCHAR2 (64) | Name of the wait event; derived statistic name from <code>V\$EVENT_NAME</code><br><b>See Also:</b> <a href="#">"Oracle Wait Events"</a> |
| TOTAL_WAITS       | NUMBER        | Total number of waits for the event                                                                                                     |
| TOTAL_TIMEOUTS    | NUMBER        | Total number of timeouts for the event                                                                                                  |
| TIME_WAITED       | NUMBER        | Total amount of time waited for the event (in hundredths of a second)                                                                   |
| AVERAGE_WAIT      | NUMBER        | Average amount of time waited for the event (in hundredths of a second)                                                                 |
| TIME_WAITED_MICRO | NUMBER        | Total amount of time waited for the event (in microseconds)                                                                             |

| Column               | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU                  | NUMBER        | Total amount of CPU time consumed while implementing the wait event itself (in microseconds)                                                                                                                                                                                                                                                                                                                                                    |
| TOTAL_WAITS_FG       | NUMBER        | Total number of waits for the event, from foreground sessions                                                                                                                                                                                                                                                                                                                                                                                   |
| TOTAL_TIMEOUTS_FG    | NUMBER        | Total number of timeouts for the event, from foreground sessions                                                                                                                                                                                                                                                                                                                                                                                |
| TIME_WAITED_FG       | NUMBER        | Total amount of time waited for the event, from foreground sessions (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                 |
| AVERAGE_WAIT_FG      | NUMBER        | Average amount of time waited for the event, from foreground sessions (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                               |
| TIME_WAITED_MICRO_FG | NUMBER        | Total amount of time waited for the event, from foreground sessions (in microseconds)                                                                                                                                                                                                                                                                                                                                                           |
| CPU_FG               | NUMBER        | Total amount of CPU time consumed while implementing the wait event itself, from foreground sessions (in microseconds)                                                                                                                                                                                                                                                                                                                          |
| EVENT_ID             | NUMBER        | Identifier of the wait event                                                                                                                                                                                                                                                                                                                                                                                                                    |
| WAIT_CLASS_ID        | NUMBER        | Identifier of the wait class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                  |
| WAIT_CLASS#          | NUMBER        | Number of the wait class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                      |
| WAIT_CLASS           | VARCHAR2 (64) | Name of the wait class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                        |
| CON_ID               | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**Note:**

This view returns instance-wide data and a value of 0 in the CON\_ID column when queried from the root of a CDB.

## 10.117 V\$SYSTEM\_FIX\_CONTROL

V\$SYSTEM\_FIX\_CONTROL displays information about Fix Control (enabled/disabled) at the system level.

| Column                   | Datatype      | Description                                                |
|--------------------------|---------------|------------------------------------------------------------|
| BUGNO                    | NUMBER        | Bug number (as fix control identifier)                     |
| VALUE                    | NUMBER        | Current value set for the fix control                      |
| SQL_FEATURE              | VARCHAR2 (64) | Feature control ID                                         |
| DESCRIPTION              | VARCHAR2 (64) | Description of the fix control                             |
| OPTIMIZER_FEATURE_ENABLE | VARCHAR2 (25) | Version on (and after) which the fix is enabled by default |
| EVENT                    | NUMBER        | Event formerly used to control this fix                    |

| Column     | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IS_DEFAULT | NUMBER   | Indicates whether the current value is the same as the default (1) or not (0)                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID     | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.118 V\$SYSTEM\_PARAMETER

V\$SYSTEM\_PARAMETER displays information about the initialization parameters that are currently in effect for the instance. A new session inherits parameter values from the instance-wide values.

| Column           | Datatype        | Description                                                                                                                                                                                                                                                                                              |
|------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM              | NUMBER          | Parameter number                                                                                                                                                                                                                                                                                         |
| NAME             | VARCHAR2 (80)   | Name of the parameter                                                                                                                                                                                                                                                                                    |
| TYPE             | NUMBER          | <p>Parameter type:</p> <ul style="list-style-type: none"> <li>1 - Boolean</li> <li>2 - String</li> <li>3 - Integer</li> <li>4 - Parameter file</li> <li>5 - Reserved</li> <li>6 - Big integer</li> </ul>                                                                                                 |
| VALUE            | VARCHAR2 (4000) | Instance-wide parameter value                                                                                                                                                                                                                                                                            |
| DISPLAY_VALUE    | VARCHAR2 (4000) | Parameter value in a user-friendly format. For example, if the VALUE column shows the value 262144 for a big integer parameter, then the DISPLAY_VALUE column will show the value 256K.                                                                                                                  |
| DEFAULT_VALUE    | VARCHAR2 (255)  | The default value for this parameter. This is the value of the parameter if a value is not explicitly specified for the parameter.                                                                                                                                                                       |
| ISDEFAULT        | VARCHAR2 (9)    | <p>Indicates whether the parameter is set to the default value (TRUE) or the parameter value was specified in the parameter file (FALSE)</p> <p>The database sets the value of the ISDEFAULT column to TRUE for parameters that are not specified in the init.ora or server parameter file (SPFILE).</p> |
| ISSES_MODIFIABLE | VARCHAR2 (5)    | Indicates whether the parameter can be changed with ALTER SESSION (TRUE) or not (FALSE)                                                                                                                                                                                                                  |

| Column                | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ISSYS_MODIFIABLE      | VARCHAR2 (9)   | <p>Indicates whether the parameter can be changed with ALTER SYSTEM and when the change takes effect:</p> <ul style="list-style-type: none"> <li>IMMEDIATE - Parameter can be changed with ALTER SYSTEM regardless of the type of parameter file used to start the instance. The change takes effect immediately.</li> <li>DEFERRED - Parameter can be changed with ALTER SYSTEM regardless of the type of parameter file used to start the instance. The change takes effect in subsequent sessions.</li> <li>FALSE - Parameter cannot be changed with ALTER SYSTEM unless a server parameter file was used to start the instance. The change takes effect in subsequent instances.</li> </ul> |
| ISPDB_MODIFIABLE      | VARCHAR2 (5)   | <p>Indicates whether the parameter can be modified inside a PDB (TRUE) or not (FALSE).</p> <p>In a non-CDB, the value of this column is NULL.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| ISINSTANCE_MODIFIABLE | VARCHAR2 (5)   | <p>For parameters that can be changed with ALTER SYSTEM, indicates whether the value of the parameter can be different for every instance (TRUE) or whether the parameter must have the same value for all Real Application Clusters instances (FALSE). If the ISSYS_MODIFIABLE column is FALSE, then this column is always FALSE.</p>                                                                                                                                                                                                                                                                                                                                                          |
| ISMODIFIED            | VARCHAR2 (8)   | <p>Indicates how the parameter was modified. If an ALTER SYSTEM was performed, the value will be MODIFIED.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ISADJUSTED            | VARCHAR2 (5)   | <p>Indicates whether Oracle adjusted the input value to a more suitable value (for example, the parameter value should be prime, but the user input a non-prime number, so Oracle adjusted the value to the next prime number)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ISDEPRECATED          | VARCHAR2 (5)   | <p>Indicates whether the parameter has been deprecated (TRUE) or not (FALSE)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| ISBASIC               | VARCHAR2 (5)   | <p>Indicates whether the parameter is a basic parameter (TRUE) or not (FALSE)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DESCRIPTION           | VARCHAR2 (255) | Description of the parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| UPDATE_COMMENT        | VARCHAR2 (255) | Comments associated with the most recent update                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| HASH                  | NUMBER         | Hash value for the parameter name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID                | NUMBER         | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul>                                                                                                                                                                                                                                                        |



#### See Also:

"V\$PARAMETER" for information about initialization parameters that are currently in effect for a session

## 10.119 V\$SYSTEM\_PARAMETER2

V\$SYSTEM\_PARAMETER2 displays information about the initialization parameters that are currently in effect for the instance, with each list parameter value appearing as a row in the view. A new session inherits parameter values from the instance-wide values.

Presenting the list parameter values in this format enables you to quickly determine the values for a list parameter. For example, if a parameter value is a, b, then the V\$SYSTEM\_PARAMETER view does not tell you if the parameter has two values (both a and b) or one value (a, b).

V\$SYSTEM\_PARAMETER2 makes the distinction between the list parameter values clear.

| Column                | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NUM                   | NUMBER          | Parameter number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| NAME                  | VARCHAR2 (80)   | Name of the parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TYPE                  | NUMBER          | Parameter type: <ul style="list-style-type: none"> <li>1 - Boolean</li> <li>2 - String</li> <li>3 - Integer</li> <li>4 - Parameter file</li> <li>5 - Reserved</li> <li>6 - Big integer</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| VALUE                 | VARCHAR2 (4000) | Parameter value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DISPLAY_VALUE         | VARCHAR2 (4000) | Parameter value in a user-friendly format. For example, if the VALUE column shows the value 262144 for a big integer parameter, then the DISPLAY_VALUE column will show the value 256K.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ISDEFAULT             | VARCHAR2 (6)    | Indicates whether the parameter is set to the default value (TRUE) or the parameter value was specified in the parameter file (FALSE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ISSES_MODIFIABLE      | VARCHAR2 (5)    | Indicates whether the parameter can be changed with ALTER SESSION (TRUE) or not (FALSE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ISSYS_MODIFIABLE      | VARCHAR2 (9)    | Indicates whether the parameter can be changed with ALTER SYSTEM and when the change takes effect: <ul style="list-style-type: none"> <li>IMMEDIATE - Parameter can be changed with ALTER SYSTEM regardless of the type of parameter file used to start the instance. The change takes effect immediately.</li> <li>DEFERRED - Parameter can be changed with ALTER SYSTEM regardless of the type of parameter file used to start the instance. The change takes effect in subsequent sessions.</li> <li>FALSE - Parameter cannot be changed with ALTER SYSTEM unless a server parameter file was used to start the instance. The change takes effect in subsequent instances.</li> </ul> |
| ISPDB_MODIFIABLE      | VARCHAR2 (5)    | Indicates whether the parameter can be modified on a per-PDB basis (TRUE) or not (FALSE).<br>In a non-CDB, the value of this column is NULL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ISINSTANCE_MODIFIABLE | VARCHAR2 (5)    | For parameters that can be changed with ALTER SYSTEM, indicates whether the value of the parameter can be different for every instance (TRUE) or whether the parameter must have the same value for all Real Application Clusters instances (FALSE). If the ISSYS_MODIFIABLE column is FALSE, then this column is always FALSE.                                                                                                                                                                                                                                                                                                                                                          |
| ISMODIFIED            | VARCHAR2 (8)    | Indicates how the parameter was modified. If an ALTER SYSTEM was performed, the value will be MODIFIED.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| Column         | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ISADJUSTED     | VARCHAR2 (5)   | Indicates whether Oracle adjusted the input value to a more suitable value (for example, the parameter value should be prime, but the user input a non-prime number, so Oracle adjusted the value to the next prime number)                                                                                                                                                                                                                     |
| ISDEPRECATED   | VARCHAR2 (5)   | Indicates whether the parameter has been deprecated ( <b>TRUE</b> ) or not ( <b>FALSE</b> )                                                                                                                                                                                                                                                                                                                                                     |
| ISBASIC        | VARCHAR2 (5)   | Indicates whether the parameter is a basic parameter ( <b>TRUE</b> ) or not ( <b>FALSE</b> )                                                                                                                                                                                                                                                                                                                                                    |
| DESCRIPTION    | VARCHAR2 (255) | Description of the parameter                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ORDINAL        | NUMBER         | Position (ordinal number) of the parameter value. Useful only for parameters whose values are lists of strings.                                                                                                                                                                                                                                                                                                                                 |
| UPDATE_COMMENT | VARCHAR2 (255) | Comments associated with the most recent update                                                                                                                                                                                                                                                                                                                                                                                                 |
| HASH           | NUMBER         | Hash value for the parameter name                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID         | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$SYSTEM\_PARAMETER"

## 10.120 V\$SYSTEM\_WAIT\_CLASS

V\$SYSTEM\_WAIT\_CLASS displays the instance-wide time totals for each registered wait class.

| Column            | Datatype      | Description                                                                                                    |
|-------------------|---------------|----------------------------------------------------------------------------------------------------------------|
| WAIT_CLASS_ID     | NUMBER        | Identifier of the wait class                                                                                   |
| WAIT_CLASS#       | NUMBER        | Number of the wait class                                                                                       |
| WAIT_CLASS        | VARCHAR2 (64) | Name of the wait class                                                                                         |
| TOTAL_WAITS       | NUMBER        | Total number of waits from this wait class                                                                     |
| TIME_WAITED       | NUMBER        | Total amount of time spent in waits from this wait class (in hundredths of a second)                           |
| TIME_WAITED_MICRO | NUMBER        | Total amount of time spent in waits from this wait class (in microseconds)                                     |
| CPU               | NUMBER        | Total amount of CPU time consumed while implementing waits from this wait class (in microseconds)              |
| TOTAL_WAITS_FG    | NUMBER        | Total number of waits for this wait class, from foreground sessions                                            |
| TIME_WAITED_FG    | NUMBER        | Total amount of time spent in waits from this wait class, from foreground sessions (in hundredths of a second) |

| Column               | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TIME_WAITED_MICRO_FG | NUMBER   | Total amount of time spent in waits from this wait class, from foreground sessions (in microseconds)                                                                                                                                                                                                                                                                                                                                              |
| CPU_FG               | NUMBER   | Total amount of CPU time consumed while implementing waits from this wait class, from foreground sessions (in microseconds)                                                                                                                                                                                                                                                                                                                       |
| CON_ID               | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**Note:**

This view returns instance-wide data and a value of 0 in the CON\_ID column when queried from the root of a CDB.

## 10.121 V\$TABLE\_ACCESS\_STATS

V\$TABLE\_ACCESS\_STATS displays the scan count for tables and partitions.

The scan data collection begins at instance startup.

| Column             | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT_ID          | NUMBER       | Object ID of the table or partition                                                                                                                                                                                                                                                                                                                                                                                                               |
| READ_COUNT         | NUMBER       | Aggregated scan count since instance startup                                                                                                                                                                                                                                                                                                                                                                                                      |
| LAST_ACCESSED_TIME | TIMESTAMP(0) | Date and time of the most recent scan                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID             | NUMBER       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

## 10.122 V\$TABLESPACE

V\$TABLESPACE displays tablespace information from the control file.

| Column                      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TS#                         | NUMBER        | Tablespace number                                                                                                                                                                                                                                                                                                                                                                                                                               |
| NAME                        | VARCHAR2 (30) | Tablespace name                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| INCLUDED_IN_DATABASE_BACKUP | VARCHAR2 (3)  | Indicates whether the tablespace is included in full database backups using the <code>BACKUP DATABASE RMAN</code> command (YES) or not (NO); NO only if the <code>CONFIGURE EXCLUDE RMAN</code> command was used for this tablespace                                                                                                                                                                                                            |
| BIGFILE                     | VARCHAR2 (3)  | Indicates whether the tablespace is a bigfile tablespace (YES) or a smallfile tablespace (NO)                                                                                                                                                                                                                                                                                                                                                   |
| FLASHBACK_ON                | VARCHAR2 (3)  | Indicates whether the tablespace participates in <code>FLASHBACK DATABASE</code> operations (YES) or not (NO)                                                                                                                                                                                                                                                                                                                                   |
| ENCRYPT_IN_BACKUP           | VARCHAR2 (3)  | Indicates whether encryption is turned ON or off at the tablespace level: <ul style="list-style-type: none"> <li>ON - Encryption is turned ON at the tablespace level</li> <li>OFF - Encryption is turned OFF at the tablespace level</li> <li>NULL - Encryption is neither explicitly turned on nor off at the tablespace level (default or when cleared)</li> </ul>                                                                           |
| CON_ID                      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.123 V\$TDM\_STATS

V\$TDM\_STATS describes statistics for Oracle Connection Manager in Traffic Director Mode (CMAN-TDM).

| Column                        | Datatype        | Description                                                                                                                                                        |
|-------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CMAN_ID                       | VARCHAR2 (1024) | CMAN-TDM host name                                                                                                                                                 |
| GATEWAY_ID                    | NUMBER          | Index of the gateway process of CMAN-TDM                                                                                                                           |
| SERVICE_NAME                  | VARCHAR2 (1024) | Reserved for future use                                                                                                                                            |
| PRCP_NUM_REQUESTS             | NUMBER          | Number of client requests that resulted in acquire on the Proxy Resident Connection Pool (PRCP)                                                                    |
| PRCP_NUM_BUSY_CONNECTIONS     | NUMBER          | Number of busy server connections in the PRCP                                                                                                                      |
| PRCP_NUM_OPEN_CONNECTIONS     | NUMBER          | Number of busy and free server connections in the PRCP                                                                                                             |
| PRCP_HISTORIC_MAX_CONNECTIONS | NUMBER          | Maximum size (number of connections) that the PRCP has ever reached                                                                                                |
| PRCP_NUM_WAITS                | NUMBER          | Total number of client requests that waited due to unavailability of free server connections in the PRCP<br>This value accumulates since the start of the process. |
| PRCP_NUM_WAITS_ACTIVE         | NUMBER          | Number of active client requests currently waiting due to unavailability of free server connections in the PRCP                                                    |
| PRCP_NUM_HITS                 | NUMBER          | Total number of times that client requests found matches in the PRCP                                                                                               |



| Column                       | Datatype                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRCP_NUM_INBOUND_CONNECTIONS | NUMBER                      | Total Number of active client connections for the PRCP                                                                                                                                                                                                                                                                                                                                                                                            |
| EDITION                      | VARCHAR2(1024)              | Database edition name associated with the PRCP                                                                                                                                                                                                                                                                                                                                                                                                    |
| UPDATED_TIME                 | TIMESTAMP(6) WITH TIME ZONE | Date and time at which the statistics were uploaded to the PDB                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID                       | NUMBER                      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**Note:**

This view is available starting with Oracle Database 23ai.

## 10.124 V\$TEMP\_CACHE\_TRANSFER

V\$TEMP\_CACHE\_TRANSFER is deprecated. The information that was provided in this view is now provided in the V\$INSTANCE\_CACHE\_TRANSFER and V\$SEGMENT\_STATISTICS views.

| Column                | Datatype | Description                                                                 |
|-----------------------|----------|-----------------------------------------------------------------------------|
| FILE_NUMBER           | NUMBER   | Number of the temp file                                                     |
| X_2_NULL              | NUMBER   | Number of blocks with Exclusive-to-NULL conversions; always 0               |
| X_2_NULL_FORCED_WRITE | NUMBER   | Number of Exclusive-to-NULL forced writes; always 0                         |
| X_2_NULL_FORCED_STALE | NUMBER   | Number of Exclusive-to-NULL blocks converted to CR; always 0                |
| X_2_S                 | NUMBER   | Number of blocks with Exclusive-to-Shared conversions; always 0             |
| X_2_S_FORCED_WRITE    | NUMBER   | Number of Exclusive-to-Shared forced writes; always 0                       |
| S_2_NULL              | NUMBER   | Number of blocks with Shared-to-NULL conversions; always 0                  |
| S_2_NULL_FORCED_STALE | NUMBER   | Number of Shared-to-NULL blocks converted to CR; always 0                   |
| RBR                   | NUMBER   | Number of reuse blocks cross-instance calls; always 0                       |
| RBR_FORCED_WRITE      | NUMBER   | Number of blocks written due to reuse blocks cross-instance calls; always 0 |
| NULL_2_X              | NUMBER   | Number of blocks with NULL-to-Exclusive conversions; always 0               |
| S_2_X                 | NUMBER   | Number of blocks with Shared-to-Exclusive conversions; always 0             |
| NULL_2_S              | NUMBER   | Number of blocks with NULL-to-Shared conversions; always 0                  |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

- "V\$INSTANCE\_CACHE\_TRANSFER"
- "V\$SEGMENT\_STATISTICS"

## 10.125 V\$TEMP\_EXTENT\_MAP

V\$TEMP\_EXTENT\_MAP displays the status of each unit for all LOCALLY MANAGED temporary tablespaces.

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABLESPACE_NAME | VARCHAR2 (30) | NOT NULL | Name of the tablespace this unit belongs to                                                                                                                                                                                                                                                                                                                                                                                                            |
| FILE_ID         | NUMBER        |          | Absolute file number                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| BLOCK_ID        | NUMBER        |          | Begin block number for this unit                                                                                                                                                                                                                                                                                                                                                                                                                       |
| BYTES           | NUMBER        |          | Bytes in the extent                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| BLOCKS          | NUMBER        |          | Blocks in the extent                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| OWNER           | NUMBER        |          | Instance which owns this unit                                                                                                                                                                                                                                                                                                                                                                                                                          |
| RELATIVE_FNO    | NUMBER        |          | Relative file number                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID          | NUMBER        |          | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.126 V\$TEMP\_EXTENT\_POOL

V\$TEMP\_EXTENT\_POOL displays the state of temporary space cached and used for the instance. Note that loading of the temporary space cache is lazy and that instances can be dormant.

| Column          | Datatype      | NULL     | Description            |
|-----------------|---------------|----------|------------------------|
| TABLESPACE_NAME | VARCHAR2 (30) | NOT NULL | Name of the tablespace |

| Column         | Datatype | NULL | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------|----------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE_ID        | NUMBER   |      | Absolute file number                                                                                                                                                                                                                                                                                                                                                                                                                              |
| EXTENTS_CACHED | NUMBER   |      | Number of extents that have been cached                                                                                                                                                                                                                                                                                                                                                                                                           |
| EXTENTS_USED   | NUMBER   |      | Number of extents that are actually being used                                                                                                                                                                                                                                                                                                                                                                                                    |
| BLOCKS_CACHED  | NUMBER   |      | Number of blocks that are cached                                                                                                                                                                                                                                                                                                                                                                                                                  |
| BLOCKS_USED    | NUMBER   |      | Number of blocks that are used                                                                                                                                                                                                                                                                                                                                                                                                                    |
| BYTES_CACHED   | NUMBER   |      | Number of bytes that are cached                                                                                                                                                                                                                                                                                                                                                                                                                   |
| BYTES_USED     | NUMBER   |      | Number of bytes that are used                                                                                                                                                                                                                                                                                                                                                                                                                     |
| RELATIVE_FNO   | NUMBER   |      | Relative file number                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CON_ID         | NUMBER   |      | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 10.127 V\$TEMP\_SPACE\_HEADER

V\$TEMP\_SPACE\_HEADER displays aggregate information per file per LOCALLY MANAGED temporary tablespace regarding how much space is currently being used and how much is free as identified in the space header.

| Column          | Datatype      | NULL     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|---------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TABLESPACE_NAME | VARCHAR2 (30) | NOT NULL | Name of the temporary tablespace                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FILE_ID         | NUMBER        |          | Absolute file number                                                                                                                                                                                                                                                                                                                                                                                                                              |
| BYTES_USED      | NUMBER        |          | How many bytes are in use                                                                                                                                                                                                                                                                                                                                                                                                                         |
| BLOCKS_USED     | NUMBER        |          | How many blocks are in use                                                                                                                                                                                                                                                                                                                                                                                                                        |
| BYTES_FREE      | NUMBER        |          | How many bytes are free                                                                                                                                                                                                                                                                                                                                                                                                                           |
| BLOCKS_FREE     | NUMBER        |          | How many blocks are free                                                                                                                                                                                                                                                                                                                                                                                                                          |
| RELATIVE_FNO    | NUMBER        |          | The relative file number for the file                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID          | NUMBER        |          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 10.128 V\$TEMPFILE

V\$TEMPFILE displays temp file information.

| Column           | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILE#            | NUMBER         | Absolute file number                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CREATION_CHANGE# | NUMBER         | Creation System Change Number (SCN)                                                                                                                                                                                                                                                                                                                                                                                                             |
| CREATION_TIME    | DATE           | Creation time                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TS#              | NUMBER         | Tablespace number                                                                                                                                                                                                                                                                                                                                                                                                                               |
| RFILE#           | NUMBER         | Relative file number in the tablespace                                                                                                                                                                                                                                                                                                                                                                                                          |
| STATUS           | VARCHAR2 (7)   | Status of the file (OFFLINE ONLINE)                                                                                                                                                                                                                                                                                                                                                                                                             |
| ENABLED          | VARCHAR2 (10)  | Enabled for read and/or write                                                                                                                                                                                                                                                                                                                                                                                                                   |
| BYTES            | NUMBER         | Size of the file in bytes (from the file header)                                                                                                                                                                                                                                                                                                                                                                                                |
| BLOCKS           | NUMBER         | Size of the file in blocks (from the file header)                                                                                                                                                                                                                                                                                                                                                                                               |
| CREATE_BYTES     | NUMBER         | Creation size of the file (in bytes)                                                                                                                                                                                                                                                                                                                                                                                                            |
| BLOCK_SIZE       | NUMBER         | Block size for the file                                                                                                                                                                                                                                                                                                                                                                                                                         |
| NAME             | VARCHAR2 (513) | Name of the file                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID           | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.129 V\$TEMPORARY\_LOBS

V\$TEMPORARY\_LOBS displays information about temporary and abstract LOBs.

| Column        | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SID           | NUMBER   | Session ID                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CACHE_LOBS    | NUMBER   | Number of cache temp LOBs                                                                                                                                                                                                                                                                                                                                                                                                                       |
| NOCACHE_LOBS  | NUMBER   | Number of nocache temp LOBs                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ABSTRACT_LOBS | NUMBER   | Number of abstract LOBs                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CON_ID        | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.130 V\$TEMPSEG\_USAGE

V\$TEMPSEG\_USAGE describes temporary segment usage.

| Column         | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USERNAME       | VARCHAR2 (128) | User who requested temporary space                                                                                                                                                                                                                                                                                                                                                                                                                    |
| USER           | VARCHAR2 (128) | This column is obsolete and maintained for backward compatibility. The value of this column is always equal to the value in USERNAME.                                                                                                                                                                                                                                                                                                                 |
| SESSION_ADDR   | RAW (4   8)    | Session address                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SESSION_NUM    | NUMBER         | Serial number of session                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SQLADDR        | RAW (4   8)    | Address of SQL statement                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SQLHASH        | NUMBER         | Hash value of SQL statement                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SQL_ID         | VARCHAR2 (13)  | SQL identifier of SQL statement                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TABLESPACE     | VARCHAR2 (30)  | Tablespace in which space is allocated                                                                                                                                                                                                                                                                                                                                                                                                                |
| CONTENTS       | VARCHAR2 (9)   | Indicates whether tablespace is TEMPORARY or PERMANENT                                                                                                                                                                                                                                                                                                                                                                                                |
| SEGTYPE        | VARCHAR2 (9)   | Type of sort segment: <ul style="list-style-type: none"> <li>• SORT</li> <li>• HASH</li> <li>• DATA</li> <li>• INDEX</li> <li>• LOB_DATA</li> <li>• LOB_INDEX</li> </ul>                                                                                                                                                                                                                                                                              |
| SEGFILE#       | NUMBER         | File number of initial extent                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SEGBLK#        | NUMBER         | Block number of the initial extent                                                                                                                                                                                                                                                                                                                                                                                                                    |
| EXTENTS        | NUMBER         | Extents allocated to the sort                                                                                                                                                                                                                                                                                                                                                                                                                         |
| BLOCKS         | NUMBER         | Extents in blocks allocated to the sort                                                                                                                                                                                                                                                                                                                                                                                                               |
| SEGRFNO#       | NUMBER         | Relative file number of initial extent                                                                                                                                                                                                                                                                                                                                                                                                                |
| TS#            | NUMBER         | Tablespace number                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID         | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| SQL_ID_TEMPSEG | VARCHAR2 (13)  | SQL identifier of the SQL statement that created the temporary segment                                                                                                                                                                                                                                                                                                                                                                                |

## 10.131 V\$TEMPSTAT

V\$TEMPSTAT displays information about file read/write statistics.

| Column   | Datatype | Description                               |
|----------|----------|-------------------------------------------|
| FILE#    | NUMBER   | Number of the file                        |
| PHYRDS   | NUMBER   | Number of physical reads done             |
| PHYWRTS  | NUMBER   | Number of times DBWR is required to write |
| PHYBLKRD | NUMBER   | Number of physical blocks read            |

| Column         | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PHYBLKWRT      | NUMBER   | Number of blocks written to disk, which may be the same as PHYWRTS if all writes are single blocks                                                                                                                                                                                                                                                                                                                                              |
| SINGLEBLKRDS   | NUMBER   | Number of single block reads                                                                                                                                                                                                                                                                                                                                                                                                                    |
| READTIM        | NUMBER   | Time (in hundredths of a second) spent doing reads if the TIMED_STATISTICS parameter is true; 0 if false                                                                                                                                                                                                                                                                                                                                        |
| WRITETIM       | NUMBER   | Time (in hundredths of a second) spent doing writes if the TIMED_STATISTICS parameter is true; 0 if false                                                                                                                                                                                                                                                                                                                                       |
| SINGLEBLKRDTIM | NUMBER   | Cumulative single block read time (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                   |
| AVGIOTIM       | NUMBER   | Average time (in hundredths of a second) spent on I/O, if the TIMED_STATISTICS parameter is true; 0 if false                                                                                                                                                                                                                                                                                                                                    |
| LSTIOTIM       | NUMBER   | Time (in hundredths of a second) spent doing the last I/O, if the TIMED_STATISTICS parameter is true; 0 if false                                                                                                                                                                                                                                                                                                                                |
| MINIOTIM       | NUMBER   | Minimum time (in hundredths of a second) spent on a single I/O, if the TIMED_STATISTICS parameter is true; 0 if false                                                                                                                                                                                                                                                                                                                           |
| MAXIORTM       | NUMBER   | Maximum time (in hundredths of a second) spent doing a single read, if the TIMED_STATISTICS parameter is true; 0 if false                                                                                                                                                                                                                                                                                                                       |
| MAXIOWTM       | NUMBER   | Maximum time (in hundredths of a second) spent doing a single write, if the TIMED_STATISTICS parameter is true; 0 if false                                                                                                                                                                                                                                                                                                                      |
| CON_ID         | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"TIMED\_STATISTICS"

## 10.132 V\$TEMPUNDOSTAT

V\$TEMPUNDOSTAT shows various statistics related to the temporary undo log for this database instance. It displays a histogram of statistical data to show how the system is working. Each row in the view keeps statistics collected in the instance for a 10-minute interval. The rows are in the descending order of the BEGIN\_TIME column value. This view contains a total of 576 rows, spanning a 4-day cycle. This view is similar to the V\$UNDOSTAT view.

| Column     | Datatype | Description                                   |
|------------|----------|-----------------------------------------------|
| BEGIN_TIME | DATE     | Identifies the beginning of the time interval |
| END_TIME   | DATE     | Identifies the end of the time interval       |

| Column         | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UNDOTSN        | NUMBER        | Represents the last active undo tablespace in the duration of time. The tablespace ID of the active undo tablespace is returned in this column. If more than one undo tablespace was active in that period, the active undo tablespace that was active at the end of the period is reported.                                                                                                                                                    |
| TXNCOUNT       | NUMBER        | Total number of transaction that have bound to the temp undo segment contained in above tablespace within the interval period                                                                                                                                                                                                                                                                                                                   |
| MAXCONCURRENCY | NUMBER        | Highest number of transactions executed concurrently which modified temporary objects within the interval period                                                                                                                                                                                                                                                                                                                                |
| MAXQUERYLEN    | NUMBER        | Reserved for future use                                                                                                                                                                                                                                                                                                                                                                                                                         |
| MAXQUERYID     | VARCHAR2 (13) | Reserved for future use                                                                                                                                                                                                                                                                                                                                                                                                                         |
| UNDOBLKCNT     | NUMBER        | Total number of temporary undo blocks consumed                                                                                                                                                                                                                                                                                                                                                                                                  |
| EXTCNT         | NUMBER        | Total number of extents consumed                                                                                                                                                                                                                                                                                                                                                                                                                |
| USCOUNT        | NUMBER        | Temp undo segments created in this period                                                                                                                                                                                                                                                                                                                                                                                                       |
| SSOLDERRCNT    | NUMBER        | Identifies the number of times the error ORA-01555 occurred. You can use this statistic to decide whether or not the <code>UNDO_RETENTION</code> initialization parameter is set properly given the size of the undo tablespace. Increasing the value of <code>UNDO_RETENTION</code> can reduce the occurrence of this error.                                                                                                                   |
| NOSPACEERRCNT  | NUMBER        | Total number of times the error 'no space left for temporary undo' was raised                                                                                                                                                                                                                                                                                                                                                                   |
| CON_ID         | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



**See Also:**

"V\$UNDOSTAT"

## 10.133 V\$TEXT\_WAITING\_EVENTS

`V$TEXT_WAITING_EVENTS` displays information about Oracle Text index maintenance events that have been delayed due to errors or contentions.

| Column           | Datatype | Description                   |
|------------------|----------|-------------------------------|
| OWNER#           | NUMBER   | Text index owner number       |
| TABLE#           | NUMBER   | Base table object number      |
| INDEX#           | NUMBER   | Text index object number      |
| TABLE_PARTITION# | NUMBER   | Table partition object number |
| INDEX_PARTITION# | NUMBER   | Index partition object number |

| Column       | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EVENT_TYPE   | VARCHAR2 (26) | Text index maintenance event type: <ul style="list-style-type: none"> <li>• EVENT Stats</li> <li>• EVENT Stats Clean up</li> <li>• MONITOR</li> <li>• OPTIMIZE-Merge</li> <li>• OPTIMIZE-Scheduler</li> <li>• OPTIMIZE-Scheduler Timeout</li> <li>• SYNC-Cleanup batches</li> <li>• SYNC-Inspect</li> <li>• SYNC-Mapping</li> <li>• SYNC-Mapping Timeout</li> <li>• SYNC-Postings Concurrent</li> <li>• SYNC-Postings Serial</li> <li>• SYNC-Ranges</li> <li>• SYNC-Scheduler</li> <li>• SYNC-Writer</li> </ul> |
| ITERATION    | NUMBER        | Event retry iteration number<br>This value is a number between 0 and 10.                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| WAIT_TIME    | NUMBER        | Total time (in milliseconds) that the event will be waiting                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ELAPSED_TIME | NUMBER        | Elapsed time (in milliseconds) since the event started waiting<br>The difference between WAIT_TIME and ELAPSED_TIME indicates how much longer the event will be left waiting.                                                                                                                                                                                                                                                                                                                                   |
| CON_ID       | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>                                                           |

**Note:**

This view is available starting with Oracle Database 23ai.

## 10.134 V\$THREAD

V\$THREAD displays thread information from the control file. This view does not return meaningful results on a physical standby database.

| Column  | Datatype     | Description                                                      |
|---------|--------------|------------------------------------------------------------------|
| THREAD# | NUMBER       | Thread number                                                    |
| STATUS  | VARCHAR2 (6) | Thread status (OPEN  CLOSED)                                     |
| ENABLED | VARCHAR2 (8) | Enabled status: DISABLED, (enabled) PRIVATE, or (enabled) PUBLIC |
| GROUPS  | NUMBER       | Number of log groups assigned to this thread                     |



| Column              | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INSTANCE            | VARCHAR2 (80) | Instance name, if available                                                                                                                                                                                                                                                                                                                                                                                                                       |
| OPEN_TIME           | DATE          | Last time the thread was opened                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CURRENT_GROUP#      | NUMBER        | Current log group                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SEQUENCE#           | NUMBER        | Sequence number of current log                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CHECKPOINT_CHANGE#  | NUMBER        | SCN at last checkpoint                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CHECKPOINT_TIME     | DATE          | Time of last checkpoint                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ENABLE_CHANGE#      | NUMBER        | SCN at which thread was enabled                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ENABLE_TIME         | DATE          | Time of enable SCN                                                                                                                                                                                                                                                                                                                                                                                                                                |
| DISABLE_CHANGE#     | NUMBER        | SCN at which thread was disabled                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DISABLE_TIME        | DATE          | Time of disable SCN                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LAST_REDO_SEQUENCE# | NUMBER        | Last redo sequence number written by LGWR                                                                                                                                                                                                                                                                                                                                                                                                         |
| LAST_REDO_BLOCK     | NUMBER        | Last redo block written by LGWR                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LAST_REDO_CHANGE#   | NUMBER        | SCN of last redo for the thread                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LAST_REDO_TIME      | DATE          | Time of last redo for the thread                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CON_ID              | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 10.135 V\$THRESHOLD\_TYPES

V\$THRESHOLD\_TYPES displays information about threshold types.

| Column            | Datatype      | Description                                                                                                                                                         |
|-------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| METRICS_ID        | NUMBER        | Metrics ID                                                                                                                                                          |
| METRICS_GROUP_ID  | NUMBER        | Metrics group ID                                                                                                                                                    |
| OPERATOR_MASK     | NUMBER        | Operator mask                                                                                                                                                       |
| OBJECT_TYPE       | VARCHAR2 (64) | Object type: <ul style="list-style-type: none"><li>• SYSTEM</li><li>• FILE</li><li>• SERVICE</li><li>• EVENT_CLASS</li><li>• TABLESPACE</li><li>• SESSION</li></ul> |
| ALERT_REASON_ID   | NUMBER        | ID of the alert reason                                                                                                                                              |
| METRIC_VALUE_TYPE | NUMBER        | Metric value type                                                                                                                                                   |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.136 V\$TIMER

V\$TIMER displays the elapsed time in hundredths of a second. Time is measured since the beginning of the epoch, which is operating system specific, and wraps around to 0 again whenever the value overflows four bytes (roughly 497 days).

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HSECS  | NUMBER   | Elapsed time (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.137 V\$TIMEZONE\_FILE

V\$TIMEZONE\_FILE describes the time zone file that is currently in use by the database.

| Column   | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FILENAME | VARCHAR2 (20) | Time zone file name                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| VERSION  | NUMBER        | Time zone file version                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CON_ID   | NUMBER        | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.138 V\$TIMEZONE\_NAMES

V\$TIMEZONE\_NAMES displays valid time zone names.

| Column   | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TZNAME   | VARCHAR2 (64) | Time zone region (for example, US/Pacific)                                                                                                                                                                                                                                                                                                                                                                                                      |
| TZABBREV | VARCHAR2 (64) | Corresponding daylight abbreviation (for example, PDT)                                                                                                                                                                                                                                                                                                                                                                                          |
| CON_ID   | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.139 V\$TOPLEVELCALL

V\$TOPLEVELCALL displays the mapping between Oracle top level calls and names.

| Column              | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TOP_LEVEL_CALL#     | NUMBER        | Oracle top level call number                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TOP_LEVEL_CALL_NAME | VARCHAR2 (64) | Oracle top level call name                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CON_ID              | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.140 V\$TRANSACTION

V\$TRANSACTION lists the active transactions in the system.

| Column     | Datatype      | Description                             |
|------------|---------------|-----------------------------------------|
| ADDR       | RAW (4   8)   | Address of the transaction state object |
| XIDUSN     | NUMBER        | Undo segment number                     |
| XIDSLOT    | NUMBER        | Slot number                             |
| XIDSQN     | NUMBER        | Sequence number                         |
| UBAFIL     | NUMBER        | Undo block address (UBA) filenum        |
| UBABLK     | NUMBER        | UBA block number                        |
| UBASQN     | NUMBER        | UBA sequence number                     |
| UBAREC     | NUMBER        | UBA record number                       |
| STATUS     | VARCHAR2 (16) | Status                                  |
| START_TIME | VARCHAR2 (20) | Start time (wall clock)                 |
| START_SCNB | NUMBER        | Start system change number (SCN) base   |
| START_SCNW | NUMBER        | Start SCN wrap                          |

| Column                    | Datatype       | Description                                                                                                                                                                                                                                      |
|---------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| START_UEXT                | NUMBER         | Start extent number                                                                                                                                                                                                                              |
| START_UBAFIL              | NUMBER         | Start UBA file number                                                                                                                                                                                                                            |
| START_UBABLK              | NUMBER         | Start UBA block number                                                                                                                                                                                                                           |
| START_UBASQN              | NUMBER         | Start UBA sequence number                                                                                                                                                                                                                        |
| START_UBAREC              | NUMBER         | Start UBA record number                                                                                                                                                                                                                          |
| SES_ADDR                  | RAW (4   8)    | User session object address                                                                                                                                                                                                                      |
| FLAG                      | NUMBER         | Flag                                                                                                                                                                                                                                             |
| SPACE                     | VARCHAR2 (3)   | YES if a space transaction                                                                                                                                                                                                                       |
| RECURSIVE                 | VARCHAR2 (3)   | YES if a recursive transaction                                                                                                                                                                                                                   |
| NOUNDO                    | VARCHAR2 (3)   | YES if a no undo transaction                                                                                                                                                                                                                     |
| PTX                       | VARCHAR2 (3)   | YES if parallel transaction                                                                                                                                                                                                                      |
| NAME                      | VARCHAR2 (256) | Name of a named transaction                                                                                                                                                                                                                      |
| PRV_XIDUSN                | NUMBER         | Previous transaction undo segment number                                                                                                                                                                                                         |
| PRV_XIDSLT                | NUMBER         | Previous transaction slot number                                                                                                                                                                                                                 |
| PRV_XIDSQN                | NUMBER         | Previous transaction sequence number                                                                                                                                                                                                             |
| PTX_XIDUSN                | NUMBER         | Rollback segment number of the parent XID                                                                                                                                                                                                        |
| PTX_XIDSLT                | NUMBER         | Slot number of the parent XID                                                                                                                                                                                                                    |
| PTX_XIDSQN                | NUMBER         | Sequence number of the parent XID                                                                                                                                                                                                                |
| DSCN-B                    | NUMBER         | This column is obsolete and maintained for backward compatibility. The value of this column is always equal to the value in DSCN_BASE.                                                                                                           |
| DSCN-W                    | NUMBER         | This column is obsolete and maintained for backward compatibility. The value of this column is always equal to the value in DSCN_WRAP.                                                                                                           |
| USED_UBLK                 | NUMBER         | Number of undo blocks used                                                                                                                                                                                                                       |
| USED_UREC                 | NUMBER         | Number of undo records used                                                                                                                                                                                                                      |
| LOG_IO                    | NUMBER         | Logical I/O                                                                                                                                                                                                                                      |
| PHY_IO                    | NUMBER         | Physical I/O                                                                                                                                                                                                                                     |
| CR_GET                    | NUMBER         | Consistent gets                                                                                                                                                                                                                                  |
| CR_CHANGE                 | NUMBER         | Consistent changes                                                                                                                                                                                                                               |
| START_DATE                | DATE           | Start time (wall clock)                                                                                                                                                                                                                          |
| DSCN_BASE                 | NUMBER         | Dependent SCN base                                                                                                                                                                                                                               |
| DSCN_WRAP                 | NUMBER         | Dependent SCN wrap                                                                                                                                                                                                                               |
| START_SCN                 | NUMBER         | Start SCN                                                                                                                                                                                                                                        |
| DEPENDENT_SCN             | NUMBER         | Dependent SCN                                                                                                                                                                                                                                    |
| XID                       | RAW (8)        | Transaction XID                                                                                                                                                                                                                                  |
| PRV_XID                   | RAW (8)        | Previous transaction XID                                                                                                                                                                                                                         |
| PTX_XID                   | RAW (8)        | Parent transaction XID                                                                                                                                                                                                                           |
| TXN_PRIORITY              | VARCHAR2 (7)   | Priority of the transaction (HIGH, MEDIUM, or LOW) for the Priority Transactions feature                                                                                                                                                         |
| PRIORITY_TXNS_WAIT_TARGET | NUMBER         | If TXN_PRIORITY is HIGH or MEDIUM, the maximum number of seconds the transaction will wait for a row lock before the database rolls back a lower priority transaction holding the lock<br>If the priority is LOW, the value of this column is 0. |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.141 V\$TRANSACTION\_ENQUEUE

V\$TRANSACTION\_ENQUEUE displays locks owned by transaction state objects.

| Column  | Datatype     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADDR    | RAW (4   8)  | Address of lock state object                                                                                                                                                                                                                                                                                                                                                                                                                           |
| KADDR   | RAW (4   8)  | Address of lock                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SID     | NUMBER       | Identifier for session holding or acquiring the lock                                                                                                                                                                                                                                                                                                                                                                                                   |
| TYPE    | VARCHAR2 (2) | Type of lock. TX indicates transaction enqueue.                                                                                                                                                                                                                                                                                                                                                                                                        |
| ID1     | NUMBER       | Lock identifier #1 (depends on type)                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ID2     | NUMBER       | Lock identifier #2 (depends on type)                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LMODE   | NUMBER       | <p>Lock mode in which the session holds the lock:</p> <ul style="list-style-type: none"> <li>0 - none</li> <li>1 - null (NULL)</li> <li>2 - row-S (SS)</li> <li>3 - row-X (SX)</li> <li>4 - share (S)</li> <li>5 - S/Row-X (SSX)</li> <li>6 - exclusive (X)</li> </ul>                                                                                                                                                                                 |
| REQUEST | NUMBER       | <p>Lock mode in which the process requests the lock:</p> <ul style="list-style-type: none"> <li>0 - none</li> <li>1 - null (NULL)</li> <li>2 - row-S (SS)</li> <li>3 - row-X (SX)</li> <li>4 - share (S)</li> <li>5 - S/Row-X (SSX)</li> <li>6 - exclusive (X)</li> </ul>                                                                                                                                                                              |
| CTIME   | NUMBER       | Time since current mode was granted                                                                                                                                                                                                                                                                                                                                                                                                                    |
| BLOCK   | NUMBER       | The lock is blocking another lock                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CON_ID  | NUMBER       | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.142 V\$TRANSPORTABLE\_PLATFORM

V\$TRANSPORTABLE\_PLATFORM displays all platforms that support cross-platform tablespace transport. Specifically, it lists all platforms supported by the RMAN CONVERT TABLESPACE command, along with the endianness of each platform.

| Column        | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PLATFORM_ID   | NUMBER         | Platform identification number                                                                                                                                                                                                                                                                                                                                                                                                                    |
| PLATFORM_NAME | VARCHAR2 (101) | Platform name                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ENDIAN_FORMAT | VARCHAR2 (14)  | Platform endian format: <ul style="list-style-type: none"><li>• Big</li><li>• Little</li><li>• UNKNOWN FORMAT</li></ul>                                                                                                                                                                                                                                                                                                                           |
| CON_ID        | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

## 10.143 V\$TRUE\_CACHE

V\$TRUE\_CACHE displays True Cache configuration information.

- When you query this view on a True Cache, it returns a single row of information about the primary database to which the True Cache is connected.
- When you query this view on a primary database, it returns one row of information for each True Cache that is connected to the primary database.

| Column       | Datatype | Description                                                                                                                                                                                                                      |
|--------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MY_DG_ID     | NUMBER   | Data Guard ID <ul style="list-style-type: none"><li>• When queried on a True Cache, the Data Guard ID of the True Cache</li><li>• When queried on a primary database, the Data Guard ID of the primary database</li></ul>        |
| REMOTE_DG_ID | NUMBER   | Remote Data Guard ID <ul style="list-style-type: none"><li>• When queried on a True Cache, the Data Guard ID of the primary database</li><li>• When queried on a primary database, the Data Guard ID of the True Cache</li></ul> |

| Column          | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DEST_ID         | NUMBER         | <p>Log archive destination parameter identifier</p> <ul style="list-style-type: none"> <li>When queried on a True Cache, the value of this column is always 0, because a True Cache does not send online redo log blocks to any destination.</li> <li>When queried on a primary database, the corresponding destination ID (<i>n</i>) of the LOG_ARCHIVE_DEST_<i>n</i> initialization parameter. This parameter specifies the network name of the True Cache so that the primary database knows where to send online redo log blocks.</li> </ul> <p>This column matches the DEST_ID column in other views related to Data Guard and redo transport services, such as the V\$ARCHIVE_DEST and V\$DATAGUARD_STATUS views.</p> |
| TRUE_CACHE_NAME | VARCHAR2 (30)  | Unique database name (DB_UNIQUE_NAME) of the True Cache                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PRIMARY_NAME    | VARCHAR2 (30)  | Unique database name (DB_UNIQUE_NAME) of the primary database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| STATUS          | VARCHAR2 (256) | <p>Text describing the current status of the True Cache configuration</p> <p>If there is an issue with the True Cache configuration, then this column displays information about the issue.</p> <p>If there are no issues with the True Cache configuration, then the value of this column is HEALTHY.</p>                                                                                                                                                                                                                                                                                                                                                                                                                  |
| REMOTE_VERSION  | VARCHAR2 (18)  | <p>Remote database version</p> <ul style="list-style-type: none"> <li>When queried on a True Cache, the database version of the primary database</li> <li>When queried on a primary database, the database version of the True Cache</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CON_ID          | NUMBER         | <p>The ID of the container to which the data pertains</p> <p>The value of this column is always 0 (CDB\$ROOT container).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

**Note:**

This view is available starting with Oracle Database 23ai.

## 10.144 V\$TSDP\_SUPPORTED\_FEATURE

V\$TSDP\_SUPPORTED\_FEATURE displays information about the features supported by Transparent Sensitive Data Protection (TSDP).

| Column        | Datatype        | Description                                                                                                                                                                                                    |
|---------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FEATURE_NAME  | VARCHAR2 (200)  | The name of the supported feature                                                                                                                                                                              |
| FUNCTIONALITY | VARCHAR2 (200)  | The functionality that is supported within the feature. If all of the functionality of the feature is supported, the value is ALL, otherwise the value will show the specific functionality that is supported. |
| COMMENT\$     | VARCHAR2 (4000) | More information regarding the support for the feature and the specific functionality                                                                                                                          |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

**See Also:**

*Oracle Database Security Guide* for more information about using Transparent Sensitive Data Protection.

## 10.145 V\$TYPE\_SIZE

V\$TYPE\_SIZE displays the sizes of various database components for use in estimating data block capacity.

| Column      | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPONENT   | VARCHAR2 (8)  | Component name, such as segment or buffer header                                                                                                                                                                                                                                                                                                                                                                                                |
| TYPE        | VARCHAR2 (8)  | Component type                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DESCRIPTION | VARCHAR2 (32) | Description of the component                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TYPE_SIZE   | NUMBER        | Size of the component                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID      | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.146 V\$UNDOSTAT

V\$UNDOSTAT displays a histogram of statistical data to show how well the system is working. The available statistics include undo space consumption, transaction concurrency, and length of queries executed in the instance. You can use this view to estimate the amount of undo space required for the current workload. Oracle uses this view to tune undo usage in the system. The view returns NULL values if the system is in manual undo management mode. Each row in the view keeps statistics collected in the instance for a 10-minute interval. The rows are in descending order by the BEGIN\_TIME column value. Each row belongs to the time interval marked by (BEGIN\_TIME, END\_TIME). Each column represents the data collected for the particular statistic in that time interval. The first row of the view contains statistics for the (partial) current time period. The view contains a total of 576 rows, spanning a 4 day cycle.



| Column         | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BEGIN_TIME     | DATE          | Identifies the beginning of the time interval                                                                                                                                                                                                                                                                                                                                                                                                      |
| END_TIME       | DATE          | Identifies the end of the time interval                                                                                                                                                                                                                                                                                                                                                                                                            |
| UNDOTSN        | NUMBER        | Represents the last active undo tablespace in the duration of time. The tablespace ID of the active undo tablespace is returned in this column. If more than one undo tablespace was active in that period, the active undo tablespace that was active at the end of the period is reported.                                                                                                                                                       |
| UNDOBLKS       | NUMBER        | Represents the total number of undo blocks consumed. You can use this column to obtain the consumption rate of undo blocks, and thereby estimate the size of the undo tablespace needed to handle the workload on your system.                                                                                                                                                                                                                     |
| TXNCOUNT       | NUMBER        | Identifies the total number of transactions executed within the period                                                                                                                                                                                                                                                                                                                                                                             |
| MAXQUERYLEN    | NUMBER        | Identifies the length of the longest query (in seconds) executed in the instance during the period. You can use this statistic to estimate the proper setting of the <code>UNDO_RETENTION</code> initialization parameter. The length of a query is measured from the cursor open time to the last fetch/execute time of the cursor. Only the length of those cursors that have been fetched/executed during the period are reflected in the view. |
| MAXQUERYID     | VARCHAR2 (13) | SQL identifier of the longest running SQL statement in the period                                                                                                                                                                                                                                                                                                                                                                                  |
| MAXCONCURRENCY | NUMBER        | Identifies the highest number of transactions executed concurrently within the period                                                                                                                                                                                                                                                                                                                                                              |
| UNXPSTEALCNT   | NUMBER        | Number of attempts to obtain undo space by stealing unexpired extents from other transactions                                                                                                                                                                                                                                                                                                                                                      |
| UNXPBLKRELCNT  | NUMBER        | Number of unexpired blocks removed from certain undo segments so they can be used by other transactions                                                                                                                                                                                                                                                                                                                                            |
| UNXPBLKREUCNT  | NUMBER        | Number of unexpired undo blocks reused by transactions                                                                                                                                                                                                                                                                                                                                                                                             |
| EXPSTEALCNT    | NUMBER        | Number of attempts to steal expired undo blocks from other undo segments                                                                                                                                                                                                                                                                                                                                                                           |
| EXPBLKRELCNT   | NUMBER        | Number of expired undo blocks stolen from other undo segments                                                                                                                                                                                                                                                                                                                                                                                      |
| EXPBLKREUCNT   | NUMBER        | Number of expired undo blocks reused within the same undo segments                                                                                                                                                                                                                                                                                                                                                                                 |
| SSOLDERRCNT    | NUMBER        | Identifies the number of times the error <code>ORA-01555</code> occurred. You can use this statistic to decide whether or not the <code>UNDO_RETENTION</code> initialization parameter is set properly given the size of the undo tablespace. Increasing the value of <code>UNDO_RETENTION</code> can reduce the occurrence of this error.                                                                                                         |
| NOSPACEERRCNT  | NUMBER        | Identifies the number of times space was requested in the undo tablespace and there was no free space available. That is, all of the space in the undo tablespace was in use by active transactions. The corrective action is to add more space to the undo tablespace.                                                                                                                                                                            |
| ACTIVEBLKS     | NUMBER        | Total number of blocks in the active extents of the undo tablespace for the instance at the sampled time in the period                                                                                                                                                                                                                                                                                                                             |
| UNEXPIREDBLKS  | NUMBER        | Total number of blocks in the unexpired extents of the undo tablespace for the instance at the sampled time in the period                                                                                                                                                                                                                                                                                                                          |
| EXPIREDBLKS    | NUMBER        | Total number of blocks in the expired extents of the undo tablespace for the instance at the sampled time in the period                                                                                                                                                                                                                                                                                                                            |

| Column              | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TUNED_UNDORETENTION | NUMBER   | Amount of time (in seconds) for which undo will not be recycled from the time it was committed. At any point in time, the latest value of <code>TUNED_UNDORETENTION</code> is used to determine whether data committed at a particular time in the past can be recycled.<br><br>The value of this column is not meaningful on an Oracle Active Data Guard standby database instance, because the system does not tune this value on such instances. |
| CON_ID              | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul>     |



**See Also:**

"UNDO\_RETENTION"

## 10.147 V\$UNUSABLE\_BACKUPFILE\_DETAILS

`V$UNUSABLE_BACKUPFILE_DETAILS` displays information about all backup files (backup pieces, proxy copies, or copies) that are marked unavailable and expired. You can select one of the rows and use `BTYPE_KEY` or `FILETYPE_KEY` to change the status of a backup file set or a specific file to available.

| Column            | Datatype     | Description                                                                                                                                                               |
|-------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SESSION_KEY       | NUMBER       | Session identifier                                                                                                                                                        |
| SESSION_RECID     | NUMBER       | Session record ID                                                                                                                                                         |
| SESSION_STAMP     | NUMBER       | Session stamp                                                                                                                                                             |
| RMAN_STATUS_RECID | NUMBER       | Record ID of the corresponding row in the control file                                                                                                                    |
| RMAN_STATUS_STAMP | NUMBER       | Timestamp of the row in the controlfile                                                                                                                                   |
| BTYPE             | CHAR(9)      | Backup type container. Possible values are: <code>BACKUPSET</code> , <code>IMAGECOPY</code> , <code>PROXYCOPY</code> .                                                    |
| BTYPE_KEY         | NUMBER       | Unique identifier for the backup type, either <code>BS_KEY</code> or <code>COPY_KEY</code> .                                                                              |
| ID1               | NUMBER       | If <code>BACKUPSET</code> , it contains <code>SET_STAMP</code> .<br>If <code>IMAGECOPY</code> or <code>PROXYCOPY</code> , it is <code>RECID</code> from the control file. |
| ID2               | NUMBER       | If <code>BACKUPSET</code> , it contains <code>SET_COUNT</code> .<br>If <code>IMAGECOPY</code> or <code>PROXYCOPY</code> , it is <code>STAMP</code> .                      |
| FILETYPE          | VARCHAR2(15) | Type of file. Possible values are: <code>BACKUPPIECE</code> , <code>COPY</code> , <code>PROXYCOPY</code> .                                                                |
| FILETYPE_KEY      | NUMBER       | Backup piece key if the file is a backup piece; otherwise <code>COPY_KEY</code> .                                                                                         |
| STATUS            | VARCHAR2(1)  | Status of the backup file, either <code>U</code> (unavailable) or <code>X</code> (expired)                                                                                |
| FILESIZE          | NUMBER       | Size of the file                                                                                                                                                          |

| Column      | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DEVICE_TYPE | VARCHAR2 (17)  | Type of device on which the file resides                                                                                                                                                                                                                                                                                                                                                                                                        |
| FILENAME    | VARCHAR2 (513) | Name of the file                                                                                                                                                                                                                                                                                                                                                                                                                                |
| MEDIA       | VARCHAR2 (65)  | Name of the media on which the copy resides. This value is informational only. It is not needed for restore.                                                                                                                                                                                                                                                                                                                                    |
| MEDIA_POOL  | NUMBER         | Media pool in which the copy resides. This is the same value that was entered in the <code>POOL</code> operand of the Recovery Manager <code>BACKUP</code> command.                                                                                                                                                                                                                                                                             |
| CON_ID      | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.148 V\$VERSION

`V$VERSION` displays the version number of Oracle Database. The database components have the same version number as the database, so the version number is returned only once.

| Column        | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BANNER        | VARCHAR2 (80)  | Component name and version number                                                                                                                                                                                                                                                                                                                                                                                                               |
| BANNER_FULL   | VARCHAR2 (160) | The new 2 line banner format introduced in Oracle Database 18c. The banner displays the database release and version number.                                                                                                                                                                                                                                                                                                                    |
| BANNER_LEGACY | VARCHAR2 (80)  | The legacy 1 line banner used before Oracle Database 18c. This column displays the same value as the <code>BANNER</code> column.                                                                                                                                                                                                                                                                                                                |
| CON_ID        | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.149 V\$VPD\_POLICY

`V$VPD_POLICY` displays all the fine-grained security policies and predicates associated with the cursors currently in the library cache.

| Column   | Datatype    | Description           |
|----------|-------------|-----------------------|
| ADDRESS  | RAW (4   8) | Cursor address        |
| PARADDR  | RAW (4   8) | Parent cursor address |
| SQL_HASH | NUMBER      | SQL hash number       |

| Column                | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQL_ID                | VARCHAR2 (13)   | SQL identifier                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CHILD_NUMBER          | NUMBER          | Cursor's child number under the parent                                                                                                                                                                                                                                                                                                                                                                                                          |
| OBJECT_OWNER          | VARCHAR2 (128)  | Owner of the object with the policy                                                                                                                                                                                                                                                                                                                                                                                                             |
| OBJECT_NAME           | VARCHAR2 (128)  | Name of the object with the policy                                                                                                                                                                                                                                                                                                                                                                                                              |
| POLICY_GROUP          | VARCHAR2 (128)  | Name of the policy group                                                                                                                                                                                                                                                                                                                                                                                                                        |
| POLICY                | VARCHAR2 (128)  | Name of the policy                                                                                                                                                                                                                                                                                                                                                                                                                              |
| POLICY_FUNCTION_OWNER | VARCHAR2 (128)  | Owner of the policy function                                                                                                                                                                                                                                                                                                                                                                                                                    |
| PREDICATE             | VARCHAR2 (4000) | Predicate for the policy (truncated to 4000 bytes in length)                                                                                                                                                                                                                                                                                                                                                                                    |
| CON_ID                | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.150 V\$WAIT\_CHAINS

V\$WAIT\_CHAINS displays information about blocked sessions. A wait chain is composed of sessions that are blocked by one another. Each row represents a blocked and blocker session pair. If a wait chain is not a cyclical wait chain, then the last row for the chain does not have a blocker.

| Column               | Datatype       | Description                                                                                                                   |
|----------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------|
| CHAIN_ID             | NUMBER         | A number identifying the wait chain                                                                                           |
| CHAIN_IS_CYCLE       | VARCHAR2 (5)   | Indicates whether the final blocked session in the wait chain is blocked by the initial blocked session (TRUE) or not (FALSE) |
| CHAIN_SIGNATURE      | VARCHAR2 (801) | An Oracle-specific text signature of the wait chain. This signature can be used to identify similar wait chains.              |
| CHAIN_SIGNATURE_HASH | NUMBER         | A numeric representation of CHAIN_SIGNATURE                                                                                   |
| INSTANCE             | NUMBER         | Blocked session's instance identifier                                                                                         |
| OSID                 | VARCHAR2 (25)  | Blocked session's operating system process identifier                                                                         |
| PID                  | NUMBER         | Blocked session's Oracle process identifier                                                                                   |
| SID                  | NUMBER         | Blocked session's Oracle session identifier                                                                                   |
| SESS_SERIAL#         | NUMBER         | Blocked session's Oracle session serial number                                                                                |
| PDB_ID               | NUMBER         | Blocked session's PDB identifier                                                                                              |
| PDB_NAME             | VARCHAR2 (31)  | Blocked session's PDB name                                                                                                    |
| BLOCKER_IS_VALID     | VARCHAR2 (5)   | Indicates whether the blocked session has a blocker (TRUE) or not (FALSE)                                                     |
| BLOCKER_INSTANCE     | NUMBER         | Blocker session's instance identifier; NULL if BLOCKER_IS_VALID is FALSE                                                      |
| BLOCKER_OSID         | VARCHAR2 (25)  | Blocker session's operating system process identifier; NULL if BLOCKER_IS_VALID is FALSE                                      |

| Column                       | Datatype      | Description                                                                                                                                                                                                                                             |
|------------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BLOCKER_PID                  | NUMBER        | Blocker session's Oracle process identifier; NULL if BLOCKER_IS_VALID is FALSE                                                                                                                                                                          |
| BLOCKER_SID                  | NUMBER        | Blocker session's Oracle session identifier; NULL if BLOCKER_IS_VALID is FALSE                                                                                                                                                                          |
| BLOCKER_SESS_SERIAL#         | NUMBER        | Blocker session's Oracle session serial number; NULL if BLOCKER_IS_VALID is FALSE                                                                                                                                                                       |
| BLOCKER_PDB_ID               | NUMBER        | Blocker session's PDB identifier                                                                                                                                                                                                                        |
| BLOCKER_PDB_NAME             | VARCHAR2 (31) | Blocker session's PDB name                                                                                                                                                                                                                              |
| BLOCKER_CHAIN_ID             | NUMBER        | If not NULL, then the blocker session is a member of another chain specified by this chain identifier. For the remaining wait chain information, see the wait chain with the specified CHAIN_ID.                                                        |
| IN_WAIT                      | VARCHAR2 (5)  | Indicates whether the blocked session is in a wait (TRUE) or not (FALSE)                                                                                                                                                                                |
| TIME_SINCE_LAST_WAIT_SECONDS | NUMBER        | Number of seconds since the last time the blocked session waited; NULL if IN_WAIT is TRUE                                                                                                                                                               |
| WAIT_ID                      | NUMBER        | A number identifying the wait; NULL if IN_WAIT is FALSE                                                                                                                                                                                                 |
| WAIT_EVENT                   | NUMBER        | Resource or event number for which the blocked session is waiting; NULL if IN_WAIT is FALSE                                                                                                                                                             |
| WAIT_EVENT_TEXT              | VARCHAR2 (64) | Resource or event for which the blocked session is waiting; NULL if IN_WAIT is FALSE                                                                                                                                                                    |
| P1                           | NUMBER        | First additional wait parameter; NULL if IN_WAIT is FALSE                                                                                                                                                                                               |
| P1_TEXT                      | VARCHAR2 (64) | Description of the first additional wait parameter; NULL if IN_WAIT is FALSE                                                                                                                                                                            |
| P2                           | NUMBER        | Second additional wait parameter; NULL if IN_WAIT is FALSE                                                                                                                                                                                              |
| P2_TEXT                      | VARCHAR2 (64) | Description of the second additional wait parameter; NULL if IN_WAIT is FALSE                                                                                                                                                                           |
| P3                           | NUMBER        | Third additional wait parameter; NULL if IN_WAIT is FALSE                                                                                                                                                                                               |
| P3_TEXT                      | VARCHAR2 (64) | Description of the third additional wait parameter; NULL if IN_WAIT is FALSE                                                                                                                                                                            |
| IN_WAIT_SECS                 | NUMBER        | Seconds the blocked session has been in the current wait; NULL if IN_WAIT is FALSE                                                                                                                                                                      |
| TIME_REMAINING_SECS          | NUMBER        | Seconds remaining until the blocked session ends its wait (-1 if the blocked session can indefinitely wait); NULL if IN_WAIT is FALSE                                                                                                                   |
| NUM_WAITERS                  | NUMBER        | Number of sessions waiting for the blocked session                                                                                                                                                                                                      |
| ROW_WAIT_OBJ#                | NUMBER        | Object ID for the table containing the row specified in ROW_WAIT_ROW#; NULL if IN_WAIT is FALSE                                                                                                                                                         |
| ROW_WAIT_FILE#               | NUMBER        | Identifier for the data file containing the row specified in ROW_WAIT_ROW#; NULL if IN_WAIT is FALSE. This column is valid only if the blocked session is currently waiting for another transaction to commit and the value of ROW_WAIT_OBJ# is not -1. |
| ROW_WAIT_BLOCK#              | NUMBER        | Identifier for the block containing the row specified in ROW_WAIT_ROW#; NULL if IN_WAIT is FALSE. This column is valid only if the blocked session is currently waiting for another transaction to commit and the value of ROW_WAIT_OBJ# is not -1.     |
| ROW_WAIT_ROW#                | NUMBER        | Current row being locked; NULL if IN_WAIT is FALSE. This column is valid only if the blocked session is currently waiting for another transaction to commit and the value of ROW_WAIT_OBJ# is not -1.                                                   |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.151 V\$WAITCLASSMETRIC

V\$WAITCLASSMETRIC displays metric values of wait classes for the most recent 60-second interval. A history of the last one hour will be kept in the system.

| Column               | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BEGIN_TIME           | DATE     | Begin time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                             |
| END_TIME             | DATE     | End time of the interval                                                                                                                                                                                                                                                                                                                                                                                                                               |
| INTSIZE_CSEC         | NUMBER   | Interval size (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                                              |
| WAIT_CLASS#          | NUMBER   | Number of the class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                                  |
| WAIT_CLASS_ID        | NUMBER   | Identifier of the class of the wait event                                                                                                                                                                                                                                                                                                                                                                                                              |
| AVERAGE_WAITER_COUNT | NUMBER   | Average waiter count                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| DBTIME_IN_WAIT       | NUMBER   | Percent of database time spent in the wait                                                                                                                                                                                                                                                                                                                                                                                                             |
| TIME_WAITED          | NUMBER   | Time waited during the interval (in hundredths of a second)                                                                                                                                                                                                                                                                                                                                                                                            |
| WAIT_COUNT           | NUMBER   | Number of times waited                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TIME_WAITED_FG       | NUMBER   | Amount of time (in hundredths of a second) spent in waits from this wait class in foreground sessions                                                                                                                                                                                                                                                                                                                                                  |
| WAIT_COUNT_FG        | NUMBER   | Number of times foreground processes waited                                                                                                                                                                                                                                                                                                                                                                                                            |
| CON_ID               | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.152 V\$WAITCLASSMETRIC\_HISTORY

V\$WAITCLASSMETRIC\_HISTORY displays metric values of wait classes for all intervals in the last one hour.

The columns for V\$WAITCLASSMETRIC\_HISTORY are the same as those for V\$WAITCLASSMETRIC.

**See Also:**["V\\$WAITCLASSMETRIC"](#)

## 10.153 V\$WAITSTAT

V\$WAITSTAT displays block contention statistics. This table is only updated when timed statistics are enabled.

| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CLASS  | VARCHAR2 (18) | Class of the block                                                                                                                                                                                                                                                                                                                                                                                                                              |
| COUNT  | NUMBER        | Number of waits by this OPERATION for this CLASS of block                                                                                                                                                                                                                                                                                                                                                                                       |
| TIME   | NUMBER        | Sum of all wait times for all the waits by this OPERATION for this CLASS of block (in centiseconds)                                                                                                                                                                                                                                                                                                                                             |
| CON_ID | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.154 V\$WALLET

V\$WALLET displays metadata of certificates that may be used as a master key for Transparent Data Encryption.

**Note:**

The use of PKI encryption with Transparent Data Encryption is deprecated. To configure Transparent Data Encryption, use the `ADMINISTER KEY MANAGEMENT SQL` statement. See *Oracle Database Transparent Data Encryption Guide* for more information.

| Column     | Datatype       | Description                                                                                                  |
|------------|----------------|--------------------------------------------------------------------------------------------------------------|
| CERT_ID    | VARCHAR2 (52)  | A unique certificate identifier value used to specify a particular PKI certificate for use as the master key |
| DN         | VARCHAR2 (255) | Distinguished name of a particular PKI certificate                                                           |
| SERIAL_NUM | VARCHAR2 (40)  | Unique serial number assigned to a certificate by the issuer or signer                                       |
| ISSUER     | VARCHAR2 (255) | Distinguished name of the Certificate Authority or issuer that issued and signed the certificate             |
| KEYSIZE    | NUMBER         | Size of the PKI key associated with the certificate                                                          |

| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATUS | VARCHAR2 (16) | Current status of the certificate: <ul style="list-style-type: none"> <li>• UNUSED</li> <li>• IN USE</li> <li>• USED</li> </ul> This column allows the user to identify whether a certificate is currently in use or has already been used for Transparent Data Encryption.                                                                                                                                                                           |
| CON_ID | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>• 1: This value is used for rows containing data that pertain to only the root</li> <li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.155 V\$WORKLOAD\_REPLAY\_THREAD

V\$WORKLOAD\_REPLAY\_THREAD displays information for all the different types of replay sessions.

| Column          | Datatype       | Description                                                                            |
|-----------------|----------------|----------------------------------------------------------------------------------------|
| CLOCK           | NUMBER         | Current simulated SCN based on the SCN recorded at capture time                        |
| NEXT_TICKER     | NUMBER         | Next stream ID that will increment the <code>CLOCK</code> after a commit action        |
| SID             | NUMBER         | Session ID of the replay session                                                       |
| SERIAL#         | NUMBER         | Session serial number of the replay session                                            |
| SPID            | VARCHAR2 (24)  | The server process ID of the replay session                                            |
| LOGON_USER      | VARCHAR2 (128) | Logon username of the replay session                                                   |
| LOGON_TIME      | DATE           | Logon time of the replay session                                                       |
| EVENT           | VARCHAR2 (64)  | Event name                                                                             |
| EVENT_ID        | NUMBER         | Event identifier                                                                       |
| EVENT#          | NUMBER         | Event operation code                                                                   |
| P1TEXT          | VARCHAR2 (64)  | Text for event parameter 1                                                             |
| P1              | NUMBER         | Value of event parameter 1                                                             |
| P2TEXT          | VARCHAR2 (64)  | Text for event parameter 2                                                             |
| P2              | NUMBER         | Value of event parameter 2                                                             |
| P3TEXT          | VARCHAR2 (64)  | Text for event parameter 3                                                             |
| P3              | NUMBER         | Value of event parameter 3                                                             |
| WAIT_FOR_SCN    | NUMBER         | The captured SCN for which the current user call should wait                           |
| FILE_ID         | NUMBER         | The stream ID that is being replayed                                                   |
| CALL_COUNTER    | NUMBER         | The call counter of the user call that is being replayed                               |
| DEPENDENT_SCN   | NUMBER         | The dependent SCN, captured to order the commit actions using block-level dependencies |
| STATEMENT_SCN   | NUMBER         | Statement SCN                                                                          |
| COMMIT_WAIT_SCN | NUMBER         | The (maximum) SCN that the current commit should wait for                              |



| Column               | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POST_COMMIT_SCN      | NUMBER        | The next SCN after the current commit                                                                                                                                                                                                                                                                                                                                                                                                           |
| ACTION_TYPE          | NUMBER        | The type of commits. The possible values are: COMMIT, ROLLBACK, FAKED_COMMIT, and NULL. A value of NULL means it is not a commit operation.                                                                                                                                                                                                                                                                                                     |
| SESSION_TYPE         | VARCHAR2 (13) | The type of replay session:<br>LOGON<br>ADMIN<br>DISPATCHER<br>REPLAY                                                                                                                                                                                                                                                                                                                                                                           |
| WRC_ID               | NUMBER        | Unique replay client ID assigned by the server to all participating replay clients when replay starts                                                                                                                                                                                                                                                                                                                                           |
| SCHEDULE_CAP_ID      | NUMBER        | An unique identifier for a workload capture added to a replay schedule. A value of 0 is used for a non-consolidated replay.                                                                                                                                                                                                                                                                                                                     |
| FILE_NAME            | VARCHAR2 (51) | File name of the captured stream                                                                                                                                                                                                                                                                                                                                                                                                                |
| SKIP_IT              | VARCHAR2 (1)  | Whether or not the current replayed user call is skipped or not                                                                                                                                                                                                                                                                                                                                                                                 |
| DIRTY_BUFFERS        | VARCHAR2 (1)  | Reserved for internal use                                                                                                                                                                                                                                                                                                                                                                                                                       |
| DBTIME               | NUMBER        | Accumulated database time for the replay session                                                                                                                                                                                                                                                                                                                                                                                                |
| NETWORK_TIME         | NUMBER        | Accumulated network time for the replay session                                                                                                                                                                                                                                                                                                                                                                                                 |
| THINK_TIME           | NUMBER        | Accumulated think time for the replay session                                                                                                                                                                                                                                                                                                                                                                                                   |
| TIME_GAIN            | NUMBER        | If nonzero, the accumulated time in macro seconds indicating how fast the replay is                                                                                                                                                                                                                                                                                                                                                             |
| TIME_LOSS            | NUMBER        | If nonzero, the accumulated time in macro seconds indicating how slow the replay is                                                                                                                                                                                                                                                                                                                                                             |
| USER_CALLS           | NUMBER        | Total number of user calls                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PLSQL_CALLS          | NUMBER        | Total number of PL/SQL calls recorded in the workload capture                                                                                                                                                                                                                                                                                                                                                                                   |
| PLSQL_SUBCALLS       | NUMBER        | Total number of calls recorded in the workload capture for SQL executed from PL/SQL                                                                                                                                                                                                                                                                                                                                                             |
| PLSQL_DBTIME         | NUMBER        | Total amount of database time in microseconds from PL/SQL calls that have been recorded in the workload capture                                                                                                                                                                                                                                                                                                                                 |
| CLIENT_OS_USER       | VARCHAR2 (15) | Operating system username of the replay client                                                                                                                                                                                                                                                                                                                                                                                                  |
| CLIENT_HOST          | VARCHAR2 (64) | Host name of the replay client                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CLIENT_PID           | VARCHAR2 (24) | Process ID of the replay client                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PROGRAM              | VARCHAR2 (84) | Program name of the replay client                                                                                                                                                                                                                                                                                                                                                                                                               |
| CAPTURE_ELAPSED_TIME | NUMBER        | Total amount of elapsed time of a session since capture starts (in seconds)                                                                                                                                                                                                                                                                                                                                                                     |
| REPLAY_ELAPSED_TIME  | NUMBER        | Total amount of elapsed time of a session since replay starts (in seconds)                                                                                                                                                                                                                                                                                                                                                                      |
| CON_ID               | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.156 V\$XML\_AUDIT\_TRAIL

V\$XML\_AUDIT\_TRAIL shows standard, fine-grained, SYS, and mandatory audit records written in XML format files.



### Note:

This view is deprecated and applies only to traditional auditing. Traditional auditing is desupported starting in Oracle Database 23ai. Though traditional auditing is desupported, any current traditional audit settings that you have will still be honored and are viewable with this view. See *Oracle Database Security Guide* for more information about how this desupport works.

| Column             | Datatype                     | Description                                                                                                                                                                                 |
|--------------------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AUDIT_TYPE         | NUMBER                       | Type of audit row: <ul style="list-style-type: none"> <li>1 = Standard XML Audit</li> <li>2 = Fine Grained XML Audit</li> <li>4 = SYS XML Audit</li> <li>8 = Mandatory XML Audit</li> </ul> |
| SESSION_ID         | NUMBER                       | Numeric ID for the Oracle session                                                                                                                                                           |
| PROXY_SESSIONID    | NUMBER                       | Proxy session serial number, if an enterprise user has logged in through a proxy mechanism                                                                                                  |
| STATEMENTID        | NUMBER                       | Numeric ID for the statement run (a statement may cause multiple audit records)                                                                                                             |
| ENTRYID            | NUMBER                       | Numeric ID for the audit trail entry in the session                                                                                                                                         |
| EXTENDED_TIMESTAMP | TIMESTAMP (6) WITH TIME ZONE | Timestamp of the audited operation (the timestamp of the user's logon for entries is created by AUDIT SESSION)                                                                              |
| GLOBAL_UID         | VARCHAR2 (32)                | Global user identifier for the user, if the user has logged in as an enterprise user                                                                                                        |
| DB_USER            | VARCHAR2 (128)               | Database username of the user whose actions were audited                                                                                                                                    |
| CLIENTIDENTIFIER   | VARCHAR2 (64)                | Client identifier in the Oracle session                                                                                                                                                     |
| EXT_NAME           | VARCHAR2 (1024)              | User's external name                                                                                                                                                                        |
| OS_USER            | VARCHAR2 (128)               | Operating system logon user name of the user whose actions were audited                                                                                                                     |
| OS_HOST            | VARCHAR2 (128)               | Client host system name                                                                                                                                                                     |
| OS_PROCESS         | VARCHAR2 (16)                | Operating system process identifier of the Oracle server process                                                                                                                            |
| TERMINAL           | VARCHAR2 (30)                | Identifier for the user's terminal                                                                                                                                                          |
| INSTANCE_NUMBER    | NUMBER                       | Instance number as specified by the INSTANCE_NUMBER initialization parameter                                                                                                                |
| OBJECT_SCHEMA      | VARCHAR2 (128)               | Owner of the audited object                                                                                                                                                                 |
| OBJECT_NAME        | VARCHAR2 (128)               | Name of the object affected by the action                                                                                                                                                   |
| POLICY_NAME        | VARCHAR2 (128)               | Name of the fine-grained auditing policy                                                                                                                                                    |
| NEW_OWNER          | VARCHAR2 (128)               | Owner of the object named in the NEW_NAME column                                                                                                                                            |
| NEW_NAME           | VARCHAR2 (128)               | New name of object after renaming, or the name of an underlying object (for example, CREATE INDEX owner.obj_name ON new_owner.new_name)                                                     |

| Column           | Datatype        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACTION           | NUMBER          | Numeric code for the action type                                                                                                                                                                                                                                                                                                                                                                                                                         |
| STATEMENT_TYPE   | NUMBER          | Description of the action                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TRANSACTIONID    | RAW (8)         | Identifier of the transaction in which the object is accessed or modified                                                                                                                                                                                                                                                                                                                                                                                |
| RETURNCODE       | NUMBER          | Oracle error code generated by the action. Zero if the action succeeded.                                                                                                                                                                                                                                                                                                                                                                                 |
| SCN              | NUMBER          | System change number (SCN) of the query                                                                                                                                                                                                                                                                                                                                                                                                                  |
| COMMENT_TEXT     | VARCHAR2 (4000) | Text comments on standard audit entries. Also indicates how the user was authenticated - the method can be one of the following: <ul style="list-style-type: none"> <li>DATABASE - authentication was done by password</li> <li>NETWORK - authentication was done by Oracle Net Services or the Advanced Networking Option</li> <li>PROXY - the client was authenticated by another user. The name of the proxy user follows the method type.</li> </ul> |
| AUTH_PRIVILEGES  | VARCHAR2 (32)   | Privileges granted and revoked in GRANT and REVOKE statements recorded for standard audit trail entry                                                                                                                                                                                                                                                                                                                                                    |
| GRANTEE          | VARCHAR2 (128)  | User who granted or revoked the privilege                                                                                                                                                                                                                                                                                                                                                                                                                |
| PRIV_USED        | NUMBER          | Numerical code of privileges, if any, used in the action                                                                                                                                                                                                                                                                                                                                                                                                 |
| SES_ACTIONS      | VARCHAR2 (16)   | Session summary for standard audit records. A string of 12 characters, one for each action type, in the following order: Alter, Audit, Comment, Delete, Grant, Index, Insert, Lock, Rename, Select, Update, Flashback. Values: - = None, S=Success, F=Failure, B=Both                                                                                                                                                                                    |
| OS_PRIVILEGE     | VARCHAR2 (7)    | This column is populated only for administrative authentication audit records. It contains the administrative privilege used (for example, SYSDBA, SYSOPER, NONE).<br>For all other types of audit records, the value of this column is null.                                                                                                                                                                                                            |
| ECONTEXT_ID      | VARCHAR2 (64)   | Application execution context identifier                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SQL_BIND         | VARCHAR2 (4000) | List of bind variables used in the statement                                                                                                                                                                                                                                                                                                                                                                                                             |
| SQL_TEXT         | VARCHAR2 (4000) | The statement or command that triggered the audit event                                                                                                                                                                                                                                                                                                                                                                                                  |
| OBJ_EDITION_NAME | VARCHAR2 (128)  | Name of the edition containing the audited object                                                                                                                                                                                                                                                                                                                                                                                                        |
| DBID             | NUMBER          | Database identifier of the audited database                                                                                                                                                                                                                                                                                                                                                                                                              |
| RLS_INFO         | VARCHAR2 (4000) | Stores virtual private database (VPD) policy names and predicates separated by delimiter.<br>To format the output into individual rows, use the DBMS_AUDIT_UTIL.DECODE_RLS_INFO_ATTRAIL_XML function.                                                                                                                                                                                                                                                    |
| CURRENT_USER     | VARCHAR2 (128)  | Effective user for the statement execution                                                                                                                                                                                                                                                                                                                                                                                                               |
| CON_ID           | NUMBER          | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li>n: Where n is the applicable container ID for the rows containing data</li> </ul>                        |

**Note:**

The `SQL_BIND` and `SQL_TEXT` columns are only populated if the `AUDIT_TRAIL` initialization parameter is set to `xml`, `extended` or if the `AUDIT_SYS_OPERATIONS` initialization parameter is set to `TRUE`.

**See Also:**

- ["UNIFIED\\_AUDIT\\_TRAIL"](#)
- ["AUDIT\\_SYS\\_OPERATIONS"](#)
- ["AUDIT\\_TRAIL"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the `DBMS_AUDIT_UTIL.DECODE_RLS_INFO_ATTRAIL_XML` function.

## 10.157 V\$XSTREAM\_APPLY\_COORDINATOR

`V$XSTREAM_APPLY_COORDINATOR` displays information about each XStream apply process coordinator. The coordinator for an apply process gets transactions from the apply process reader and passes them to apply servers. An apply process coordinator is a subcomponent of an apply process, outbound server, or inbound server.

| Column                          | Datatype                    | Description                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>SID</code>                | <code>NUMBER</code>         | Session ID of the coordinator's session                                                                                                                                                                                                                                                                                                                                                          |
| <code>SERIAL#</code>            | <code>NUMBER</code>         | Serial number of the coordinator's session                                                                                                                                                                                                                                                                                                                                                       |
| <code>STATE</code>              | <code>VARCHAR2 (21)</code>  | State of the coordinator: <ul style="list-style-type: none"> <li>• <code>INITIALIZING</code> - Starting up</li> <li>• <code>IDLE</code> - Performing no work</li> <li>• <code>APPLYING</code> - Passing transactions to apply servers</li> <li>• <code>SHUTTING DOWN CLEANLY</code> - Stopping without an error</li> <li>• <code>ABORTING</code> - Stopping because of an apply error</li> </ul> |
| <code>APPLY#</code>             | <code>NUMBER</code>         | Apply process number. An apply process coordinator is an Oracle background process, prefixed by <code>ap</code> .                                                                                                                                                                                                                                                                                |
| <code>APPLY_NAME</code>         | <code>VARCHAR2 (128)</code> | Name of the apply process                                                                                                                                                                                                                                                                                                                                                                        |
| <code>TOTAL_APPLIED</code>      | <code>NUMBER</code>         | Total number of transactions applied by the apply process since the apply process was last started                                                                                                                                                                                                                                                                                               |
| <code>TOTAL_WAIT_DEPS</code>    | <code>NUMBER</code>         | Number of times since the apply process was last started that an apply server waited to apply a logical change record (LCR) in a transaction until another apply server applied a transaction because of a dependency between the transactions                                                                                                                                                   |
| <code>TOTAL_WAIT_COMMITS</code> | <code>NUMBER</code>         | Number of times since the apply process was last started that an apply server waited to commit a transaction until another apply server committed a transaction to serialize commits                                                                                                                                                                                                             |
| <code>TOTAL_ADMIN</code>        | <code>NUMBER</code>         | Number of administrative jobs issued since the apply process was last started                                                                                                                                                                                                                                                                                                                    |

| Column                   | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TOTAL_ASSIGNED           | NUMBER   | Number of transactions assigned to apply servers since the apply process was last started                                                                                                                                                                                                                                                                                                                                                       |
| TOTAL_RECEIVED           | NUMBER   | Total number of transactions received by the coordinator process since the apply process was last started                                                                                                                                                                                                                                                                                                                                       |
| TOTAL_IGNORED            | NUMBER   | Number of transactions which were received by the coordinator but were ignored because they had been previously applied                                                                                                                                                                                                                                                                                                                         |
| TOTAL_ROLLBACKS          | NUMBER   | Number of transactions which were rolled back due to unexpected contention                                                                                                                                                                                                                                                                                                                                                                      |
| TOTAL_ERRORS             | NUMBER   | Number of transactions applied by the apply process that resulted in an apply error since the apply process was last started                                                                                                                                                                                                                                                                                                                    |
| UNASSIGNED_COMPLETE_TXNS | NUMBER   | Total number of complete transactions that the coordinator has not assigned to any apply servers                                                                                                                                                                                                                                                                                                                                                |
| LWM_TIME                 | DATE     | Time when the message with the lowest message number was recorded. The creation time of the message with the lowest message number was also recorded at this time.                                                                                                                                                                                                                                                                              |
| LWM_MESSAGE_NUMBER       | NUMBER   | Number of the message corresponding to the low watermark. That is, messages with a commit message number less than or equal to this message number have definitely been applied, but some messages with a higher commit message number also may have been applied.                                                                                                                                                                              |
| LWM_MESSAGE_CREATE_TIME  | DATE     | For captured messages, creation time at the source database of the message corresponding to the low watermark. For user-enqueued messages, time when the message corresponding to the low watermark was enqueued into the queue at the local database.                                                                                                                                                                                          |
| HWM_TIME                 | DATE     | Time when the message with the highest message number was recorded. The creation time of the message with the highest message number was also recorded at this time.                                                                                                                                                                                                                                                                            |
| HWM_MESSAGE_NUMBER       | NUMBER   | Number of the message corresponding to the high watermark. That is, no messages with a commit message number greater than this message number have been applied.                                                                                                                                                                                                                                                                                |
| HWM_MESSAGE_CREATE_TIME  | DATE     | For captured messages, creation time at the source database of the message corresponding to the high watermark. For user-enqueued messages, time when the message corresponding to the high watermark was enqueued into the queue at the local database.                                                                                                                                                                                        |
| STARTUP_TIME             | DATE     | Time when the apply process was last started                                                                                                                                                                                                                                                                                                                                                                                                    |
| ELAPSED_SCHEDULE_TIME    | NUMBER   | Time elapsed (in hundredths of a second) scheduling messages since the apply process was last started                                                                                                                                                                                                                                                                                                                                           |
| ELAPSED_IDLE_TIME        | NUMBER   | Elapsed idle time                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LWM_POSITION             | RAW (64) | Position of the low-watermark LCR                                                                                                                                                                                                                                                                                                                                                                                                               |
| HWM_POSITION             | RAW (64) | Position of the high-watermark LCR                                                                                                                                                                                                                                                                                                                                                                                                              |
| PROCESSED_MESSAGE_NUMBER | NUMBER   | Message number currently processed by the apply coordinator                                                                                                                                                                                                                                                                                                                                                                                     |
| CON_ID                   | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| ACTIVE_SERVER_COUNT      | NUMBER   | Active server count                                                                                                                                                                                                                                                                                                                                                                                                                             |

**Note:**

The `ELAPSED_SCHEDULE_TIME` column is only populated if the `TIMED_STATISTICS` initialization parameter is set to `true`, or if the `STATISTICS_LEVEL` initialization parameter is set to `TYPICAL` or `ALL`.

**See Also:**

- ["TIMED\\_STATISTICS"](#)
- ["STATISTICS\\_LEVEL"](#)

## 10.158 V\$XSTREAM\_APPLY\_READER

`V$XSTREAM_APPLY_READER` displays information about each XStream apply reader. The apply reader is a process which reads (dequeues) messages from the queue, computes message dependencies, and builds transactions. It passes the transactions on to the coordinator in commit order for assignment to the apply servers. An apply reader is a subcomponent of an apply process, outbound server, or inbound server.

| Column                               | Datatype                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>SID</code>                     | <code>NUMBER</code>        | Session ID of the reader's session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <code>SERIAL#</code>                 | <code>NUMBER</code>        | Serial number of the reader's session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <code>APPLY#</code>                  | <code>NUMBER</code>        | Apply process number. An apply process is an Oracle background process, prefixed by <code>ap</code> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <code>APPLY_NAME</code>              | <code>VARCHAR2(128)</code> | Name of the apply process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <code>STATE</code>                   | <code>VARCHAR2(36)</code>  | Shows the state of the apply reader and the hash server. The possible values include: <ul style="list-style-type: none"> <li>• <code>INITIALIZING</code> - Starting up</li> <li>• <code>IDLE</code> - Performing no work</li> <li>• <code>DEQUEUE_MESSAGES</code> - Dequeuing messages from the queue</li> <li>• <code>SCHEDULE_MESSAGES</code> - Computing dependencies between messages and assembling messages into transactions</li> <li>• <code>SPILLING</code> - Spilling unapplied messages from memory to hard disk</li> <li>• <code>PAUSED - WAITING FOR DDL TO COMPLETE</code> - Waiting for a data definition language (DDL) logical change record (LCR) to be applied</li> </ul> The state of the apply reader is displayed first, followed by the state of the hash server. A semicolon separates the apply reader state from the hash server state. |
| <code>TOTAL_MESSAGES_DEQUEUED</code> | <code>NUMBER</code>        | Total number of messages dequeued since the apply process was last started                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <code>TOTAL_MESSAGES_SPILLED</code>  | <code>NUMBER</code>        | Number of messages spilled by the reader since the apply process was last started                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <code>DEQUEUE_TIME</code>            | <code>DATE</code>          | Time when the last message was received                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <code>DEQUEUED_MESSAGE_NUMBER</code> | <code>NUMBER</code>        | Number of the last message received                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Column                       | Datatype      | Description                                                                                                                                                                                                                                                                        |
|------------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DEQUEUED_MESSAGE_CREATE_TIME | DATE          | For captured messages, creation time at the source database of the last message received. For user-enqueued messages, time when the message was enqueued into the queue at the local database.                                                                                     |
| SGA_USED                     | NUMBER        | Amount (in bytes) of SGA memory used by the apply process since it was last started                                                                                                                                                                                                |
| ELAPSED_DEQUEUE_TIME         | NUMBER        | Time elapsed (in hundredths of a second) dequeuing messages since the apply process was last started                                                                                                                                                                               |
| ELAPSED_SCHEDULE_TIME        | NUMBER        | Time elapsed (in hundredths of a second) scheduling messages since the apply process was last started. Scheduling includes computing dependencies between messages and assembling messages into transactions.                                                                      |
| ELAPSED_SPILL_TIME           | NUMBER        | Elapsed time (in hundredths of a second) spent spilling messages since the apply process was last started                                                                                                                                                                          |
| OLDEST_SCN_NUM               | NUMBER        | Oldest SCN                                                                                                                                                                                                                                                                         |
| OLDEST_XIDUSN                | NUMBER        | Transaction ID undo segment number of the oldest transaction that either has been applied or is being applied                                                                                                                                                                      |
| OLDEST_XIDSLT                | NUMBER        | Transaction ID slot number of the oldest transaction that either has been applied or is being applied                                                                                                                                                                              |
| OLDEST_XIDSQN                | NUMBER        | Transaction ID sequence number of the oldest transaction that either has been applied or is being applied                                                                                                                                                                          |
| SPILL_LWM_SCN                | NUMBER        | Spill low-watermark SCN                                                                                                                                                                                                                                                            |
| PROXY_SID                    | NUMBER        | When the apply process uses combined capture and apply, the session ID of the propagation receiver that is responsible for direct communication between capture and apply. If the apply process does not use combined capture and apply, then this column is 0.                    |
| PROXY_SERIAL                 | NUMBER        | When the apply process uses combined capture and apply, the serial number of the propagation receiver that is responsible for direct communication between capture and apply. If the apply process does not use combined capture and apply, then this column is 0.                 |
| PROXY_SPID                   | VARCHAR2(12)  | When the apply process uses combined capture and apply, the process identification number of the propagation receiver that is responsible for direct communication between capture and apply. If the apply process does not use combined capture and apply, then this column is 0. |
| BYTES_RECEIVED               | NUMBER        | When the apply process uses combined capture and apply, the number of bytes received by the apply process from the capture process since the apply process last started. If the apply process does not use combined capture and apply, then this column is not populated.          |
| DEQUEUED_POSITION            | RAW(64)       | Dequeued position. This column is populated only for an apply process that is functioning as an XStream inbound server.                                                                                                                                                            |
| SPILL_LWM_POSITION           | RAW(64)       | Spill low-watermark position. This column is populated only for an apply process that is functioning as an XStream inbound server.                                                                                                                                                 |
| OLDEST_TRANSACTION_ID        | VARCHAR2(128) | Oldest transaction ID                                                                                                                                                                                                                                                              |
| TOTAL_LCRS_WITH_DEP          | NUMBER        | Total number of LCRs with row-level dependencies since the apply process last started                                                                                                                                                                                              |
| TOTAL_LCRS_WITH_WMDEP        | NUMBER        | Total number of LCRs with watermark dependencies since the apply process last started.<br>A watermark dependency occurs when an apply process must wait until the apply process's low watermark reaches a particular threshold.                                                    |
| TOTAL_IN_MEMORY_LCRS         | NUMBER        | Total number of LCRs currently in memory                                                                                                                                                                                                                                           |

| Column        | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SGA_ALLOCATED | NUMBER   | The total amount of shared memory (in bytes) allocated from the XStreams pool for the apply process since the apply process last started                                                                                                                                                                                                                                                                                                          |
| CON_ID        | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

**Note:**

The `ELAPSED_SCHEDULE_TIME` column is only populated if the `TIMED_STATISTICS` initialization parameter is set to `true`, or if the `STATISTICS_LEVEL` initialization parameter is set to `TYPICAL` or `ALL`.

**See Also:**

- ["TIMED\\_STATISTICS"](#)
- ["STATISTICS\\_LEVEL"](#)

## 10.159 V\$XSTREAM\_APPLY\_RECEIVER

`V$XSTREAM_APPLY_RECEIVER` displays information about the message receiver of the apply process. The values are reset to zero when the database (or instance in an Oracle Real Application Clusters (Oracle RAC) environment) restarts, when apply migrates to another instance, or when the XStream process is stopped.

| Column                   | Datatype       | Description                                                  |
|--------------------------|----------------|--------------------------------------------------------------|
| SID                      | NUMBER         | Session ID of the apply receiver                             |
| SERIAL#                  | NUMBER         | Serial number of the apply receiver                          |
| APPLY_NAME               | VARCHAR2 (128) | Name of the apply process                                    |
| STARTUP_TIME             | DATE           | Startup time of the apply process                            |
| SOURCE_DATABASE_NAME     | VARCHAR2 (128) | Name of the source database                                  |
| ACKNOWLEDGEMENT          | NUMBER         | Acknowledgement SCN of the messages received by the receiver |
| LAST_RECEIVED_MSG        | NUMBER         | Last received message                                        |
| TOTAL_MESSAGES_RECEIVED  | NUMBER         | Total number of messages received                            |
| TOTAL_AVAILABLE_MESSAGES | NUMBER         | Number of available messages                                 |



| Column                     | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATE                      | VARCHAR2 (44) | State of the apply receiver: <ul style="list-style-type: none"><li>• Initializing</li><li>• Sending unapplied txns</li><li>• Waiting for message from client</li><li>• Waiting for LCR from client</li><li>• Receiving LCRs</li><li>• Evaluating rules</li><li>• Enqueueing LCRS</li><li>• Waiting for memory</li><li>• Waiting for apply to read</li><li>• Waiting for client flush request to complete</li><li>• Waiting for client commit to complete</li></ul> |
| LAST_RECEIVED_MSG_POSITION | RAW (64)      | Last received message position                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ACKNOWLEDGEMENT_POSITION   | RAW (64)      | Acknowledgement position of the messages received by the receiver. Corresponds to <code>ACKNOWLEDGEMENT</code> , except the value is in position rather than SCN.                                                                                                                                                                                                                                                                                                  |
| CON_ID                     | NUMBER        | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul>                  |

## 10.160 V\$XSTREAM\_APPLY\_SERVER

`V$XSTREAM_APPLY_SERVER` displays information about each XStream apply server and its activities. An apply server receives messages from the apply coordinator for an apply process. For each message received, an apply server either applies the message or sends the message to the appropriate apply handler. An apply server is a subcomponent of an apply process, outbound server, or inbound server.

| Column     | Datatype       | Description                                                                                           |
|------------|----------------|-------------------------------------------------------------------------------------------------------|
| SID        | NUMBER         | Session ID of the apply server's session                                                              |
| SERIAL#    | NUMBER         | Serial number of the apply server's session                                                           |
| APPLY#     | NUMBER         | Apply process number. An apply process is an Oracle background process, prefixed by <code>ap</code> . |
| APPLY_NAME | VARCHAR2 (128) | Name of the apply process                                                                             |
| SERVER_ID  | NUMBER         | Parallel execution server number of the apply server                                                  |

| Column           | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATE            | VARCHAR2 (20) | <p>State of the apply server:</p> <ul style="list-style-type: none"> <li>INITIALIZING - Starting up</li> <li>IDLE - Performing no work</li> <li>RECORD LOW-WATERMARK - Performing an administrative job that maintains information about the apply progress, which is used in the ALL_APPLY_PROGRESS and DBA_APPLY_PROGRESS data dictionary views</li> <li>ADD PARTITION - Performing an administrative job that adds a partition that is used for recording information about in-progress transactions</li> <li>DROP PARTITION - Performing an administrative job that purges rows that were used to record information about in-progress transactions</li> <li>EXECUTE TRANSACTION - Applying a transaction</li> <li>WAIT COMMIT - Waiting to commit a transaction until all other transactions with a lower commit SCN are applied. This state is possible only if the COMMIT_SERIALIZATION apply process parameter is set to a value other than DEPENDENT_TRANSACTIONS and the PARALLELISM apply process parameter is set to a value greater than 1.</li> <li>WAIT DEPENDENCY - Waiting to apply a logical change record (LCR) in a transaction until another transaction, on which it has a dependency, is applied. This state is possible only if the PARALLELISM apply process parameter is set to a value greater than 1.</li> <li>ROLLBACK TRANSACTION - Rolling back a transaction</li> <li>TRANSACTION CLEANUP - Cleaning up an applied transaction, which includes removing LCRs from the apply process's queue</li> <li>WAIT FOR CLIENT - Waiting for an XStream client application to request more LCRs</li> <li>WAIT FOR NEXT CHUNK - Waiting for the next set of LCRs for a large transaction</li> </ul> |
| XIDUSN           | NUMBER        | Transaction ID undo segment number of the transaction currently being applied                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| XIDSLT           | NUMBER        | Transaction ID slot number of the transaction currently being applied                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| XIDSQN           | NUMBER        | Transaction ID sequence number of the transaction currently being applied                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMMITSCN        | NUMBER        | Commit system change number (SCN) of the transaction currently being applied                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| DEP_XIDUSN       | NUMBER        | Transaction ID undo segment number of a transaction on which the transaction being applied by this apply server depends                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DEP_XIDSLT       | NUMBER        | Transaction ID slot number of a transaction on which the transaction being applied by this apply server depends                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DEP_XIDSQN       | NUMBER        | Transaction ID sequence number of a transaction on which the transaction being applied by this apply server depends                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| DEP_COMMITSCN    | NUMBER        | Commit system change number (SCN) of the transaction on which this apply server depends                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| MESSAGE_SEQUENCE | NUMBER        | Number of the current message being applied by the apply server. This value is reset to 1 at the beginning of each transaction.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TOTAL_ASSIGNED   | NUMBER        | Total number of transactions assigned to the apply server since the apply process was last started                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Column                      | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TOTAL_ADMIN                 | NUMBER         | Total number of administrative jobs done by the apply server since the apply process was last started. See the <code>STATE</code> information in this view for the types of administrative jobs.                                                                                                                                                                                                                                                |
| TOTAL_ROLLBACKS             | NUMBER         | Number of transactions assigned to this server which were rolled back                                                                                                                                                                                                                                                                                                                                                                           |
| TOTAL_MESSAGES_APPLIED      | NUMBER         | Total number of messages applied by this apply server since the apply process was last started                                                                                                                                                                                                                                                                                                                                                  |
| APPLY_TIME                  | DATE           | Time the last message was applied                                                                                                                                                                                                                                                                                                                                                                                                               |
| APPLIED_MESSAGE_NUMBER      | NUMBER         | Number of the last message applied                                                                                                                                                                                                                                                                                                                                                                                                              |
| APPLIED_MESSAGE_CREATE_TIME | DATE           | Creation time at the source database of the last captured message applied. No information about user-enqueued messages is recorded in this column.                                                                                                                                                                                                                                                                                              |
| ELAPSED_DEQUEUE_TIME        | NUMBER         | Time elapsed (in hundredths of a second) dequeuing messages since the apply process was last started                                                                                                                                                                                                                                                                                                                                            |
| ELAPSED_APPLY_TIME          | NUMBER         | Time elapsed (in hundredths of a second) applying messages since the apply process was last started                                                                                                                                                                                                                                                                                                                                             |
| COMMIT_POSITION             | RAW (64)       | Commit position of the transaction. This column is populated only for an apply process that is functioning as an XStream inbound server.                                                                                                                                                                                                                                                                                                        |
| DEP_COMMIT_POSITION         | RAW (64)       | Commit position of the transaction the worker depends on. This column is populated only for an apply process that is functioning as an XStream inbound server.                                                                                                                                                                                                                                                                                  |
| LAST_APPLY_POSITION         | RAW (64)       | For inbound servers, the position of the last message applied; for outbound servers, the position of the last message sent to the XStream client application. This column is populated only for an apply process that is functioning as an XStream outbound server or inbound server.                                                                                                                                                           |
| TRANSACTION_ID              | VARCHAR2 (128) | Transaction ID that the worker is applying. This column is populated only for an apply process that is functioning as an XStream inbound server.                                                                                                                                                                                                                                                                                                |
| DEP_TRANSACTION_ID          | VARCHAR2 (128) | Transaction ID of the transaction the worker depends on. This column is populated only for an apply process that is functioning as an XStream inbound server.                                                                                                                                                                                                                                                                                   |
| CON_ID                      | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| TOTAL_LCRS_RETRIED          | NUMBER         | Total number of LCRs retried by this server                                                                                                                                                                                                                                                                                                                                                                                                     |
| LCR_RETRY_ITERATION         | NUMBER         | Retry iteration for this transaction by this server                                                                                                                                                                                                                                                                                                                                                                                             |
| TOTAL_TXNS_RETRIED          | NUMBER         | Total transactions retried by this server                                                                                                                                                                                                                                                                                                                                                                                                       |
| TXN_RETRY_ITERATION         | NUMBER         | Retry iteration for this transaction by this server                                                                                                                                                                                                                                                                                                                                                                                             |
| TOTAL_TXNS_RECORDED         | NUMBER         | Total transactions recorded in error queue by this server                                                                                                                                                                                                                                                                                                                                                                                       |

**Note:**

The `ELAPSED_SCHEDULE_TIME` column is only populated if the `TIMED_STATISTICS` initialization parameter is set to `true`, or if the `STATISTICS_LEVEL` initialization parameter is set to `TYPICAL` or `ALL`.

**See Also:**

- ["TIMED\\_STATISTICS"](#)
- ["STATISTICS\\_LEVEL"](#)

## 10.161 V\$XSTREAM\_CAPTURE

`V$XSTREAM_CAPTURE` displays information about each capture process that sends LCRs to an XStream outbound server.

| Column       | Datatype       | Description                                                                                           |
|--------------|----------------|-------------------------------------------------------------------------------------------------------|
| SID          | NUMBER         | Session identifier of the capture process                                                             |
| SERIAL#      | NUMBER         | Session serial number of the capture process session                                                  |
| CAPTURE#     | NUMBER         | Capture process number. A capture process is an Oracle background process prefixed by <code>cp</code> |
| CAPTURE_NAME | VARCHAR2 (128) | Name of the capture process                                                                           |
| LOGMINER_ID  | NUMBER         | Session ID of the Oracle LogMiner session associated with the capture process                         |
| STARTUP_TIME | DATE           | Time when the capture process was last started                                                        |

| Column                      | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATE                       | VARCHAR2 (551) | <p>State of the capture process:</p> <ul style="list-style-type: none"> <li>INITIALIZING - Starting up.</li> <li>WAITING FOR DICTIONARY REDO - Waiting for redo log files containing the dictionary build related to the first SCN to be added to the capture process session. A capture process cannot begin to scan the redo log files until all of the log files containing the dictionary build have been added.</li> <li>DICTIONARY INITIALIZATION - Processing a dictionary build.</li> <li>MINING (PROCESSED SCN = <i>scn_value</i>) - Mining a dictionary build at the SCN <i>scn_value</i>.</li> <li>LOADING (step <i>X</i> of <i>Y</i>) - Processing information from a dictionary build and currently at step <i>X</i> in a process that involves <i>Y</i> steps, where <i>X</i> and <i>Y</i> are numbers.</li> <li>CAPTURING CHANGES - Scanning the redo log for changes that satisfy the capture process rule sets.</li> <li>WAITING FOR REDO - Waiting for new redo log files to be added to the capture process session. The capture process has finished processing all of the redo log files added to its session. This state is possible if there is no activity at a source database. For a downstream capture process, this state is possible if the capture process is waiting for new log files to be added to its session.</li> <li>EVALUATING RULE - Evaluating a change against a capture process rule set.</li> <li>CREATING LCR - Converting a change into an LCR.</li> <li>ENQUEUEING MESSAGE - Enqueueing an LCR that satisfies the capture process rule sets into the capture process queue.</li> <li>PAUSED FOR FLOW CONTROL - Unable to enqueue LCRs either because of low memory or because propagations and outbound servers are consuming messages slower than the capture process is creating them. This state indicates flow control that is used to reduce spilling of captured LCRs when propagation or apply has fallen behind or is unavailable.</li> <li>WAITING FOR THE BUFFERED QUEUE TO SHRINK - Waiting for the buffered queue to change to a smaller size. The buffered queue shrinks when there is a memory limitation or when an administrator reduces its size.</li> <li>WAITING FOR <i>n</i> SUBSCRIBER(S) INITIALIZING - Waiting for outbound servers that receive LCRs from the capture process to start, where <i>n</i> is the number of apply processes.</li> <li>WAITING FOR TRANSACTION - Waiting for LogMiner to provide more transactions.</li> <li>WAITING FOR INACTIVE DEQUEUEUS - Waiting for the capture process's queue subscribers to start. The capture process stops enqueueing LCRs if there are no active subscribers to the queue.</li> <li>SUSPENDED FOR AUTO SPLIT/MERGE - Waiting for a merge operation to complete.</li> <li>SHUTTING DOWN - Stopping.</li> <li>ABORTING - Terminating.</li> </ul> |
| TOTAL_PREFILTER_DISCARDED   | NUMBER         | Total number of prefiltered messages discarded                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TOTAL_PREFILTER_KEPT        | NUMBER         | Total number of prefiltered messages kept                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TOTAL_PREFILTER_EVALUATIONS | NUMBER         | Total number of prefilter evaluations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Column                        | Datatype      | Description                                                                                                                                                                                                                                                                                                          |
|-------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TOTAL_MESSAGES_CAPTURED       | NUMBER        | Total number of redo entries passed by LogMiner to the capture process for detailed rule evaluation since the capture process last started. A capture process converts a redo entry into a message and performs detailed rule evaluation on the message when capture process prefiltering cannot discard the change. |
| CAPTURE_TIME                  | DATE          | Time when the most recent message was captured                                                                                                                                                                                                                                                                       |
| CAPTURE_MESSAGE_NUMBER        | NUMBER        | Number of the most recently captured message                                                                                                                                                                                                                                                                         |
| CAPTURE_MESSAGE_CREATE_TIME   | DATE          | Creation time of the most recently captured message                                                                                                                                                                                                                                                                  |
| TOTAL_MESSAGES_CREATED        | NUMBER        | Count associated with ELAPSED_LCR_TIME to calculate rate                                                                                                                                                                                                                                                             |
| TOTAL_FULL_EVALUATIONS        | NUMBER        | Count associated with ELAPSED_RULE_TIME to calculate rate                                                                                                                                                                                                                                                            |
| TOTAL_MESSAGES_ENQUEUED       | NUMBER        | Total number of messages enqueued since the capture process was last started                                                                                                                                                                                                                                         |
| ENQUEUE_TIME                  | DATE          | Time when the last message was enqueued                                                                                                                                                                                                                                                                              |
| ENQUEUE_MESSAGE_NUMBER        | NUMBER        | Number of the last enqueued message                                                                                                                                                                                                                                                                                  |
| ENQUEUE_MESSAGE_CREATE_TIME   | DATE          | Creation time of the last enqueued message                                                                                                                                                                                                                                                                           |
| AVAILABLE_MESSAGE_NUMBER      | NUMBER        | For local capture, the last redo SCN flushed to the log files. For downstream capture, the last SCN added to LogMiner through the archived redo log files.                                                                                                                                                           |
| AVAILABLE_MESSAGE_CREATE_TIME | DATE          | For local capture, the time the SCN was written to the log file. For downstream capture, the time the most recent archived redo log file (containing the most recent SCN) was added to LogMiner.                                                                                                                     |
| ELAPSED_CAPTURE_TIME          | NUMBER        | Elapsed time (in hundredths of a second) scanning for changes in the redo log since the capture process was last started                                                                                                                                                                                             |
| ELAPSED_RULE_TIME             | NUMBER        | Elapsed time (in hundredths of a second) evaluating rules since the capture process was last started                                                                                                                                                                                                                 |
| ELAPSED_ENQUEUE_TIME          | NUMBER        | Elapsed time (in hundredths of a second) enqueueing messages since the capture process was last started                                                                                                                                                                                                              |
| ELAPSED_LCR_TIME              | NUMBER        | Elapsed time (in hundredths of a second) creating LCRs since the capture process was last started                                                                                                                                                                                                                    |
| ELAPSED_REDO_WAIT_TIME        | NUMBER        | Elapsed time (in hundredths of a second) spent by the capture process in the WAITING FOR REDO state                                                                                                                                                                                                                  |
| ELAPSED_PAUSE_TIME            | NUMBER        | Elapsed flow control pause time (in hundredths of a second)                                                                                                                                                                                                                                                          |
| STATE_CHANGED_TIME            | DATE          | Time at which the state of the capture process changed                                                                                                                                                                                                                                                               |
| SGA_USED                      | NUMBER        | The total amount of shared memory (in bytes) currently used by the capture process out of the amount allocated (SGA_ALLOCATED)                                                                                                                                                                                       |
| SGA_ALLOCATED                 | NUMBER        | The total amount of shared memory (in bytes) allocated from the Streams pool for the capture process                                                                                                                                                                                                                 |
| BYTES_OF_REDO_MINED           | VARCHAR2 (64) | The total amount of redo data mined (in bytes) since the capture process last started                                                                                                                                                                                                                                |
| SESSION_RESTART_SCN           | VARCHAR2 (64) | The SCN from which the capture process started mining redo data when it was last started                                                                                                                                                                                                                             |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>1: This value is used for rows containing data that pertain to only the root</li><li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

 **Note:**

The `ELAPSED_CAPTURE_TIME`, `ELAPSED_RULE_TIME`, `ELAPSED_ENQUEUE_TIME`, `ELAPSED_LCR_TIME`, and `ELAPSED_REDO_WAIT_TIME` columns are only populated if the `TIMED_STATISTICS` initialization parameter is set to `true`, or if the `STATISTICS_LEVEL` initialization parameter is set to `TYPICAL` or `ALL`.

 **See Also:**

- "`TIMED_STATISTICS`"
- "`STATISTICS_LEVEL`"

## 10.162 V\$XSTREAM\_MESSAGE\_TRACKING

`V$XSTREAM_MESSAGE_TRACKING` displays information about LCRs tracked through the stream that are processed by XStream components.

You can track an LCR through a stream using one of the following methods:

- Set the `message_tracking_frequency` capture process parameter to 1 or another relatively low value for XStream Outbound processes.
- Set the `message_tracking_frequency` apply process parameter to 1 or another relatively low value for XStream Inbound processes.
- Use the `DBMS_XSTREAM_ADM.SET_MESSAGE_TRACKING` procedure to specify a tracking label that becomes part of each LCR generated by the current session.

When the `actions` parameter in the `DBMS_XSTREAM_ADM.SET_MESSAGE_TRACKING` procedure is set to `DBMS_XSTREAM_ADM.ACTION_MEMORY`, information about the LCRs is tracked in memory, and this view is populated with information about the LCRs. Currently, `DBMS_XSTREAM_ADM.ACTION_MEMORY` is the only valid setting for the `actions` parameter in the procedure.

 **Note:**

This view does not display information about messages flowing in an Oracle GoldenGate configuration. To view information about such message streams, query the V\$GOLDENGATE\_MESSAGE\_TRACKING view.

| Column                | Datatype                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TRACKING_LABEL        | VARCHAR2 (128)               | User-specified tracking label                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TAG                   | RAW (30)                     | First 30 bytes of the tag of the LCR                                                                                                                                                                                                                                                                                                                                                                                                              |
| COMPONENT_NAME        | VARCHAR2 (128)               | Name of the component that processed the LCR                                                                                                                                                                                                                                                                                                                                                                                                      |
| COMPONENT_TYPE        | VARCHAR2 (128)               | Type of the component that processed the LCR                                                                                                                                                                                                                                                                                                                                                                                                      |
| ACTION                | VARCHAR2 (50)                | Action performed on the LCR                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ACTION_DETAILS        | VARCHAR2 (100)               | Details of the action                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TIMESTAMP             | TIMESTAMP (9) WITH TIME ZONE | Time when the action was performed                                                                                                                                                                                                                                                                                                                                                                                                                |
| MESSAGE_CREATION_TIME | DATE                         | Time when the message was created                                                                                                                                                                                                                                                                                                                                                                                                                 |
| MESSAGE_NUMBER        | NUMBER                       | SCN of the message                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TRACKING_ID           | RAW (16)                     | Globally unique OID of the LCR                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SOURCE_DATABASE_NAME  | VARCHAR2 (128)               | Name of the source database                                                                                                                                                                                                                                                                                                                                                                                                                       |
| OBJECT_OWNER          | VARCHAR2 (128)               | Owner of the object                                                                                                                                                                                                                                                                                                                                                                                                                               |
| OBJECT_NAME           | VARCHAR2 (128)               | Name of the object                                                                                                                                                                                                                                                                                                                                                                                                                                |
| XID                   | VARCHAR2 (128)               | Transaction ID                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| COMMAND_TYPE          | VARCHAR2 (128)               | Command type of the LCR                                                                                                                                                                                                                                                                                                                                                                                                                           |
| MESSAGE_POSITION      | RAW (64)                     | Position of the message                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CON_ID                | NUMBER                       | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

 **See Also:**

- ["V\\$GOLDENGATE\\_MESSAGE\\_TRACKING"](#)
- *Oracle Database PL/SQL Packages and Types Reference* for more information about the DBMS\_XSTREAM\_ADM package
- *Oracle Database XStream Guide* for more information about XStream concepts



## 10.163 V\$XSTREAM\_OUTBOUND\_SERVER

V\$XSTREAM\_OUTBOUND\_SERVER displays statistics about an outbound server. An outbound server sends LCRs to the XStream client application.

**Note:**

When the COMMITTED\_DATA\_ONLY column is YES in the V\$XSTREAM\_OUTBOUND\_SERVER view, the V\$STREAMS\_APPLY\_SERVER view provides additional information about the outbound server process, and information about the apply server background processes used by the outbound server.

| Column       | Datatype       | Description                                                                                             |
|--------------|----------------|---------------------------------------------------------------------------------------------------------|
| SID          | NUMBER         | Session ID of the outbound server's session                                                             |
| SERIAL#      | NUMBER         | Serial number of the outbound server's session                                                          |
| SPID         | VARCHAR2 (12)  | Process identification number of the operating-system process that sends LCRs to the client application |
| SERVER_NAME  | VARCHAR2 (128) | Name of the outbound server                                                                             |
| STARTUP_TIME | DATE           | Time when the client application attached to the outbound server                                        |

| Column | Datatype      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATE  | VARCHAR2 (19) | <p>State of the outbound server</p> <p>When the <code>COMMITTED_DATA_ONLY</code> column shows YES, the following states are possible:</p> <ul style="list-style-type: none"> <li>INITIALIZING - Starting up the outbound server.</li> <li>IDLE - Performing no work because there are no LCRs to send to the XStream client application.</li> <li>GET TRANSACTIONS - Receiving transactions from the outbound server's apply coordinator.</li> <li>SEND TRANSACTION - Sending a transaction to an XStream client application.</li> <li>WAIT FOR NEXT CHUNK - Waiting for the next set of LCRs for a large transaction.</li> <li>TRANSACTION CLEANUP - Cleaning up an applied transaction, which includes removing LCRs from the outbound server's queue.</li> <li>WAIT FOR CLIENT - Waiting for an XStream client application to request more LCRs.</li> </ul> <p>When the <code>COMMITTED_DATA_ONLY</code> column shows NO, the following states are possible:</p> <ul style="list-style-type: none"> <li>INITIALIZING - Starting up the outbound server.</li> <li>INITIALIZING RULE EVALUATION CONTEXT - Initializing the context to evaluate the outbound server's rules.</li> <li>IDLE - Performing no work because there is no LCR to send to the XStream client application.</li> <li>BROWSING LCR - Browsing the outbound server's queue for next LCR.</li> <li>EVALUATING RULES - Evaluating an LCR against a rule set.</li> <li>DEQUEUEING LCR - Dequeueing an LCR from the outbound server's queue.</li> <li>SENDING LCR - Sending an LCR to an XStream client application.</li> <li>WAITING FOR CAPTURE TO TERMINATE - Waiting for the capture process to become disabled.</li> <li>SUSPENDED DUE TO A DROPPED SUBSCRIBER - Suspended because a connected subscriber was dropped. For example, a subscriber can be dropped during a split or merge operation.</li> <li>SUSPENDED FOR AUTO SPLIT/MERGE - Suspended because an automatic split or merge operation is being performed.</li> <li>WAITING ON EMPTY QUEUE - Waiting for more LCRs from the capture process.</li> <li>WAITING FOR CLIENT - Waiting for the XStream client application to request more LCRs.</li> <li>WAITING FOR CAPTURE TO INITIALIZE - Waiting for the capture process to finish the data dictionary build.</li> <li>WAITING TO ATTACH TO CAPTURE - Waiting for the outbound server to attach to the capture process.</li> </ul> <p>When a state refers to a capture process, it is the capture process that captures changes for the outbound server. When a state refers to a propagation, it is the outbound server that sends LCRs to the XStream client application.</p> |
| XIDUSN | NUMBER        | <p>Transaction ID undo segment number of the transaction currently being processed. This column is populated only if the <code>COMMITTED_DATA_ONLY</code> column shows YES. When the <code>COMMITTED_DATA_ONLY</code> column shows NO, this column is NULL.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Column                        | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| XIDSLT                        | NUMBER   | Transaction ID slot number of the transaction currently being processed. This column is populated only if the <code>COMMITTED_DATA_ONLY</code> column shows YES. When the <code>COMMITTED_DATA_ONLY</code> column shows NO, this column is NULL.                                                                                                                            |
| XIDSEQ                        | NUMBER   | Transaction ID sequence number of the transaction currently being processed. This column is populated only if the <code>COMMITTED_DATA_ONLY</code> column shows YES. When the <code>COMMITTED_DATA_ONLY</code> column shows NO, this column is NULL.                                                                                                                        |
| COMMITSCN                     | NUMBER   | Commit SCN of the transaction currently being processed. This column is populated only if the <code>COMMITTED_DATA_ONLY</code> column shows YES. When the <code>COMMITTED_DATA_ONLY</code> column shows NO, this column is NULL.                                                                                                                                            |
| TOTAL_TRANSACTIONS_SENT       | NUMBER   | Total number of transactions sent by the outbound server to the XStream client application since the last time the client application attached to the outbound server. This column is populated only if the <code>COMMITTED_DATA_ONLY</code> column shows YES. When the <code>COMMITTED_DATA_ONLY</code> column shows NO, this column is NULL.                              |
| MESSAGE_SEQUENCE              | NUMBER   | Number of the current LCR being processed by the outbound server. This value is reset to 1 at the beginning of each transaction. This column is populated only if the <code>COMMITTED_DATA_ONLY</code> column shows YES. When the <code>COMMITTED_DATA_ONLY</code> column shows NO, this column is NULL.                                                                    |
| TOTAL_MESSAGES_SENT           | NUMBER   | Total number of LCRs sent by the outbound server to the XStream client application since the last time the client application attached to the outbound server                                                                                                                                                                                                               |
| SEND_TIME                     | DATE     | Time the last LCR was sent by the outbound server to the XStream client application                                                                                                                                                                                                                                                                                         |
| LAST_SENT_MESSAGE_NUMBER      | NUMBER   | Message number of the last LCR sent by the outbound server to the XStream client application                                                                                                                                                                                                                                                                                |
| LAST_SENT_MESSAGE_CREATE_TIME | DATE     | Creation time at the source database of the last LCR sent by the outbound server to the client application                                                                                                                                                                                                                                                                  |
| ELAPSED_SEND_TIME             | NUMBER   | Time elapsed (in hundredths of a second) sending LCRs to the XStream client application since the last time the client application attached to the outbound server                                                                                                                                                                                                          |
| COMMIT_POSITION               | RAW (64) | Commit position of the transaction currently being processed. This column is populated only if the <code>COMMITTED_DATA_ONLY</code> column shows YES. When the <code>COMMITTED_DATA_ONLY</code> column shows NO, this column is NULL.                                                                                                                                       |
| LAST_SENT_POSITION            | RAW (64) | Position of the last LCR sent to the XStream client application. This column is populated only if the <code>COMMITTED_DATA_ONLY</code> column shows YES. When the <code>COMMITTED_DATA_ONLY</code> column shows NO, this column is NULL.                                                                                                                                    |
| BYTES_SENT                    | NUMBER   | Total number of bytes sent by the outbound server to the XStream client application since the last time the client application attached to the outbound server                                                                                                                                                                                                              |
| COMMITTED_DATA_ONLY           | CHAR (3) | YES if the outbound server can send only LCRs in committed transactions to the XStream client application. A committed transaction is an assembled, noninterleaving transaction with no rollbacks.<br><br>NO if the outbound server can send LCRs in transactions that have not yet committed to the XStream client application. This mode is for internal Oracle use only. |

| Column | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID | NUMBER   | <p>The ID of the container to which the data pertains. Possible values include:</p> <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |



#### See Also:

"V\$STREAMS\_APPLY\_SERVER"

## 10.164 V\$XSTREAM\_TABLE\_STATS

V\$XSTREAM\_TABLE\_STATS shows the statistics for all the tables processed by each apply server for the XStream session.

| Column                  | Datatype       | Description                                                                                                                                                                      |
|-------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| APPLY_NAME              | VARCHAR2 (128) | Name of XStream Out or XStream In process                                                                                                                                        |
| SERVER_ID               | NUMBER         | Parallel apply server worker ID. If the server ID is 0, then this is an aggregate of statistics for servers that may have been automatically shutdown due to session inactivity. |
| SOURCE_TABLE_OWNER      | VARCHAR2 (128) | Source owner of the captured or replicated table                                                                                                                                 |
| SOURCE_TABLE_NAME       | VARCHAR2 (128) | Source name of the captured or replicated table                                                                                                                                  |
| DESTINATION_TABLE_OWNER | VARCHAR2 (128) | Target owner of the captured or replicated table                                                                                                                                 |
| DESTINATION_TABLE_NAME  | VARCHAR2 (128) | Target name of the captured or replicated table                                                                                                                                  |
| LAST_UPDATE             | DATE           | Time of last update                                                                                                                                                              |
| TOTAL_INSERTS           | NUMBER         | Number of insert operations on this table processed by this apply server for the current session                                                                                 |
| TOTAL_UPDATES           | NUMBER         | Number of update operations on this table processed by this apply server for the current session                                                                                 |
| TOTAL_DELETES           | NUMBER         | Number of delete operations on this table processed by this apply server for the current session                                                                                 |
| INSERT_COLLISIONS       | NUMBER         | Number of insert collisions on this table encountered by this apply server for the current session                                                                               |
| UPDATE_COLLISIONS       | NUMBER         | Number of update collisions on this table encountered by this apply server for the current session                                                                               |
| DELETE_COLLISIONS       | NUMBER         | Number of delete collisions on this table encountered by this apply server for the current session                                                                               |
| REPERROR_RECORDS        | NUMBER         | Number of change records that were recorded on this table by this apply server for the current session                                                                           |
| REPERROR_IGNORES        | NUMBER         | Number of ignored change records on this table by this apply server for the current session                                                                                      |
| WAIT_DEPENDENCIES       | NUMBER         | Number of waits for this table due to dependency for the current session                                                                                                         |

| Column                     | Datatype | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CON_ID                     | NUMBER   | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |
| CDR_INSERT_ROW_EXISTS      | NUMBER   | Number of conflicts where an insert gets an ORA-00001 error                                                                                                                                                                                                                                                                                                                                                                                     |
| CDR_UPDATE_ROW_EXISTS      | NUMBER   | Number of conflicts where an update gets an ORA-26786 error                                                                                                                                                                                                                                                                                                                                                                                     |
| CDR_UPDATE_ROW_MISSING     | NUMBER   | Number of conflicts where an update gets an ORA-26787 error                                                                                                                                                                                                                                                                                                                                                                                     |
| CDR_DELETE_ROW_EXISTS      | NUMBER   | Number of conflicts where a delete gets an ORA-26786 error                                                                                                                                                                                                                                                                                                                                                                                      |
| CDR_DELETE_ROW_MISSING     | NUMBER   | Number of conflicts where a delete gets an ORA-26787 error                                                                                                                                                                                                                                                                                                                                                                                      |
| CDR_SUCCESSFUL_RESOLUTIONS | NUMBER   | Number of successfully resolved conflicts                                                                                                                                                                                                                                                                                                                                                                                                       |
| CDR_FAILED_RESOLUTIONS     | NUMBER   | Number of conflicts that could not be resolved due to an error during resolution                                                                                                                                                                                                                                                                                                                                                                |
| LOB_OPERATIONS             | NUMBER   | The number of LOB updates (LOB writes, LOB trims, and LOB erases) applied by the inbound server.                                                                                                                                                                                                                                                                                                                                                |



#### See Also:

*Oracle Database XStream Guide* for more information about XStream conflict detection and resolution

## 10.165 V\$XSTREAM\_TRANSACTION

V\$XSTREAM\_TRANSACTION displays information about transactions that are being processed by capture processes, outbound servers, and inbound servers. This view can identify long running transactions and to display how many LCRs are being processed in each transaction. This view only contains information about captured LCRs. It does not contain information about user-enqueued LCRs or user messages.

This view only shows information about LCRs that are being processed because they satisfied the rule sets for the component at the time of the query. For capture processes, this view only shows information about changes in transactions that the capture process has converted into LCRs. It does not show information about all the active transactions present in the redo log.

For outbound servers, this view only shows information about LCRs that the outbound server has dequeued. It does not show information about LCRs in the outbound server's queue. For outbound servers, information about a transaction remains in the view until the transaction is sent to the XStream client application.

For inbound servers, information about a transaction remains in the view until the transaction commits or until the entire transaction is rolled back.

| Column         | Datatype       | Description           |
|----------------|----------------|-----------------------|
| COMPONENT_NAME | VARCHAR2 (128) | Name of the component |

| Column                   | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPONENT_TYPE           | VARCHAR2 (20)  | Type of component <ul style="list-style-type: none"> <li>CAPTURE - Capture process</li> <li>APPLY - Apply reader subcomponent in an outbound server or inbound server</li> <li>PROPAGATION_SENDER - Propagation sender that sends LCRs from a capture process to an outbound server</li> </ul>                                                                                                                                                  |
| XIDUSN                   | NUMBER         | Transaction ID undo segment number of the transaction                                                                                                                                                                                                                                                                                                                                                                                           |
| XIDSLT                   | NUMBER         | Transaction ID slot number of the transaction                                                                                                                                                                                                                                                                                                                                                                                                   |
| XIDSQN                   | NUMBER         | Transaction ID sequence number of the transaction                                                                                                                                                                                                                                                                                                                                                                                               |
| CUMULATIVE_MESSAGE_COUNT | NUMBER         | Number of LCRs processed in the transaction. If a component is restarted while the transaction is being processed, then this column shows the number of LCRs processed in the transaction since the component was started.                                                                                                                                                                                                                      |
| TOTAL_MESSAGE_COUNT      | NUMBER         | Total number of LCRs processed in the transaction by an outbound server or inbound server. This column does not pertain to capture processes.                                                                                                                                                                                                                                                                                                   |
| FIRST_MESSAGE_TIME       | DATE           | Time stamp of the first LCR processed in the transaction. If a capture process is restarted while the transaction is being processed, then this column shows the time stamp of the first LCR processed after the capture process was started.                                                                                                                                                                                                   |
| FIRST_MESSAGE_NUMBER     | NUMBER         | SCN of the first message in the transaction. If a capture process is restarted while the transaction is being processed, then this column shows the SCN of the first message processed after the capture process was started.                                                                                                                                                                                                                   |
| LAST_MESSAGE_TIME        | DATE           | Time stamp of the last LCR processed in the transaction                                                                                                                                                                                                                                                                                                                                                                                         |
| LAST_MESSAGE_NUMBER      | NUMBER         | SCN of the most recent message encountered for the transaction                                                                                                                                                                                                                                                                                                                                                                                  |
| FIRST_MESSAGE_POSITION   | RAW (64)       | Position of the first message seen by an XStream inbound server<br>This column is populated only for an apply process that is functioning as an XStream inbound server.                                                                                                                                                                                                                                                                         |
| LAST_MESSAGE_POSITION    | RAW (64)       | Position of the last message seen by an XStream inbound server. This column is populated only for an apply process that is functioning as an XStream inbound server.                                                                                                                                                                                                                                                                            |
| TRANSACTION_ID           | VARCHAR2 (128) | Transaction ID for an XStream inbound server. This column is populated only for an apply process that is functioning as an XStream inbound server.                                                                                                                                                                                                                                                                                              |
| CON_ID                   | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"> <li>0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li> <li>1: This value is used for rows containing data that pertain to only the root</li> <li><i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li> </ul> |

## 10.166 V\$ZONEMAP\_USAGE\_STATS

V\$ZONEMAP\_USAGE\_STATS displays zone map usage statistics.

| Column       | Datatype       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZONEMAP      | VARCHAR2 (257) | Name of the zone map in the form of <i>owner.name</i>                                                                                                                                                                                                                                                                                                                                                                                             |
| PRUNING_TYPE | VARCHAR2 (11)  | Type of data pruning performed using the zone map                                                                                                                                                                                                                                                                                                                                                                                                 |
| EXECUTIONS   | NUMBER         | Number of executions, including parallel worker executions                                                                                                                                                                                                                                                                                                                                                                                        |
| BASE_COUNT   | NUMBER         | Base count accumulated over number of executions                                                                                                                                                                                                                                                                                                                                                                                                  |
| PRUNED_COUNT | NUMBER         | Pruned count accumulated over number of executions                                                                                                                                                                                                                                                                                                                                                                                                |
| CON_ID       | NUMBER         | The ID of the container to which the data pertains. Possible values include: <ul style="list-style-type: none"><li>• 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs.</li><li>• 1: This value is used for rows containing data that pertain to only the root</li><li>• <i>n</i>: Where <i>n</i> is the applicable container ID for the rows containing data</li></ul> |

The ratio (`PRUNED_COUNT` / `BASE_COUNT`) shows the fraction of data pruned by the zone map.

# Part IV

## Appendixes

This part includes the following appendixes:

- [Database Limits](#)
- [SQL Scripts](#)
- [Oracle Wait Events](#)
- [Oracle Enqueue Names](#)
- [Statistics Descriptions](#)
- [Background Processes](#)



# A

## Database Limits

This appendix lists the limits of values associated with database functions and objects. Limits exist on several levels in the database. There is usually a hard-coded limit in the database that cannot be exceeded. This value may be further restricted for any given operating system. Database limits are divided into four categories:

- [Datatype Limits](#)
- [Physical Database Limits](#)
- [Logical Database Limits](#)
- [Process and Runtime Limits](#)



### See Also:

Your operating system-specific Oracle documentation

## A.1 Datatype Limits

This table documents the limits for datatypes, and includes comments about the datatypes.

| Datatypes | Limit                                                                                                                                                                                                                                                                   | Comments                                                                                                                                                                                                                                                                                                                        |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BFILE     | <p>Maximum size: 2<sup>64</sup> bytes (18.44 exabytes) or OS file size limit, whichever is the lower value</p> <p>Maximum size of a file name: 255 characters</p> <p>Maximum size of a directory name: 128 bytes</p> <p>Maximum number of open BFILEs: see Comments</p> | The maximum number of BFILEs is limited by the value of the <code>SESSION_MAX_OPEN_FILES</code> initialization parameter, which is itself limited by the maximum number of open files the operating system will allow.                                                                                                          |
| BLOB      | Maximum size: (4 GB - 1) * <code>DB_BLOCK_SIZE</code> initialization parameter (8 TB to 128 TB)                                                                                                                                                                         | <p>The number of LOB columns per table is limited only by the maximum number of columns per table (that is, 1000 if <code>MAX_COLUMNS = STANDARD</code> and 4096 if <code>MAX_COLUMNS = EXTENDED</code><sup>1</sup>).</p> <p><b>See Also:</b> "<a href="#">MAX_COLUMNS</a>" initialization parameter for additional details</p> |
| CHAR      | Maximum size: 2000 bytes                                                                                                                                                                                                                                                | None                                                                                                                                                                                                                                                                                                                            |
| CLOB      | Maximum size: (4 GB - 1) * <code>DB_BLOCK_SIZE</code> initialization parameter (8 TB to 128 TB)                                                                                                                                                                         | <p>The number of LOB columns per table is limited only by the maximum number of columns per table (that is, 1000 if <code>MAX_COLUMNS = STANDARD</code> and 4096 if <code>MAX_COLUMNS = EXTENDED</code><sup>1</sup>).</p> <p><b>See Also:</b> "<a href="#">MAX_COLUMNS</a>" initialization parameter for additional details</p> |
| JSON      | Maximum size: 32 MB                                                                                                                                                                                                                                                     | None                                                                                                                                                                                                                                                                                                                            |

| Datatypes                                         | Limit                                                                                                                                                                                                 | Comments                                                                                                                                                                                                                                                                         |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Literals (characters or numbers in SQL or PL/SQL) | Maximum size: 4000 characters                                                                                                                                                                         | None                                                                                                                                                                                                                                                                             |
| LONG <sup>2</sup>                                 | Maximum size: 2 GB - 1                                                                                                                                                                                | Only one LONG column is allowed per table.                                                                                                                                                                                                                                       |
| NCHAR                                             | Maximum size: 2000 bytes                                                                                                                                                                              | None                                                                                                                                                                                                                                                                             |
| NCLOB                                             | Maximum size: (4 GB - 1) * DB_BLOCK_SIZE initialization parameter (8 TB to 128 TB)                                                                                                                    | The number of LOB columns per table is limited only by the maximum number of columns per table (that is, 1000 if MAX_COLUMNS = STANDARD and 4096 if MAX_COLUMNS = EXTENDED <sup>1</sup> ).<br><br><b>See Also:</b> "MAX_COLUMNS" initialization parameter for additional details |
| NUMBER                                            | 999...(38 9's) x10 <sup>125</sup> maximum value<br>-999...(38 9's) x10 <sup>125</sup> minimum value                                                                                                   | Can be represented to full 38-digit precision (the mantissa)<br>Can be represented to full 38-digit precision (the mantissa)                                                                                                                                                     |
| NVARCHAR2                                         | Maximum size: 4000 bytes, or 32767 bytes if the MAX_STRING_SIZE initialization parameter is set to EXTENDED<br><br><b>See Also:</b> "MAX_STRING_SIZE" initialization parameter for additional details | None                                                                                                                                                                                                                                                                             |
| Precision                                         | 38 significant digits                                                                                                                                                                                 | None                                                                                                                                                                                                                                                                             |
| RAW                                               | Maximum size: 2000 bytes, or 32767 bytes if the MAX_STRING_SIZE initialization parameter is set to EXTENDED<br><br><b>See Also:</b> "MAX_STRING_SIZE" initialization parameter for additional details | None                                                                                                                                                                                                                                                                             |
| VARCHAR2                                          | Maximum size: 4000 bytes, or 32767 bytes if the MAX_STRING_SIZE initialization parameter is set to EXTENDED<br><br><b>See Also:</b> "MAX_STRING_SIZE" initialization parameter for additional details | None                                                                                                                                                                                                                                                                             |

<sup>1</sup> The absolute maximum number of columns in a table is 1000 or 4096, depending on the value of the MAX\_COLUMNS initialization parameter. However, when you create an object table (or a relational table with columns of object, nested table, varray, or REF type), Oracle maps the columns of the user-defined types to relational columns, creating in effect hidden columns that count toward the maximum column limit. For details on how Oracle calculates the total number of columns in such a table, refer to *Oracle Database Administrator's Guide*.

<sup>2</sup> All forms of LONG data types (LONG, LONG RAW, LONG VARCHAR, LONG VARRAW) were deprecated in Oracle8i Release 8.1.6. For succeeding releases, the LONG data type was provided for backward compatibility with existing applications. In new applications developed with later releases, Oracle strongly recommends that you use the CLOB or NCLOB data type for storing large amounts of character data.

**See Also:**

- *Oracle Database SQL Language Reference* for more information about datatypes
- *Oracle Database SQL Language Reference* for more information on naming database objects

## A.2 Physical Database Limits

This table describes limit types and limit values for physical database items.

| Item                 | Type of Limit                                    | Limit Value                                                                                                                                                                                                                                                |
|----------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Controlfiles         | Number of control files                          | 1 minimum; 2 or more (on separate devices) strongly recommended                                                                                                                                                                                            |
| Controlfiles         | Size of a control file                           | Maximum of 201031680 logical blocks                                                                                                                                                                                                                        |
| Database Block Size  | Minimum                                          | 2048 bytes; must be a multiple of operating system physical block size                                                                                                                                                                                     |
| Database Block Size  | Maximum                                          | Operating system dependent; never more than 32 KB                                                                                                                                                                                                          |
| Database Blocks      | Minimum in initial extent of a segment           | 2 blocks                                                                                                                                                                                                                                                   |
| Database Blocks      | Maximum per datafile                             | Platform dependent; typically $2^{22} - 1$ blocks                                                                                                                                                                                                          |
| Database extents     | Maximum per dictionary managed tablespace        | 4 GB * physical block size (with K/M modifier); 4 GB (without K/M modifier)                                                                                                                                                                                |
| Database extents     | Maximum per locally managed (uniform) tablespace | 256 KB * physical block size                                                                                                                                                                                                                               |
| Database file size   | Maximum                                          | Operating system dependent. Limited by maximum operating system file size. See the <b>Bigfile Tablespaces</b> and <b>Smallfile (traditional) Tablespaces</b> rows for more information about the maximum database file size in these types of tablespaces. |
| Database files       | Maximum per tablespace                           | Operating system dependent; usually 1023                                                                                                                                                                                                                   |
| Database files       | Maximum per database                             | 65533<br>May be less on some operating systems<br>Limited also by size of database blocks and by the DB_FILES initialization parameter for a particular instance                                                                                           |
| External Tables file | Maximum size                                     | Dependent on the operating system<br>An external table can be composed of multiple files.                                                                                                                                                                  |
| MAXEXTENTS           | Default value                                    | Derived from tablespace default storage or DB_BLOCK_SIZE initialization parameter                                                                                                                                                                          |
| MAXEXTENTS           | Maximum                                          | Not defined                                                                                                                                                                                                                                                |
| Redo Log File Size   | Minimum size                                     | 4 MB                                                                                                                                                                                                                                                       |
| Redo Log File Size   | Maximum Size                                     | Operating system limit; typically 2 TB                                                                                                                                                                                                                     |

| Item                                | Type of Limit                        | Limit Value                                                                                                                                                                                                                                                                               |
|-------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Redo Log Files                      | Maximum number of logfiles           | Limited by value of <code>MAXLOGFILES</code> parameter in the <code>CREATE DATABASE</code> statement<br>Control file can be resized to allow more entries; ultimately an operating system limit                                                                                           |
| Redo Log Files                      | Maximum number of logfiles per group | Not defined                                                                                                                                                                                                                                                                               |
| Tablespaces                         | Maximum number per database          | 64 K<br>Number of tablespaces cannot exceed the number of database files because each tablespace must include at least one file                                                                                                                                                           |
| Bigfile Tablespaces                 | Number of blocks                     | A bigfile tablespace contains only one datafile or tempfile, which can contain up to approximately 4 billion ( $2^{32}$ ) blocks. The maximum size of the single datafile or tempfile is 128 terabytes (TB) for a tablespace with 32 K blocks and 32 TB for a tablespace with 8 K blocks. |
| Smallfile (traditional) Tablespaces | Number of blocks                     | A smallfile tablespace is a traditional Oracle tablespace, which can contain 1023 datafiles or tempfiles, each of which can contain up to approximately 4 million ( $2^{22}$ ) blocks.                                                                                                    |

## A.3 Logical Database Limits

This table describes limit types and limit values for logical database items.

| Item        | Type of Limit                          | Limit Value                                                                                                                                                                                                                                                                        |
|-------------|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Columns     | Maximum per table                      | If <code>MAX_COLUMNS</code> = STANDARD: 1000<br>If <code>MAX_COLUMNS</code> = EXTENDED: 4096 (available starting with Oracle Database 23ai)<br><b>See Also:</b> " <code>MAX_COLUMNS</code> " initialization parameter for additional details                                       |
| Columns     | Maximum per index (or clustered index) | 32                                                                                                                                                                                                                                                                                 |
| Columns     | Maximum per bitmapped index            | 30                                                                                                                                                                                                                                                                                 |
| Constraints | Maximum per column                     | Not defined<br>Oracle does not define a limit on the number of constraints per column. However, constraints are subject to the limit on the maximum number of constraints in the database. See the entry for " <a href="#">Constraints - Maximum per database</a> " in this table. |

| Item                                | Type of Limit                   | Limit Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Constraints                         | Maximum per database            | <p>4,294,967,293</p> <p>Constraints are numbered internally from 1 to 4,294,967,294. The internal number is incremented each time a constraint is created. One number is always consumed by a special internal user called <code>_NEXT_CONSTRAINT</code>, which represents the next available number for a new constraint. Starting with Oracle Database 23ai, the database reuses constraint numbers. Therefore, the maximum number of constraints that can exist in the database at any given time is 4,294,967,293.</p> <p>You can view constraint numbers by querying the <code>CON#</code> column of the <code>SYS.CON\$</code> table.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Dictionary-managed database objects | Maximum per database            | <p>4,254,950,911 - overhead</p> <ul style="list-style-type: none"> <li>The value of 4,254,950,911 is derived as follows: The data type used for object identifiers can store a maximum value of 4,294,967,294. However, approximately 40 million of these values are reserved at the high end for other purposes, which results in a maximum object identifier value of 4,254,950,911.</li> <li>Overhead includes the following: <ul style="list-style-type: none"> <li>Multiple object identifiers for one database object <p>Database objects consume one object identifier at the time of creation. This identifier is displayed in both the <code>OBJECT_ID</code> and <code>DATA_OBJECT_ID</code> columns of the <a href="#">ALL_OBJECTS</a> view. Over the lifetime of an object, the value of <code>OBJECT_ID</code> remains unchanged, but the value of <code>DATA_OBJECT_ID</code> changes when the object is altered, for example, with a DDL statement or a table truncation. Therefore, one object can consume more than one object identifier over its lifetime.</p> </li> <li>Object identifiers for lightweight jobs <p>Lightweight jobs consume object identifiers, even though they are not permanent objects. Therefore, if many lightweight jobs are running in the database, the number of objects that can be created in the database is dependent upon the remaining pool of identifiers.</p> </li> </ul> </li> </ul> |
| Indexes                             | Maximum per table               | <p>Not defined</p> <p>Oracle does not define a limit on the number of indexes per table. However, indexes are subject to the limit on the maximum number of dictionary-managed database objects allowed per database. See the entry for "<a href="#">Dictionary-managed database objects</a>" in this table.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Indexes                             | Total size of indexed column(s) | <p>Approximately 75% of the database block size minus some overhead</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Item                         | Type of Limit                                                    | Limit Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Partitions                   | Maximum length of linear partitioning key                        | 4 KB - overhead                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Partitions                   | Maximum number of columns in partition key                       | 16 columns                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Partitions                   | Maximum number of partitions allowed per table or index          | 1024K - 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Rows                         | Maximum number per table                                         | Not defined                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Stored Packages              | Maximum size                                                     | Approximately 6,000,000 lines of code.<br><b>See Also:</b> <i>Oracle Database PL/SQL Language Reference</i> for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Subpartitions                | Maximum number of subpartitions in a composite partitioned table | 1024K - 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Subqueries                   | Maximum levels of subqueries in a SQL statement                  | 255 subqueries in the <code>WHERE</code> clause<br>A limit is not defined for subqueries in the <code>FROM</code> clause of the top-level query.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| System Change Numbers (SCNs) | Maximum                                                          | $2^{63} - 2^{48} = 9,223,090,561,878,065,152$ SCNs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Tables                       | Maximum per clustered table                                      | 32 tables                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Tables                       | Maximum per database                                             | Not defined<br>Oracle does not define a limit on the number of tables per database. However, tables are subject to the limit on the maximum number of dictionary-managed database objects allowed per database. See the entry for " <a href="#">Dictionary-managed database objects</a> " in this table.                                                                                                                                                                                                                                                                                              |
| Users and Roles              | Maximum                                                          | 2,147,483,638<br>Users and roles are numbered internally from 0 to 2,147,483,638. The internal number is incremented each time a user or role is created, and numbers are never recycled. One number is always consumed by a special internal user called <code>_NEXT_USER</code> , which represents the next available number for a new user or role. Therefore, the maximum number of users and roles that can be created during the lifetime of a database is 2,147,483,638.<br>You can view user and role numbers by querying the <code>USER#</code> column of the <code>SYS.USER\$</code> table. |


**Note:**

The limit on how long a SQL statement can be depends on many factors, including database configuration, disk space, and memory

**Note:**

When an object instance exists in memory, there is no fixed limit on the number of attributes in the object. But the maximum total amount of memory consumed by an object instance is 4 GB. When an object instance is inserted into a table, the attributes are exploded into separate columns in the table, and these columns count toward the limit on the maximum number of columns per table.

## A.4 Process and Runtime Limits

This table describes limit types and limit values for process and runtime items.

| Item                           | Type of Limit                                             | Limit Value                                                                                                           |
|--------------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Advanced Queuing Processes     | Maximum per instance                                      | 10                                                                                                                    |
| Backup Sessions                | Maximum per instance                                      | Limited by the PROCESSES and SESSIONS initialization parameters, for instance                                         |
| Dispatchers                    | Maximum per instance                                      | Limited by the PROCESSES and SESSIONS initialization parameters, for instance                                         |
| Global Cache Service Processes | Maximum per instance                                      | 10                                                                                                                    |
| Instances per database         | Maximum number of cluster database instances per database | Operating system-dependent                                                                                            |
| I/O Worker Processes           | Maximum per background process (DBWR, LGWR, and so on)    | 15                                                                                                                    |
| I/O Worker Processes           | Maximum per Backup session                                | 15                                                                                                                    |
| Job Queue Processes            | Maximum per instance                                      | 1000                                                                                                                  |
| Locks                          | Row-level                                                 | Not defined                                                                                                           |
| Parallel Execution Workers     | Maximum per instance                                      | Limited by the PROCESSES and SESSIONS initialization parameters, for instance                                         |
| Services                       | Maximum per instance                                      | 8200                                                                                                                  |
| Sessions                       | Maximum per instance                                      | $2^{16}$ ; limited by the PROCESSES and SESSIONS initialization parameters. $2^{16}$ is 65536.                        |
| SGA size                       | Maximum value                                             | Operating system-dependent; typically 2 to 4 GB for 32-bit operating systems, and > 4 GB for 64-bit operating systems |
| Shared Servers                 | Maximum per instance                                      | Limited by the PROCESSES and SESSIONS initialization parameters, for instance                                         |

# B

## SQL Scripts

This appendix describes SQL scripts that are required for optimal operation of the Oracle Database.

The SQL scripts are described in the following sections:

- [Creating the Data Dictionary](#)
- [Creating Additional Data Dictionary Structures](#)
- [The "NO" Scripts](#)
- [Upgrade Scripts](#)
- [Java Scripts](#)



### Note:

Comments within the SQL scripts themselves contain more detailed information and examples.



### Note:

To run scripts in a pluggable database (PDB), connect to the PDB before running the script. For more information about running scripts in a multitenant container database (CDB), see *Oracle Multitenant Administrator's Guide*.

## B.1 Creating the Data Dictionary

When you use the Database Configuration Assistant to create a database, Oracle automatically creates the data dictionary. Thereafter, whenever the database is in operation, Oracle updates the data dictionary in response to every DDL statement. The data dictionary base tables are the first objects created in any Oracle database. They are created in the `SYSTEM` tablespace and must remain there. The data dictionary base tables store information about all user-defined objects in the database.

[Table B-1](#) lists required scripts, which are run automatically when you create a database using the Database Configuration Assistant. They are described here because you might need to run them if you create a database manually. To run these scripts, you must be connected to Oracle as a user with `SYSDBA` privileges.



**Table B-1 Creating the Data Dictionary Scripts**

| Script Name  | Needed For                       | Description                                                                                                                                                                                                                                              |
|--------------|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| catalog.sql  | All databases                    | Creates the data dictionary and public synonyms for many of its views<br>Grants PUBLIC access to the synonyms                                                                                                                                            |
| catproc.sql  | All databases                    | Runs all scripts required for, or used with, PL/SQL                                                                                                                                                                                                      |
| catpcat.sql  | All databases                    | Runs the catalog.sql and catproc.sql scripts as parallel processes, which can speed up database creation<br><b>Note:</b> You must run catpcat.sql by using the catctl.pl program. See <i>Oracle Database Administrator's Guide</i> for more information. |
| catclust.sql | Oracle Real Application Clusters | Creates Oracle Real Application Clusters data dictionary views                                                                                                                                                                                           |

 **See Also:**

- Your operating system-specific Oracle documentation for the exact names and locations of these scripts on your operating system
- *Oracle Database Administrator's Guide* for more information about creating a database
- *Oracle Real Application Clusters Administration and Deployment Guide* for more information about creating Oracle Real Application Cluster views

## B.2 Creating Additional Data Dictionary Structures

Oracle Database supplies other scripts that create additional structures you can use in managing your database and creating database applications. These scripts are listed in [Table B-2](#).

 **See Also:**

Your operating system-specific Oracle documentation for the exact names and locations of these scripts on your operating system

**Table B-2 Creating Additional Data Dictionary Structures**

| Script Name  | Needed For             | Run By | Description                                                                                                                        |
|--------------|------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------|
| catblock.sql | Performance management | SYS    | Creates views that can dynamically display lock dependency graphs<br><b>See Also:</b> <i>Oracle Database Administrator's Guide</i> |

**Table B-2 (Cont.) Creating Additional Data Dictionary Structures**

| Script Name                      | Needed For             | Run By        | Description                                                                                                                                                                                                                                                          |
|----------------------------------|------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| cathss.sql                       | Heterogeneous Services | SYS           | Installs packages for administering heterogeneous services<br><b>See Also:</b> <i>Oracle Database Gateway for APPC Installation and Configuration Guide for Microsoft Windows</i>                                                                                    |
| catio.sql                        | Performance management | SYS           | Allows I/O to be traced on a table-by-table basis                                                                                                                                                                                                                    |
| catqueue.sql                     | Advanced Queuing       |               | Creates the dictionary objects required for Advanced Queuing                                                                                                                                                                                                         |
| catrep.sql                       | Oracle Replication     | SYS           | Runs all SQL scripts for enabling database replication                                                                                                                                                                                                               |
| catwrr.sql                       | Database Replay        | SYS           | Main script that creates the entire schema related to Database Replay - calls the create schema scripts for Workload Capture, Database Replay, Workload Replay, and Workload Intelligence                                                                            |
| catwrrwithb.sql                  | Database Replay        | SYS           | Creates the schema for Workload Intelligence                                                                                                                                                                                                                         |
| dbmsiotc.sql                     | Storage management     | Any user      | Analyzes chained rows in index-organized tables                                                                                                                                                                                                                      |
| dbmspool.sql                     | Performance management | SYS or SYSDBA | Enables DBA to lock PL/SQL packages, SQL statements, and triggers into the shared pool<br><b>See Also:</b> <i>Oracle Database PL/SQL Packages and Types Reference</i>                                                                                                |
| userlock.sql                     | Concurrency control    | SYS or SYSDBA | Provides a facility for user-named locks that can be used in a local or clustered environment to aid in sequencing application actions                                                                                                                               |
| utlbstat.sql and<br>utlestat.sql | Performance monitoring | SYS           | Respectively start and stop collecting performance tuning statistics                                                                                                                                                                                                 |
| utlchn1.sql                      | Storage management     | Any user      | For use with the Oracle Database. Creates tables for storing the output of the <code>ANALYZE</code> command with the <code>CHAINED ROWS</code> option. Can handle both physical and logical rowids.<br><b>See Also:</b> <i>Oracle Database Administrator's Guide</i> |
| utlconst.sql                     | Year 2000 compliance   | Any user      | Provides functions to validate that <code>CHECK</code> constraints on date columns are year 2000 compliant                                                                                                                                                           |
| utldtree.sql                     | Metadata management    | Any user      | Creates tables and views that show dependencies between objects<br><b>See Also:</b> <i>Oracle Database SecureFiles and Large Objects Developer's Guide</i>                                                                                                           |
| utlexpt1.sql                     | Constraints            | Any user      | For use with the Oracle Database. Creates the default table ( <code>EXCEPTIONS</code> ) for storing exceptions from enabling constraints. Can handle both physical and logical rowids.<br><b>See Also:</b> <i>Oracle Database Administrator's Guide</i>              |

**Table B-2 (Cont.) Creating Additional Data Dictionary Structures**

| Script Name    | Needed For                             | Run By                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------|----------------------------------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| utlfixdirs.sql | Moving a database to a new Oracle home | SYS                           | <p>Used after moving a database to a new Oracle home. Updates directory objects to use the new path names for the Oracle home and Oracle base directories, as defined by the new values for the <code>ORACLE_HOME</code> and <code>ORACLE_BASE</code> environment variables.</p> <p>When you run this script in the root container of a CDB, it updates directory objects in the root, as well as any Oracle-maintained directory objects in the PDBs; you must manually update any PDB directory objects that are not Oracle-maintained.</p> |
| utlip.sql      | PL/SQL                                 | SYS                           | <p>Used primarily for upgrade and downgrade operations. It invalidates all existing PL/SQL modules by altering certain dictionary tables so that subsequent recompilations will occur in the format required by the database. It also reloads the packages <code>STANDARD</code> and <code>DBMS_STANDARD</code>, which are necessary for any PL/SQL compilations.</p>                                                                                                                                                                         |
| utlirp.sql     | PL/SQL                                 | SYS                           | <p>Used to change from 32-bit to 64-bit word size or vice versa. This script recompiles existing PL/SQL modules in the format required by the new database. It first alters some data dictionary tables. Then it reloads the packages <code>STANDARD</code> and <code>DBMS_STANDARD</code>, which are necessary for using PL/SQL. Finally, it triggers a recompilation of all PL/SQL modules, such as packages, procedures, and types.</p>                                                                                                    |
| utllockt.sql   | Performance monitoring                 | SYS or SYSDBA                 | <p>Displays a lock wait-for graph, in tree structure format</p> <p><b>See Also:</b> <i>Oracle Database Administrator's Guide</i></p>                                                                                                                                                                                                                                                                                                                                                                                                          |
| utlpwdmg.sql   | Security                               | SYS or SYSDBA                 | <p>Creates PL/SQL functions for default password complexity verification. Sets the default password profile parameters and enables password management features.</p> <p><b>See Also:</b> <i>Oracle Database Security Guide</i></p>                                                                                                                                                                                                                                                                                                            |
| utlrp.sql      | PL/SQL                                 | SYS                           | <p>Recompiles all existing PL/SQL modules that were previously in an <code>INVALID</code> state, such as packages, procedures, and types.</p>                                                                                                                                                                                                                                                                                                                                                                                                 |
| utlsampl.sql   | Examples                               | SYS or any user with DBA role | <p>Creates sample tables, such as <code>emp</code> and <code>dept</code>, and users, such as <code>scott</code></p>                                                                                                                                                                                                                                                                                                                                                                                                                           |
| utlscln.sql    | Oracle Replication                     | Any user                      | <p>Copies a snapshot schema from another snapshot site</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| utltkprf.sql   | Performance management                 | SYS                           | <p>Creates the <code>TKPROF</code> role to allow the <code>TKPROF</code> profiling utility to be run by non-DBA users</p>                                                                                                                                                                                                                                                                                                                                                                                                                     |
| utlvalid.sql   | Partitioned tables                     | Any user                      | <p>Creates tables required for storing output of <code>ANALYZE TABLE ... VALIDATE STRUCTURE</code> of a partitioned table</p>                                                                                                                                                                                                                                                                                                                                                                                                                 |

**Table B-2 (Cont.) Creating Additional Data Dictionary Structures**

| Script Name  | Needed For             | Run By   | Description                                                                                                                                                                |
|--------------|------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| utlxplan.sql | Performance management | Any user | Creates the table <code>PLAN_TABLE</code> , which holds output from the <code>EXPLAIN PLAN</code> statement<br><br>See Also: <i>Oracle Database Data Warehousing Guide</i> |

## B.3 The "NO" Scripts

These scripts are used to remove dictionary information for various optional services or components.

**Table B-3 The NO Scripts**

| Script Name      | Needed For                | Run By | Description                                                                                                                                                                           |
|------------------|---------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| catnoadt.sql     | Objects                   | SYS    | Drops views and synonyms on dictionary metadata that relate to object types                                                                                                           |
| catnoaud.sql     | Security                  | SYS    | Drops views and synonyms on auditing metadata                                                                                                                                         |
| catnoclust.sql   | Real Application Clusters | SYS    | Drops views that are specific to Oracle Real Application Clusters (Oracle RAC)                                                                                                        |
| catnodrdaas.sql  | DRDA Application Server   | SYS    | Drops all DRDA Application Server objects from the database                                                                                                                           |
| catnogwm.sql     | Global Data Services      | SYS    | Drops users, roles, and other objects created for Global Data Services.                                                                                                               |
| catnohs.sql      | Heterogeneous Services    | SYS    | Removes Heterogeneous Services dictionary metadata                                                                                                                                    |
| catnojav.sql     | Java                      | SYS    | Drops the RDBMS Java classes and system triggers created by the <code>catjava.sql</code> script.                                                                                      |
| catnoprt.sql     | Partitioning              | SYS    | Drops views and synonyms on dictionary metadata that relate to partitioned tables and indexes                                                                                         |
| catnosvm.sql     | Server Manager            | SYS    | Removes Oracle7 Server Manager views and synonyms                                                                                                                                     |
| catnowrr.sql     | Database Replay           | SYS    | Main script that drops the entire schema related to Database Replay - calls the drop schema scripts for Workload Capture, Database Replay, Workload Replay, and Workload Intelligence |
| catnowrrc.sql    | Database Replay           | SYS    | Drops the schema related to Workload Capture                                                                                                                                          |
| catnowrrp.sql    | Database Replay           | SYS    | Drops the schema related to Workload Replay                                                                                                                                           |
| catnowrrwitb.sql | Database Replay           | SYS    | Drops the schema related to Workload Intelligence                                                                                                                                     |
| catnsnmp.sql     | Distributed management    | SYS    | Drops the DBSNMP user and SNMPAGENT role                                                                                                                                              |

## B.4 Upgrade Scripts

Upgrade scripts are used when upgrading to another release of Oracle.



### See Also:

*Oracle Database Upgrade Guide* for information about upgrade scripts

## B.5 Java Scripts

The Java scripts are useful only if the JServer option is installed.

**Table B-4 Java Scripts**

| Script Name              | Description                                                                                           |
|--------------------------|-------------------------------------------------------------------------------------------------------|
| <code>initjvm.sql</code> | Initializes JServer by installing core Java class libraries and Oracle-specific Java classes          |
| <code>rmjvm.sql</code>   | Removes all elements of the JServer<br><b>See Also:</b> <i>Oracle Database Java Developer's Guide</i> |
| <code>catjava.sql</code> | Installs Java-related packages and classes                                                            |

# C

## Oracle Wait Events

This appendix describes Oracle wait events.

It includes these topics:

- [Classes of Wait Events](#)
- [Descriptions of Common Wait Event Parameters](#)
- [Descriptions of Wait Events](#)

Information about wait events is displayed in three dynamic performance views:

- `V$SESSION_WAIT` displays the events for which sessions have just completed waiting or are currently waiting.
- `V$SYSTEM_EVENT` displays the total number of times all the sessions have waited for the events in that view.
- `V$SESSION_EVENT` is similar to `V$SYSTEM_EVENT`, but displays all waits for each session.



### See Also:

["V\\$SESSION\\_WAIT"](#), ["V\\$SYSTEM\\_EVENT"](#), and ["V\\$SESSION\\_EVENT"](#)

Many of these wait events are tied to the internal implementation of Oracle and therefore are subject to change or deletion without notice. Application developers should be aware of this and write their code to tolerate missing or extra wait events.

The following SQL statement displays an alphabetical list of all Oracle wait events and the wait class to which they belong:

```
SQL> SELECT name, wait_class FROM V$EVENT_NAME ORDER BY name;
```

## C.1 Classes of Wait Events

Every wait event belongs to a class of wait event.

The following list describes each of the wait classes.

### Administrative

Waits resulting from DBA commands that cause users to wait (for example, an index rebuild)

### Application

Waits resulting from user application code (for example, lock waits caused by row level locking or explicit lock commands)

### **Cluster**

Waits related to Oracle Real Application Clusters resources (for example, global cache resources such as 'gc cr block busy')

### **Commit**

This wait class only comprises one wait event - wait for redo log write confirmation after a commit (that is, 'log file sync')

### **Concurrency**

Waits for internal database resources (for example, latches)

### **Configuration**

Waits caused by inadequate configuration of database or instance resources (for example, undersized log file sizes, shared pool size)

### **Idle**

Waits that signify the session is inactive, waiting for work (for example, 'SQL\*Net message from client')

### **Network**

Waits related to network messaging (for example, 'SQL\*Net more data to dblink')

### **Other**

Waits which should not typically occur on a system (for example, 'wait for EMON to spawn')

### **Queueing**

Contains events that signify delays in obtaining additional data in a pipelined environment. The time spent on these wait events indicates inefficiency or other problems in the pipeline. It affects features such as parallel queries or `DBMS_PIPE` PL/SQL packages.

### **Scheduler**

Resource Manager related waits (for example, 'resmgr: become active')

### **System I/O**

Waits for background process I/O (for example, DBWR wait for 'db file parallel write')

### **User I/O**

Waits for user I/O (for example 'db file sequential read')

## **C.2 Descriptions of Common Wait Event Parameters**

This section describes some of the common wait event parameters.

### **block#**

This is the block number of the block for which Oracle needs to wait. The block number is relative to the start of the file. To find the object to which this block belongs, issue the following SQL statement:

```
select segment_name, segment_type, owner, tablespace_name
from dba_extents
where file_id = file#
 and block#
 between block_id and block_id + blocks - 1;
```

### blocks

The number of blocks that is being either read from or written to the file. The block size depends on the file type:

- Database files have a block size of `DB_BLOCK_SIZE`
- Logfiles and control files have a block size that is equivalent to the physical block size of the platform

### break?

If the value for this parameter equals 0, a reset was sent to the client. A nonzero value indicates that a break was sent to the client.

### class

The class of the block describes how the contents of the block are used. For example, class 1 represents data block, and class 2 represents sort block. Use this SQL query to see the block classes:

```
select view_definition
from v$fixed_view_definition
where view_name='GV$WAITSTAT';
```

### dba

The initials "dba" represents the data block address, which consists of a file number and a block number.

### driver id

The address of the disconnect function of the driver that is currently being used.

### file#

The following query returns the name of the database file:

```
select *
from v$datafile
where file# = file#;
```

### id1

The first identifier (*id1*) of the enqueue or global lock takes its value from P2 or P2RAW. The meaning of the identifier depends on the name (P1).

### id2

The second identifier (*id2*) of the enqueue or global lock takes its value from P3 or P3RAW. The meaning of the identifier depends on the name (P1).



## mode

The *mode* is usually stored in the low order bytes of P1 or P1RAW and indicates the mode of the enqueue or global lock request. This parameter has one of the following values:

**Table C-1 Lock Mode Values**

| Mode Value | Description         |
|------------|---------------------|
| 1          | Null mode           |
| 2          | Sub-Share           |
| 3          | Sub-Exclusive       |
| 4          | Share               |
| 5          | Share/Sub-Exclusive |
| 6          | Exclusive           |

Use the following SQL statement to retrieve the name of the lock and the mode of the lock request:

```
select chr(bitand(p1,-16777216)/16777215)||
 chr(bitand(p1, 16711680)/65535) "Lock",
 bitand(p1, 65535) "Mode"
from v$session_wait
where event = 'DFS enqueue lock acquisition';
```

## name and type

The name or "type" of the enqueue or global lock can be determined by looking at the two high order bytes of P1 or P1RAW. The name is always two characters. Use the following SQL statement to retrieve the lock name.

```
select chr(bitand(p1,-16777216)/16777215)||
 chr(bitand(p1,16711680)/65535) "Lock"
from v$session_wait
where event = 'DFS enqueue lock acquisition';
```

## namespace

The name of the object namespace as it is displayed in V\$DB\_OBJECT\_CACHE view.

## requests

The number of I/Os that are "requested." This differs from the number of blocks in that one request could potentially contain multiple blocks.

## session#

The number of the inactive session. Use the following SQL statement to find more information about the session:

```
select *
from v$session
where sid = session#;
```

## waited

This is the total amount of time the session has waited for this session to terminate.

## C.3 Descriptions of Wait Events

This section provides detailed descriptions for those wait events of greatest interest.

Where appropriate, pointers are provided to further information elsewhere in Oracle Database documentation. For a complete listing of wait events, in alphabetical order, you can issue the following SQL statement:

```
SQL> SELECT name FROM V$EVENT_NAME ORDER BY name;
```

### C.3.1 alter system set dispatcher

A session has issued a statement `ALTER SYSTEM SET DISPATCHER = string` and is waiting for the dispatchers to get started.

**Wait Time:** The session will wait 1 / 100 of a second and verify if the new dispatchers have started, else the session will wait again

| Parameter     | Description                                                     |
|---------------|-----------------------------------------------------------------|
| <i>waited</i> | Number of times that the session has waited 1 / 100 of a second |

### C.3.2 ARCH Remote Write

Used to track the time (in centiseconds) that `ARCn` background processes spend blocked waiting for network write operations to complete.

### C.3.3 ASYNC Remote Write

Used to track the time (in centiseconds) for asynchronous streaming `RFSWRITE` operations. This includes stall reaps and streaming network submission time. This time is accumulated by `TTnn` (Redo Transport Worker) background processes.



#### See Also:

*Oracle Data Guard Concepts and Administration* for more information about using RFS to manage standby redo logs.

### C.3.4 BFILE check if exists

The session waits to check if an external large object (LOB) exists.

**Wait Time:** The total elapsed time for the `exists` call

| Parameter       | Description                      |
|-----------------|----------------------------------|
| <i>session#</i> | See " <a href="#">session#</a> " |
| <i>waited</i>   | See " <a href="#">waited</a> "   |

## C.3.5 BFILE check if open

The session waits for an external large object (LOB) to open.

**Wait Time:** The total elapsed time for the **isopen** call

| Parameter       | Description                      |
|-----------------|----------------------------------|
| <i>session#</i> | See " <a href="#">session#</a> " |
| <i>waited</i>   | See " <a href="#">waited</a> "   |

## C.3.6 BFILE closure

The session waits for an external large object (LOB) to close.

**Wait Time:** The total elapsed time for the **close** call

| Parameter       | Description                      |
|-----------------|----------------------------------|
| <i>session#</i> | See " <a href="#">session#</a> " |
| <i>waited</i>   | See " <a href="#">waited</a> "   |

## C.3.7 BFILE get length

The session waits on a call to check the size of an external large object (LOB).

**Wait Time:** The total elapsed time for the call to check the LOB size

| Parameter       | Description                      |
|-----------------|----------------------------------|
| <i>session#</i> | See " <a href="#">session#</a> " |
| <i>waited</i>   | See " <a href="#">waited</a> "   |

## C.3.8 BFILE get name object

The session waits on a call to find or generate the external name of a external large object.

**Wait Time:** The total elapsed time for **make external file name** to complete

| Parameter       | Description                      |
|-----------------|----------------------------------|
| <i>session#</i> | See " <a href="#">session#</a> " |
| <i>waited</i>   | See " <a href="#">waited</a> "   |

## C.3.9 BFILE get path object

The session is waiting on a call to find or generate the external path name of an external large object (LOB).

**Wait Time:** The total elapsed time for **make external path** to complete

| Parameter       | Description                      |
|-----------------|----------------------------------|
| <i>session#</i> | See " <a href="#">session#</a> " |
| <i>waited</i>   | See " <a href="#">waited</a> "   |

## C.3.10 BFILE internal seek

The session waits for a positioning call within the external large object (LOB) to complete.

**Wait Time:** The total elapsed time for the **seek** to complete

| Parameter       | Description                      |
|-----------------|----------------------------------|
| <i>session#</i> | See " <a href="#">session#</a> " |
| <i>waited</i>   | See " <a href="#">waited</a> "   |

## C.3.11 BFILE open

The session waits for an external large object (LOB) to open.

**Wait Time:** The total elapsed time for the **isopen** call

| Parameter       | Description                      |
|-----------------|----------------------------------|
| <i>session#</i> | See " <a href="#">session#</a> " |
| <i>waited</i>   | See " <a href="#">waited</a> "   |

## C.3.12 BFILE read

The session waits for a read from a external large object (LOB) to complete.

**Wait Time:** The total elapsed time for the **read** to complete

| Parameter       | Description                      |
|-----------------|----------------------------------|
| <i>session#</i> | See " <a href="#">session#</a> " |
| <i>waited</i>   | See " <a href="#">waited</a> "   |

## C.3.13 broadcast mesg queue transition

Processes enter "wait for broadcast mesg queue transition" when cleaning up a publisher channel handle to a RELIABLE broadcast channel. The publisher is responsible for moving the message to the free queue, but it cannot do so until the message is in the done queue. If the message is still not in the done queue, process enters this wait. This wait event will most likely appear when an Oracle process is about to exit normally, or when PMON cleans up a terminated process.

**Wait Time:** Varies

| Parameter             | Description                      |
|-----------------------|----------------------------------|
| <i>channel handle</i> | publisher channel handle pointer |

| Parameter       | Description                                                          |
|-----------------|----------------------------------------------------------------------|
| <i>message</i>  | broadcast message pointer                                            |
| <i>location</i> | A number indicating the function in KSR where the process is waiting |

### C.3.14 broadcast mesg recovery queue transition

Processes enter "wait for broadcast mesg recovery queue transition" when cleaning up a publisher channel handle to a RELIABLE broadcast channel. The broadcasted message is in the recovery queue of another channel handle (for example, ch2). Process enters this wait, if the message is yet to be removed from the recovery queue of the ch2 channel handle. This wait event will most likely appear when an Oracle process is about to exit normally, or when PMON cleans up a terminated process.

**Wait Time:** Varies

| Parameter             | Description                                                          |
|-----------------------|----------------------------------------------------------------------|
| <i>channel handle</i> | Publisher channel handle pointer                                     |
| <i>message</i>        | Broadcast message pointer                                            |
| <i>location</i>       | A number indicating the function in KSR where the process is waiting |

### C.3.15 buffer busy waits

Wait until a buffer becomes available.

There are four reasons that a session cannot pin a buffer in the buffer cache, and a separate wait event exists for each reason:

1. "buffer busy waits": A session cannot pin the buffer in the buffer cache because another session has the buffer pinned.
2. "read by other session": A session cannot pin the buffer in the buffer cache because another session is reading the buffer from disk.
3. "gc buffer busy acquire": A session cannot pin the buffer in the buffer cache because another session is reading the buffer from the cache of another instance.
4. "gc buffer busy release": A session cannot pin the buffer in the buffer cache because another session on another instance is taking the buffer from this cache into its own cache so it can pin it.

Prior to release 10.1, all four reasons were covered by "buffer busy waits." In release 10.1, the "gc buffer busy" wait event covered both the "gc buffer busy acquire" and "gc buffer busy release" wait events.

**Wait Time:** Normal wait time is 1 second. If the session was waiting for a buffer during the last wait, then the next wait will be 3 seconds.

| Parameter     | Description                    |
|---------------|--------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "  |
| <i>block#</i> | See " <a href="#">block#</a> " |
| <i>class#</i> | See " <a href="#">class</a> "  |

**See Also:**

*Oracle Database Performance Tuning Guide* for more information about the potential causes of the buffer busy waits wait event

## C.3.16 buffer deadlock

Oracle does not really wait on this event; the foreground only yields the CPU. Thus, the chances of catching this event are very low. This is not an application induced deadlock, but an assumed deadlock by the cache layer. The cache layer cannot get a buffer in a certain mode within a certain amount of time.

**Wait Time:** 0 seconds. The foreground process only yields the CPU and will usually be placed at the end of the CPU run queue.

| Parameter    | Description                                                                 |
|--------------|-----------------------------------------------------------------------------|
| <i>class</i> | See " <a href="#">class</a> "                                               |
| <i>mode</i>  | See " <a href="#">mode</a> "                                                |
| <i>flag</i>  | The flag points to the internal flags used by the session to get this block |
| <i>dba</i>   | See " <a href="#">dba</a> "                                                 |

## C.3.17 buffer latch

The session waits on the buffer hash chain latch. Primarily used in the dump routines.

**Wait Time:** 1 second

| Parameter         | Description                                                                                                                                                                                                                  |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>latch addr</i> | The virtual address in the SGA where this latch is located. Use the following statement to find the name of this latch: <pre>select * from v\$latch a, v\$latchname b where addr = latch addr and a.latch# = b.latch#;</pre> |
| <i>chain#</i>     | The index into array of buffer hash chains. When the chain is 0xffffffff, the foreground waits on the LRU latch.                                                                                                             |

## C.3.18 buffer read retry

This event occurs only if the instance is mounted in shared mode (Oracle Real Application Cluster).

During the read of the buffer, the contents changed. This means that either:

- The version number, dba, or the incarnation and sequence number stored in the block no longer match
- The checksum on the block does not match the checksum in the block

The block will be reread (this may fail up to 3 times), then corruption is assumed and the corrupt block is dumped in the trace file.

**Wait Time:** The wait time is the elapsed time of the read

| Parameter     | Description                    |
|---------------|--------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "  |
| <i>block#</i> | See " <a href="#">block#</a> " |

### C.3.19 checkpoint completed

A session waits for a checkpoint to complete. This could happen, for example, during a close database or a local checkpoint.

**Wait Time:** 5 seconds

**Parameters:** None

### C.3.20 cleanup of aborted process

When a process spawn is terminated while the process spawning background is in the middle of spawning, the current session must wait until the pid of the new process is filled in. Once the pid is filled in, then the process spawn can be actually terminated.

**Wait Time:** Usually 3 seconds

| Parameter       | Description          |
|-----------------|----------------------|
| <i>location</i> | Location of the wait |

### C.3.21 control file parallel write

This event occurs while the session is writing physical blocks to all control files. This happens when:

- The session starts a control file transaction (to ensure the control files are up to date in case the session crashes before committing the control file transaction)
- The session commits a transaction to a control file
- Changing a generic entry in the control file, the new value is being written to all control files

**Wait Time:** The wait time is the time it takes to finish all writes to all control files

| Parameter       | Description                                                          |
|-----------------|----------------------------------------------------------------------|
| <i>files</i>    | The number of control files to which the session is writing          |
| <i>blocks</i>   | The number of blocks that the session is writing to the control file |
| <i>requests</i> | The number of I/O requests which the session wants to write          |

### C.3.22 control file sequential read

Reading from the control file. This happens often. For example, while:

- Making a backup of the control files
- Sharing information (between instances) from the control file
- Reading other blocks from the control files

- Reading the header block

**Wait Time:** The wait time is the elapsed time of the read

| Parameter     | Description                                                                                                                                                                               |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>file#</i>  | The control file from which the session is reading                                                                                                                                        |
| <i>block#</i> | Block number in the control file from where the session starts to read. The block size is the physical block size of the port (usually 512 bytes, some UNIX ports have 1 or 2 Kilobytes). |
| <i>blocks</i> | The number of blocks that the session is trying to read                                                                                                                                   |

### C.3.23 control file single write

This wait is signaled while the control file's shared information is written to disk. This is an atomic operation protected by an enqueue (CF), so that only one session at a time can write to the entire database.

**Wait Time:** The wait time is the elapsed time of the write

| Parameter     | Description                                                                                                                                                                       |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>file#</i>  | This identifies the control file to which the session is currently writing                                                                                                        |
| <i>block#</i> | Block number in the control file where the write begins. The block size is the as the physical block size of the port (usually 512 bytes, some UNIX ports have 1 or 2 Kilobytes). |
| <i>blocks</i> | The number of blocks that the session is trying to write                                                                                                                          |

### C.3.24 cursor: mutex S

A session waits on this event when it is requesting a mutex in shared mode, when another session is currently holding a this mutex in exclusive mode on the same cursor object.

| Parameter | Description                                                                                                          |
|-----------|----------------------------------------------------------------------------------------------------------------------|
| <i>P1</i> | Hash value of cursor                                                                                                 |
| <i>P2</i> | Mutex value (top 2 bytes contain SID holding mutex in exclusive mode, and bottom two bytes usually hold the value 0) |
| <i>P3</i> | Mutex where (an internal code locator) OR'd with Mutex Sleeps                                                        |

### C.3.25 cursor: mutex X

The session requests the mutex for a cursor object in exclusive mode, and it must wait because the resource is busy. The mutex is busy because either the mutex is being held in exclusive mode by another session or the mutex is being held shared by one or more sessions. The existing mutex holder(s) must release the mutex before the mutex can be granted exclusively.

| Parameter | Description                                                                                                          |
|-----------|----------------------------------------------------------------------------------------------------------------------|
| <i>P1</i> | Hash value of cursor                                                                                                 |
| <i>P2</i> | Mutex value (top 2 bytes contain SID holding mutex in exclusive mode, and bottom two bytes usually hold the value 0) |



| Parameter | Description                                                   |
|-----------|---------------------------------------------------------------|
| <i>P3</i> | Mutex where (an internal code locator) OR'd with Mutex Sleeps |

### C.3.26 cursor: pin S

A session waits on this event when it wants to update a shared mutex pin and another session is currently in the process of updating a shared mutex pin for the same cursor object. This wait event should rarely be seen because a shared mutex pin update is very fast.

**Wait Time:** Microseconds

| Parameter | Description                                                                                                           |
|-----------|-----------------------------------------------------------------------------------------------------------------------|
| <i>P1</i> | Hash value of cursor                                                                                                  |
| <i>P2</i> | Mutex value (top 2 bytes contains SID holding mutex in exclusive mode, and bottom two bytes usually hold the value 0) |
| <i>P3</i> | Mutex where (an internal code locator) OR'd with Mutex Sleeps                                                         |

### C.3.27 cursor: pin S wait on X

A session waits for this event when it is requesting a shared mutex pin and another session is holding an exclusive mutex pin on the same cursor object.

**Wait Time:** Microseconds

| Parameter | Description                                                                                                           |
|-----------|-----------------------------------------------------------------------------------------------------------------------|
| <i>P1</i> | Hash value of cursor                                                                                                  |
| <i>P2</i> | Mutex value (top 2 bytes contains SID holding mutex in exclusive mode, and bottom two bytes usually hold the value 0) |
| <i>P3</i> | Mutex where (an internal code locator) OR'd with Mutex Sleeps                                                         |

### C.3.28 cursor: pin X

A session waits on this event when it is requesting an exclusive mutex pin for a cursor object and it must wait because the resource is busy. The mutex pin for a cursor object can be busy either because a session is already holding it exclusive, or there are one or more sessions which are holding shared mutex pin(s). The exclusive waiter must wait until all holders of the pin for that cursor object have released it, before it can be granted.

**Wait Time:** Microseconds

| Parameter | Description                                                                                                           |
|-----------|-----------------------------------------------------------------------------------------------------------------------|
| <i>P1</i> | Hash value of cursor                                                                                                  |
| <i>P2</i> | Mutex value (top 2 bytes contains SID holding mutex in exclusive mode, and bottom two bytes usually hold the value 0) |
| <i>P3</i> | Mutex where (an internal code locator) OR'd with Mutex Sleeps                                                         |

### C.3.29 db file async I/O submit

When asynchronous I/O is available, this wait event captures any time spent in submitting I/Os to the underlying storage.



#### See Also:

"db file parallel write"

### C.3.30 db file parallel read

This happens during recovery. It can also happen during buffer prefetching, as an optimization (rather than performing multiple single-block reads). Database blocks that must be changed as part of recovery are read in parallel from the database.

**Wait Time:** Wait until all of the I/Os are completed

| Parameter       | Description                                                                       |
|-----------------|-----------------------------------------------------------------------------------|
| <i>files</i>    | This indicates the number of files to which the session is reading                |
| <i>blocks</i>   | This indicates the total number of blocks to be read                              |
| <i>requests</i> | This indicates the total number of I/O requests, which will be the same as blocks |

### C.3.31 db file parallel write

This event occurs in the DBWR. It indicates the time that DBWR spends waiting for I/O completion.

If asynchronous I/O is available, then the db file async I/O submit wait event captures any time spent in submitting I/Os to the underlying storage.

When asynchronous I/O is not available, db file parallel write captures the time spent during submit and reap.

**Wait Time:** While there are outstanding I/Os, DBWR waits for some of the writes to complete. DBWR does not wait for all of the outstanding I/Os to complete.

| Parameter        | Description                                                                                |
|------------------|--------------------------------------------------------------------------------------------|
| <i>requests</i>  | This indicates the total number of I/O requests, which will be the same as blocks          |
| <i>interrupt</i> |                                                                                            |
| <i>timeout</i>   | This indicates the timeout value in hundredths of a second to wait for the I/O completion. |

 **See Also:**

- *Oracle Database Performance Tuning Guide* about how this wait event can help identify I/O problems
- ["db file async I/O submit"](#)

### C.3.32 db file scattered read

Similar to the "db file sequential read" wait event, except that the session is reading multiple data blocks.

**Wait Time:** The wait time is the actual time it takes to do all of the I/Os

| Parameter     | Description                                                                                             |
|---------------|---------------------------------------------------------------------------------------------------------|
| <i>file#</i>  | See <a href="#">"file#"</a>                                                                             |
| <i>block#</i> | See <a href="#">"block#"</a>                                                                            |
| <i>blocks</i> | The number of blocks that the session is trying to read from the <i>file#</i> starting at <i>block#</i> |

 **See Also:**

- *Oracle Database Performance Tuning Guide* for more information about this wait event
- *Oracle Database Performance Tuning Guide* about how this wait event can help identify I/O problems
- *Oracle Database Performance Tuning Guide* about potential causes for this wait event

### C.3.33 db file sequential read

The session waits while a sequential read from the database is performed. This event is also used for rebuilding the control file, dumping data file headers, and getting the database file headers.

**Wait Time:** The wait time is the actual time it takes to do the I/O

| Parameter     | Description                                                                   |
|---------------|-------------------------------------------------------------------------------|
| <i>file#</i>  | See <a href="#">"file#"</a>                                                   |
| <i>block#</i> | See <a href="#">"block#"</a>                                                  |
| <i>blocks</i> | This is the number of blocks that the session is trying to read (should be 1) |

**See Also:**

- *Oracle Database Performance Tuning Guide* for more information about this wait event
- *Oracle Database Performance Tuning Guide* for more information about how this wait event can help identify I/O problems
- *Oracle Database Performance Tuning Guide* about potential causes for this wait event

### C.3.34 db file single write

This event is used to wait for the writing of the file headers.

**Wait Time:** The wait time is the actual time it takes to do the I/O

| Parameter     | Description                                                                                                |
|---------------|------------------------------------------------------------------------------------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "                                                                              |
| <i>block#</i> | See " <a href="#">block#</a> "                                                                             |
| <i>blocks</i> | This is the number of blocks that the session is trying to write in <i>file#</i> starting at <i>block#</i> |

**See Also:**

- *Oracle Database Performance Tuning Guide* about how this wait event can help identify I/O problems

### C.3.35 DFS lock handle

The session waits for the lock handle of a global lock request. The lock handle identifies a global lock. With this lock handle, other operations can be performed on this global lock (to identify the global lock in future operations such as conversions or release). The global lock is maintained by the DLM.

**Wait Time:** The session waits in a loop until it has obtained the lock handle from the DLM. Inside the loop there is a wait of 0.5 seconds.

| Parameter   | Description                           |
|-------------|---------------------------------------|
| <i>name</i> | See " <a href="#">name and type</a> " |
| <i>mode</i> | See " <a href="#">mode</a> "          |
| <i>id1</i>  | See " <a href="#">id1</a> "           |
| <i>id2</i>  | See " <a href="#">id2</a> "           |

### C.3.36 direct path read

During Direct Path operations the data is asynchronously read from the database files. At some stage the session needs to make sure that all outstanding asynchronous I/O have been completed to disk. This can also happen if during a direct read no more slots are available to store outstanding load requests (a load request could consist of multiple I/Os).

**Wait Time:** 10 seconds. The session will be posted by the completing asynchronous I/O. It will never wait the entire 10 seconds. The session waits in a tight loop until all outstanding I/Os have completed.

| Parameter                 | Description                                                                                               |
|---------------------------|-----------------------------------------------------------------------------------------------------------|
| <i>descriptor address</i> | This is a pointer to the I/O context of outstanding direct I/Os on which the session is currently waiting |
| <i>first dba</i>          | The dba of the oldest I/O in the context referenced by the descriptor address                             |
| <i>block cnt</i>          | Number of valid buffers in the context referenced by the descriptor address                               |



#### See Also:

*Oracle Database Performance Tuning Guide* for more information about this wait event

### C.3.37 direct path sync

During Direct Path write operations the data is asynchronously written to the database files. At some point the session needs to ensure that all outstanding asynchronous I/O have been completed to disk. On UNIX the `fsync` command, which synchronizes data to disk, is issued to confirm that all the writes have completed and the data is all on disk.

**Wait Time:** The time taken for the `fsync` operation to complete, which normally is the time taken to complete the outstanding I/Os.

| Parameters   | Description                       |
|--------------|-----------------------------------|
| <i>file#</i> | See " <a href="#">file#</a> "     |
| <i>flags</i> | Flags used for debugging purposes |

### C.3.38 direct path write

During Direct Path operations, the data is asynchronously written to the database files. At some stage the session needs to make sure that all outstanding asynchronous I/O have been completed to disk. This can also happen if, during a direct write, no more slots are available to store outstanding load requests (a load request could consist of multiple I/Os).

**Wait Time:** 10 seconds. The session will be posted by the completing asynchronous I/O. It will never wait the entire 10 seconds. The session waits in a tight loop until all outstanding I/Os have completed.

| Parameter                 | Description                                                                                               |
|---------------------------|-----------------------------------------------------------------------------------------------------------|
| <i>descriptor address</i> | This is a pointer to the I/O context of outstanding direct I/Os on which the session is currently waiting |
| <i>first dba</i>          | The dba of the oldest I/O in the context referenced by the descriptor address                             |
| <i>block cnt</i>          | Number of valid buffers in the context referenced by the descriptor address                               |

**See Also:**

*Oracle Database Performance Tuning Guide* for more information about this parameter

## C.3.39 Disk file operations I/O

This event is used to wait for disk file operations (for example, open, close, seek, and resize). It is also used for miscellaneous I/O operations such as block dumps and password file accesses.

**Wait Time:** The wait time is the actual time it takes to do the I/O

| Parameter            | Description                                                |
|----------------------|------------------------------------------------------------|
| <i>FileOperation</i> | Type of file operation                                     |
| <i>fileno</i>        | File identification number                                 |
| <i>filetype</i>      | Type of file (for example, log file, data file, and so on) |

## C.3.40 dispatcher shutdown

During shutdown immediate or normal, the shutdown process must wait for all the dispatchers to shutdown. As each dispatcher is signaled, the session that causes the shutdown waits on this event until the requested dispatcher is no longer running.

**Wait Time:** 1 second

| Parameter     | Description                                                                                                                                     |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>waited</i> | Indicates the cumulative wait time. After 5 minutes, the session writes to the alert and trace files to indicate that there might be a problem. |

**See Also:**

*Oracle Database SQL Language Reference* for information about shutting down a dispatcher using `SHUTDOWN` clause of the `SQL ALTER SYSTEM` statement

### C.3.41 dispatcher timer

This basically means that the dispatcher is idle and waiting for some work to arrive.

**Wait Time:** 60 seconds

| Parameter         | Description                                                                                                                                                                                          |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>sleep time</i> | The intended sleep time. The dispatcher will return to work sooner if it is posted by either data arriving on the network or by a post from a shared server process to send data back to the client. |



#### See Also:

*Oracle Database Performance Tuning Guide* for more information about this wait event

### C.3.42 dupl. cluster key

It is possible for a race condition to occur when creating a new cluster key. If it is found that another process has put the cluster key into the data/index block, then the session waits and retries. The retry should then find a valid cluster key.

**Wait Time:** 0.01 seconds

| Parameter  | Description                                                                   |
|------------|-------------------------------------------------------------------------------|
| <i>dba</i> | The dba of the block into which the session is trying to insert a cluster key |

### C.3.43 enq: OW - initialization

A session will wait on this event if it is trying to initialize the database wallet, and another session has already begun an initialization.

**Wait Time:** Total time necessary to initialize the wallet context

**Parameters:** None



#### See Also:

*Oracle Database Performance Tuning Guide* for more information about the potential causes of an enqueue wait event

### C.3.44 enq: OW - termination

A session will wait on this event if it is trying to terminate the database wallet, and another session has already begun a termination.

**Wait Time:** Total time necessary to deallocate memory used by the wallet context and terminate the context.

**Parameters:** None



#### See Also:

*Oracle Database Performance Tuning Guide* for more information about the potential causes of an enqueue wait event

### C.3.45 enq: SV - contention

A session is accessing a sequence number from an ordered sequence object.

**Wait Time:** The wait time is the actual time waited until the requested sequence number is acquired.

| Parameter  | Description      |
|------------|------------------|
| <i>id1</i> | Sequence object# |



#### See Also:

*Oracle Database SQL Language Reference* for more information about sequences

### C.3.46 enq: TX - index contention

Occurs when a transaction inserting a row in an index has to wait for the end of an index block split being done by another transaction.

### C.3.47 enq: TX - row lock (HIGH priority)

This wait event occurs when a transaction with **HIGH** priority is waiting for a row lock being held by another transaction.

This wait event is useful when configuring Priority Transactions. You can observe the statistics for this wait event to determine whether the wait time for **HIGH** priority transactions is appropriate for your environment.

**Wait Time:** The amount of time specified by the `PRIORITY_TXNS_HIGH_WAIT_TARGET` initialization parameter.



| Parameter       | Description                           |
|-----------------|---------------------------------------|
| <i>name</i>     | See " <a href="#">name and type</a> " |
| <i>mode</i>     | See " <a href="#">mode</a> "          |
| <i>usn</i> <<16 | Undo segment number                   |
| <i>slot</i>     | Slot number                           |
| <i>sequence</i> | Sequence number                       |

 **See Also:**

- *Oracle Database Administrator's Guide* for information about configuring Priority Transactions
- "[PRIORITY\\_TXNS\\_HIGH\\_WAIT\\_TARGET](#)"

### C.3.48 enq: TX - row lock (LOW priority)

This wait event occurs when a transaction with `LOW` priority is waiting for a row lock being held by another transaction.

This wait event is useful when configuring Priority Transactions. You can observe the statistics for this wait event to determine how long `LOW` priority transactions are waiting for row locks.

**Wait Time:** Total time necessary to obtain the row lock

| Parameter       | Description                           |
|-----------------|---------------------------------------|
| <i>name</i>     | See " <a href="#">name and type</a> " |
| <i>mode</i>     | See " <a href="#">mode</a> "          |
| <i>usn</i> <<16 | Undo segment number                   |
| <i>slot</i>     | Slot number                           |
| <i>sequence</i> | Sequence number                       |

 **See Also:**

- *Oracle Database Administrator's Guide* for information about configuring Priority Transactions

### C.3.49 enq: TX - row lock (MEDIUM priority)

This wait event occurs when a transaction with `MEDIUM` priority is waiting for a row lock being held by another transaction.

This wait event is useful when configuring Priority Transactions. You can observe the statistics for this wait event to determine whether the wait time for `MEDIUM` priority transactions is appropriate for your environment.

**Wait Time:** The amount of time specified by the `PRIORITY_TXNS_MEDIUM_WAIT_TARGET` initialization parameter.

| Parameter       | Description                           |
|-----------------|---------------------------------------|
| <i>name</i>     | See " <a href="#">name and type</a> " |
| <i>mode</i>     | See " <a href="#">mode</a> "          |
| <i>usn</i> <<16 | Undo segment number                   |
| <i>slot</i>     | Slot number                           |
| <i>sequence</i> | Sequence number                       |

 **See Also:**

- *Oracle Database Administrator's Guide* for information about configuring Priority Transactions
- "[PRIORITY\\_TXNS\\_MEDIUM\\_WAIT\\_TARGET](#)"

## C.3.50 enq: TX - row lock contention

This wait event can occur for several reasons.

- If one user is wanting to update or delete a row or rows that another session is modifying. The session holding the lock will release it when it performs a COMMIT or ROLLBACK.
- If a session is waiting due to potential duplicates in a UNIQUE index. If two sessions try to insert the same key value, the second session has to wait to see if an ORA-0001 should be raised or not. The session holding the lock will release it when it performs a COMMIT or ROLLBACK.
- If a session is waiting due to a shared bitmap index fragment. Bitmap indexes index key values and a range of rowids. Each entry in a bitmap index can cover many rows in the actual table. If two sessions want to update rows covered by the same bitmap index fragment, then the second session waits for the first transaction to either COMMIT or ROLLBACK by waiting for the TX lock.

## C.3.51 enqueue

The session is waiting for a local enqueue.

The wait depends on the name of the enqueue (see [Oracle Enqueue Names](#)).

**Wait Time:** Depends on the enqueue name

| Parameter   | Description                           |
|-------------|---------------------------------------|
| <i>name</i> | See " <a href="#">name and type</a> " |
| <i>mode</i> | See " <a href="#">mode</a> "          |

**See Also:**

*Oracle Database Performance Tuning Guide* for more information about the potential causes of an enqueue wait event

## C.3.52 flashback buf free by RVWR

This wait event only occurs when Flashback Database is turned on. A session waits for recovery writer (RVWR) to write flashback data to the flashback logs on disk because the buffers are full. Until RVWR can free up the buffers, the session may need to wait.

If this event becomes a top wait event for the database, it is typically because the file system or storage system for the Fast Recovery Area does not support enough bandwidth for Oracle to write the flashback database logs. Refer to the Flashback Database section in *Oracle Database Backup and Recovery User's Guide* for tuning considerations.

**Wait Time:** 1 second

**Parameters:** None

## C.3.53 flashback log file sync

Waits for flashback database data to be written to disk.

**Wait Time:** Includes RVWR writing the flashback database data and posting this process

**Parameters:** None

## C.3.54 free buffer waits

This wait event can occur for several reasons.

- All buffer gets have been suspended. This could happen when a file was read-only and is now read/write. All the existing buffers must be invalidated since they are not linked to lock elements (needed when mounted parallel (shared)). So cache buffers are not assigned to data block addresses until the invalidation is finished.
- The session moved some dirty buffers to the dirty queue and now this dirty queue is full. The dirty queue must be written first. The session will wait on this event and try again to find a free buffer.
- This also happens after inspecting **free buffer inspected** buffers. If no free buffer is found, Oracle waits for one second, and then tries to get the buffer again (depends on the context). For more information, see [free buffer inspected](#).

**Wait Time:** 1 second

| Parameter     | Description                    |
|---------------|--------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "  |
| <i>block#</i> | See " <a href="#">block#</a> " |

**See Also:**

- *Oracle Database Performance Tuning Guide* for more information about this wait event
- *Oracle Database Performance Tuning Guide* about potential causes of this wait event

## C.3.55 free global transaction table entry

The session is waiting for a free slot in the global transaction table (used by the Distributed Database option). It will wait for 1 second and try again.

**Wait Time:** 1 second

| Parameter    | Description                                                                               |
|--------------|-------------------------------------------------------------------------------------------|
| <i>tries</i> | The number of times the session tried to find a free slot in the global transaction table |

## C.3.56 free process state object

Used during the creation of a process. The session will scan the process table and look for a free process slot. If none can be found, PMON is posted to check if all the processes currently in the process table are still running. If there are terminated processes, then PMON will clean them and make the process slot available to new processes. The waiting process will then rescan the process table to find the new slot.

**Wait Time:** 1 second

**Parameters:** None

## C.3.57 gc buffer busy acquire

This event indicates that the requested buffer was globally busy in the cluster, because it had already been requested from a remote instance by another local client.

**Wait Time:** The wait time is the actual time it took to resolve the buffer contention.

| Parameter     | Description                    |
|---------------|--------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "  |
| <i>block#</i> | See " <a href="#">block#</a> " |
| <i>class#</i> | See " <a href="#">class</a> "  |

## C.3.58 gc buffer busy release

This event indicates that the requested buffer was globally busy in the cluster, because the requested buffer had been transferred away by a remote instance and needed to be requested again.

**Wait Time:** The wait time is the actual time it took to resolve the buffer contention.

| Parameter     | Description                    |
|---------------|--------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "  |
| <i>block#</i> | See " <a href="#">block#</a> " |
| <i>class#</i> | See " <a href="#">class</a> "  |

### C.3.59 gc cr block 2-way

This event indicates that the requested consistent read (CR) buffer was transferred from another instance in the cluster, and 2 network hops were involved in the request. The Cache Fusion protocol guarantees that requests are fulfilled in 3 hops or less, regardless of the number of instances in the cluster.

**Wait Time:** The wait time is the actual time it took to receive the requested buffer.

| Parameter     | Description                    |
|---------------|--------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "  |
| <i>block#</i> | See " <a href="#">block#</a> " |
| <i>class#</i> | See " <a href="#">class</a> "  |

### C.3.60 gc cr block 3-way

This event indicates that the requested consistent read (CR) buffer was transferred from another instance in the cluster, and 3 network hops were involved in the request. The Cache Fusion protocol guarantees that requests are fulfilled in 3 hops or less, regardless of the number of instances in the cluster.

**Wait Time:** The wait time is the actual time it took to receive the requested buffer.

| Parameter     | Description                    |
|---------------|--------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "  |
| <i>block#</i> | See " <a href="#">block#</a> " |
| <i>class#</i> | See " <a href="#">class</a> "  |

### C.3.61 gc cr block busy

This event indicates that the requested consistent read (CR) buffer was transferred from another instance in the cluster, but the request had to be put on hold at the serving instance.

This could happen when a dirty buffer had to be transferred, in which case REDO needs to be flushed before the Cache Fusion transfer could be processed. This could also happen if the requested buffer was being held by another process on the remote instance. The serving instance would transfer the requested buffer once the REDO flush is complete, or once the buffer is released by the holding process.

**Wait Time:** The wait time is the actual time it took to receive the requested buffer.

| Parameter    | Description                   |
|--------------|-------------------------------|
| <i>file#</i> | See " <a href="#">file#</a> " |

| Parameter     | Description                    |
|---------------|--------------------------------|
| <i>block#</i> | See " <a href="#">block#</a> " |
| <i>class#</i> | See " <a href="#">class</a> "  |

### C.3.62 gc cr block congested

This event indicates that the requested consistent read (CR) buffer was transferred from another instance in the cluster, but the request was queued at the serving instance for too long.

This could happen when the GCS server processes (LMSn and LMnn) are very busy due to having a high volume of incoming Cache Fusion requests. Increasing the GCS server processes (GCS\_SERVER\_PROCESSES) is usually the remedy to alleviate congestion for the GCS server processes.

**Wait Time:** The wait time is the actual time it took to receive the requested buffer.

| Parameter     | Description                    |
|---------------|--------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "  |
| <i>block#</i> | See " <a href="#">block#</a> " |
| <i>class#</i> | See " <a href="#">class</a> "  |



**See Also:**

"[GCS\\_SERVER\\_PROCESSES](#)"

### C.3.63 gc cr block direct read

This event indicates that the requested consistent read (CR) buffer was transferred from another instance in the cluster, and the buffer was directly read from the remote cache utilizing the RDMA protocol.

**Wait Time:** The wait time is the actual time it took to receive the requested buffer.

| Parameter     | Description                    |
|---------------|--------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "  |
| <i>block#</i> | See " <a href="#">block#</a> " |
| <i>class#</i> | See " <a href="#">class</a> "  |

### C.3.64 gc cr block lost

This event indicates that a Cache Fusion consistent read (CR) buffer request resulted in a potentially lost block. The request will be re-tried automatically.

This is typically caused by unreliable interconnect network protocols, usually when the network is congested and packets are dropped. It can also be the result of interconnect hardware errors or simply the result of an overloaded system, or a sign that a public network path is used for Cache Fusion instead of a private network.

**Wait Time:** The wait time is the actual time it took to detect the potentially lost block.

| Parameter     | Description                    |
|---------------|--------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "  |
| <i>block#</i> | See " <a href="#">block#</a> " |
| <i>class#</i> | See " <a href="#">class</a> "  |

### C.3.65 gc cr grant read-mostly invalidation

The client is performing a DML on a read-mostly object, which requires a read lock invalidation on all other instances.

**Wait Time:** The wait time is the actual time it takes to complete the invalidation on all other instances.

| Parameter     | Description                    |
|---------------|--------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "  |
| <i>block#</i> | See " <a href="#">block#</a> " |
| <i>class#</i> | See " <a href="#">class</a> "  |

### C.3.66 gc cr multi block grant

This event indicates that a client requested multiple consistent read (CR) buffers from another instance in the cluster, and the request resulted in multiple lock grants from the remote instance.

**Wait Time:** The wait time is the actual time waited for the multi-block request to complete.

| Parameter     | Description                    |
|---------------|--------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "  |
| <i>block#</i> | See " <a href="#">block#</a> " |
| <i>class#</i> | See " <a href="#">class</a> "  |

### C.3.67 gc cr multi block mixed

This event indicates that a client requested multiple consistent read (CR) buffers from another instance in the cluster, and the remote instance returned a mixture of blocks and grants.

**Wait Time:** The wait time is the actual time waited for the multi-block request to complete.

| Parameter     | Description                    |
|---------------|--------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "  |
| <i>block#</i> | See " <a href="#">block#</a> " |
| <i>class#</i> | See " <a href="#">class</a> "  |

## C.3.68 gc cr request

This event is used for ongoing Cache Fusion consistent read (CR) buffer requests. The event is renamed to reflect the actual outcome of the request (example: "gc cr block 2-way") upon completion of the wait. Therefore, these events will not be reported in AWR reports, but may appear in ASH data.

**Wait Time:** The wait time is the actual time waited for the request.

| Parameter     | Description                    |
|---------------|--------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "  |
| <i>block#</i> | See " <a href="#">block#</a> " |
| <i>class#</i> | See " <a href="#">class</a> "  |

## C.3.69 gc current block 2-way

This event indicates that the requested current buffer was transferred from another instance in the cluster, and 2 network hops were involved in the request. The Cache Fusion protocol guarantees that requests are fulfilled in 3 hops or less, regardless of the number of instances in the cluster.

**Wait Time:** The wait time is the actual time it took to receive the requested buffer.

| Parameter     | Description                                           |
|---------------|-------------------------------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "                         |
| <i>block#</i> | See " <a href="#">block#</a> "                        |
| <i>id#</i>    | Block class and global access mode held and requested |

## C.3.70 gc current block 3-way

This event indicates that the requested current buffer was transferred from another instance in the cluster, and 3 network hops were involved in the request. The Cache Fusion protocol guarantees that requests are fulfilled in 3 hops or less, regardless of the number of instances in the cluster.

**Wait Time:** The wait time is the actual time it took to receive the requested buffer.

| Parameter     | Description                                           |
|---------------|-------------------------------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "                         |
| <i>block#</i> | See " <a href="#">block#</a> "                        |
| <i>id#</i>    | Block class and global access mode held and requested |

## C.3.71 gc current block busy

This event indicates that the requested current buffer was transferred from another instance in the cluster, but the request had to be put on hold at the serving instance.

This could happen when a dirty buffer had to be transferred, in which case REDO needs to be flushed before the Cache Fusion transfer could be processed. This could also happen if the



requested buffer was being held by another process on the remote instance. The serving instance would transfer the requested buffer once the REDO flush is complete, or once the buffer is released by the holding process.

**Wait Time:** The wait time is the actual time it took to receive the requested buffer.

| Parameter     | Description                                           |
|---------------|-------------------------------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "                         |
| <i>block#</i> | See " <a href="#">block#</a> "                        |
| <i>id#</i>    | Block class and global access mode held and requested |

### C.3.72 gc current block congested

This event indicates that the requested current buffer was transferred from another instance in the cluster, but the request was queued at the serving instance for too long.

This could happen when the GCS server processes (LMS) are very busy due to having a high volume of incoming Cache Fusion requests. Increasing the GCS server processes (`GCS_SERVER_PROCESSES`) is usually the remedy to alleviate congestion for the GCS server processes.

**Wait Time:** The wait time is the actual time it took to receive the requested buffer.

| Parameter     | Description                                           |
|---------------|-------------------------------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "                         |
| <i>block#</i> | See " <a href="#">block#</a> "                        |
| <i>id#</i>    | Block class and global access mode held and requested |



#### See Also:

["GCS\\_SERVER\\_PROCESSES"](#)

### C.3.73 gc current block direct read

This event indicates that the requested current buffer was transferred from another instance in the cluster, and the buffer was directly read from the remote cache utilizing the RDMA protocol.

**Wait Time:** The wait time is the actual time it took to receive the requested buffer.

| Parameter     | Description                    |
|---------------|--------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "  |
| <i>block#</i> | See " <a href="#">block#</a> " |
| <i>class#</i> | See " <a href="#">class</a> "  |

### C.3.74 gc current block lost

This event indicates that a Cache Fusion current buffer request resulted in a potentially lost block. The request will be re-tried automatically.

This is typically caused by unreliable interconnect network protocols, usually when the network is congested and packets are dropped. It can also be the result of interconnect hardware errors or simply the result of an overloaded system, or a sign that a public network path is used for Cache Fusion instead of a private network.

**Wait Time:** The wait time is the actual time it took to detect the potentially lost block.

| Parameter     | Description                                           |
|---------------|-------------------------------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "                         |
| <i>block#</i> | See " <a href="#">block#</a> "                        |
| <i>id#</i>    | Block class and global access mode held and requested |

### C.3.75 gc current request

This event is used for ongoing Cache Fusion current buffer requests. The event is renamed to reflect the actual outcome of the request (example: "gc current block 2-way") upon completion of the wait. Therefore, these events will not be reported in AWR reports, but may appear in ASH data.

**Wait Time:** The wait time is the actual time waited for the request.

| Parameter     | Description                                           |
|---------------|-------------------------------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "                         |
| <i>block#</i> | See " <a href="#">block#</a> "                        |
| <i>id#</i>    | Block class and global access mode held and requested |

### C.3.76 inactive session

This event is used for switching and terminating sessions.

- Switching sessions

If a timeout period has been specified, then wait that amount of time for the session to be detached.

- Terminating sessions

From either `KILL SESSION` or internal request. Having posted a session that it should terminate itself, wait for up to 1 minute for the session to terminate.

**Wait Time:** 1 second

| Parameter       | Description                      |
|-----------------|----------------------------------|
| <i>session#</i> | See " <a href="#">session#</a> " |
| <i>waited</i>   | See " <a href="#">waited</a> "   |

## C.3.77 inactive transaction branch

The session waits for a transaction branch that is currently used by another session.

**Wait Time:** 1 second

| Parameter      | Description                                                           |
|----------------|-----------------------------------------------------------------------|
| <i>branch#</i> | The serial number of the transaction for which the session is waiting |
| <i>waited</i>  | See " <a href="#">waited</a> "                                        |

## C.3.78 index split completion

This event occurs when a transaction inserting a row into an index must wait for the end of an index block split being performed by another transaction. In an Oracle RAC database, some index split waits will use this wait event in lieu of the "enq: TX - index contention" wait event.

**Wait Time:** The wait time is the actual time waited for the split to complete.

| Parameter        | Description                                                         |
|------------------|---------------------------------------------------------------------|
| <i>undo seg#</i> | The rollback segment ID                                             |
| <i>slot#</i>     | The slot ID inside the rollback segment                             |
| <i>wrap#</i>     | The sequence number that is incremented for each transaction        |
| <i>count</i>     | The number of times that the session has waited on this transaction |

## C.3.79 instance state change

The session waits for SMON to enable or disable cache or transaction recovery. This usually happens during `ALTER DATABASE OPEN` or `CLOSE`.

**Wait Time:** Wait time depends on the amount of time the action takes (that is, the amount of recovery needed)

| Parameter     | Description                                                                                                                                                           |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>layer</i>  | This value can be 1 or 2. If 1, it means that the transaction layer wants transaction recovery to be performed. If 2, it means that cache recovery will be performed. |
| <i>value</i>  | This value can be 0 (disable) or 1 (enable)                                                                                                                           |
| <i>waited</i> | The number of seconds waited so far                                                                                                                                   |

## C.3.80 io done

The session waits for an I/O to complete or it waits for a worker process to become available to submit the I/O request. This event occurs on platforms that do not support asynchronous I/O.

**Wait Time:** 50 milliseconds

| Parameter      | Description                  |
|----------------|------------------------------|
| <i>msg ptr</i> | A pointer to the I/O request |

### C.3.81 ksxr wait for mount shared

The cross instance broadcast facility of this Oracle instance is waiting for the database mount in shared mode to complete.

**Wait Time:** The time taken for the instance to mount. An indefinite wait on this event implies that the instance startup is hanging.

### C.3.82 ktm: instance recovery

The session waits for SMON to finish the instance, transaction recovery, or sort segment cleanup.

**Wait Time:** The wait time can vary and depends on the amount of recovery needed

| Parameter            | Description                                                                                                                                                                                          |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>undo segment#</i> | If the value is 0, SMON is probably performing instance recovery. If P1 > 0, use this query to find the undo segment:<br><br><pre>select *<br/>from v\$rollstat<br/>where usn = undo segment#;</pre> |

### C.3.83 latch activity

This event is used as part of the process of determining whether a latch must be cleaned.

**Wait Time:** 0.05 to 0.1 seconds

| Parameter       | Description                                                                                                                                                                                          |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>address</i>  | The address of the latch that is being checked                                                                                                                                                       |
| <i>number</i>   | The latch number of the latch that has activity. To find more information on the latch, use the following SQL statement:<br><br><pre>select *<br/>from v\$latchname<br/>where latch# = number;</pre> |
| <i>process#</i> | If this is 0, it is the first phase of the in-flux tests                                                                                                                                             |



#### See Also:

*Oracle Database Performance Tuning Guide* for more information about latch wait events

## C.3.84 latch free

The process waits for a latch that is currently busy (held by another process).

**Wait Time:** The wait time increases exponentially and does not include spinning on the latch (active waiting). The maximum wait time also depends on the number of latches that the process is holding. There is an incremental wait of up to 2 seconds.

| Parameter      | Description                                                                                                                                                                                                                     |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>address</i> | The address of the latch for which the process is waiting                                                                                                                                                                       |
| <i>number</i>  | The latch number that indexes in the <code>V\$LATCHNAME</code> view. To find more information on the latch, use the following SQL statement:<br><br><pre>select *<br/>from v\$latchname<br/>where latch# = <i>number</i>;</pre> |
| <i>tries</i>   | A count of the number of times the process tried to get the latch (slow with spinning) and the process has to sleep                                                                                                             |



### See Also:

*Oracle Database Performance Tuning Guide* for more information about latch wait events

## C.3.85 latch: redo copy

Redo copy latches are acquired by sessions in order to write changes into the redo log buffer and by the LGWR process to ensure that there are no current writers before it copies data from the buffer to the redo log.

## C.3.86 library cache load lock

The session tries to find the load lock for the database object so that it can load the object. The load lock is always obtained in Exclusive mode, so that no other process can load the same object. If the load lock is busy the session will wait on this event until the lock becomes available.

**Wait Time:** 3 seconds (1 second for PMON)

| Parameter             | Description                                                |
|-----------------------|------------------------------------------------------------|
| <i>object address</i> | Address of the object being loaded                         |
| <i>lock address</i>   | Address of load lock being used                            |
| <i>mask</i>           | Indicates which data pieces of the object that must loaded |

## C.3.87 library cache lock

This event controls the concurrency between clients of the library cache. It acquires a lock on the object handle so that either:

- One client can prevent other clients from accessing the same object
- The client can maintain a dependency for a long time (for example, no other client can change the object)

This lock is also obtained to locate an object in the library cache.

**Wait Time:** 3 seconds (1 second for PMON)

| Parameter             | Description                                                                                                     |
|-----------------------|-----------------------------------------------------------------------------------------------------------------|
| <i>handle address</i> | Address of the object being loaded                                                                              |
| <i>lock address</i>   | Address of the load lock being used. This is not the same thing as a latch or an enqueue, it is a State Object. |
| <i>mode</i>           | Indicates the data pieces of the object which must be loaded                                                    |
| <i>namespace</i>      | See " <a href="#">namespace</a> "                                                                               |



### See Also:

- *Oracle Database Performance Tuning Guide* for more information about this wait event
- *Oracle Database Performance Tuning Guide* for more information about potential causes of this wait event

## C.3.88 library cache pin

This event manages library cache concurrency. Pinning an object causes the heaps to be loaded into memory. If a client wants to modify or examine the object, the client must acquire a pin after the lock.

**Wait Time:** 3 seconds (1 second for PMON)

| Parameter             | Description                                                                                                               |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------|
| <i>handle address</i> | Address of the object being loaded                                                                                        |
| <i>pin address</i>    | Address of the load lock being used. This is not the same thing as a latch or an enqueue, it is basically a State Object. |
| <i>mode</i>           | Indicates which data pieces of the object that must be loaded                                                             |
| <i>namespace</i>      | See " <a href="#">namespace</a> "                                                                                         |

 **See Also:**

- *Oracle Database Performance Tuning Guide* for more information about this wait event
- *Oracle Database Performance Tuning Guide* for more information about potential causes of this wait event

## C.3.89 library cache shutdown

The process shutting down the instance waits for sessions to complete before proceeding with library cache shutdown.

## C.3.90 library cache: mutex X

Library cache mutexes protect hash buckets within the shared pool. Each hash bucket contains a number of cursors. The mutex must be held in exclusive mode before any of the structures that it protects can be changed. This wait event is often associated with high parse activity.

## C.3.91 Log archive I/O

Used local archiving of online redo logs (for a production database) or standby redo logs (for a standby database). When the archiving process exhausts its I/O buffers because all of them are being used for on-going I/O's, the wait for an available I/O buffer is captured in this system wait event.

**Wait Time:** Depends on the speed of the disks

**Parameters:** None

## C.3.92 log buffer space

Waiting for space in the log buffer because the session is writing data into the log buffer faster than LGWR can write it out. Consider making the log buffer bigger if it is small, or moving the log files to faster disks such as striped disks.

**Wait Time:** Usually 1 second, but 5 seconds if it is waiting for a Switch Logfile to complete

**Parameters:** None

 **See Also:**

- *Oracle Database Performance Tuning Guide* for more information about this wait event
- *Oracle Database Performance Tuning Guide* for more information about potential causes of this wait event

### C.3.93 log file parallel write

Writing redo records to the redo log files from the log buffer.

**Wait Time:** Time it takes for the I/Os to complete. Even though redo records are written in parallel, the parallel write is not complete until the last I/O is on disk.

| Parameter       | Description                    |
|-----------------|--------------------------------|
| <i>files</i>    | Number of files to be written  |
| <i>blocks</i>   | Number of blocks to be written |
| <i>requests</i> | Number of I/O requests         |



#### See Also:

*Oracle Database Performance Tuning Guide* for information about how this wait event can help identify I/O problems

### C.3.94 log file sequential read

Waiting for the read from this logfile to return. This is used to read redo records from the log file.

**Wait Time:** Time it takes to complete the physical I/O (read)

| Parameter     | Description                                                                                           |
|---------------|-------------------------------------------------------------------------------------------------------|
| <i>log#</i>   | The relative sequence number of the logfiles within a log group (used only when dumping the logfiles) |
| <i>block#</i> | See " <a href="#">block#</a> "                                                                        |
| <i>blocks</i> | The number of blocks to read                                                                          |

### C.3.95 log file single write

Waiting for the write to this logfile to complete. This event is used while updating the header of the logfile. It is signaled when adding a log file member and when incrementing sequence numbers.

**Wait Time:** Time it takes for the physical I/O (write) to complete

| Parameter     | Description                                                                   |
|---------------|-------------------------------------------------------------------------------|
| <i>log#</i>   | This is the number of the group/log to which the session is currently writing |
| <i>block#</i> | See " <a href="#">block#</a> "                                                |
| <i>blocks</i> | The number of blocks to write                                                 |



### C.3.96 log file switch (archiving needed)

Waiting for a log switch because the log that the LGWR will be switching into has not been archived yet. Check the alert log to ensure that archiving has not stopped due to a failed archive write. To speed archiving, consider adding more archive processes or putting the archive files on striped disks.

**Wait Time:** 1 second

**Parameters:** None

### C.3.97 log file switch (checkpoint incomplete)

Waiting for a log switch because the session cannot wrap into the next log. Wrapping cannot be performed because the checkpoint for that log has not completed.

**Wait Time:** 1 second

**Parameters:** None

### C.3.98 log file switch (clearing log file)

Waiting for a log switch because the log is being cleared due to a `CLEAR LOGFILE` command or implicit clear logfile executed by recovery.

**Wait Time:** 1 second

**Parameters:** None

### C.3.99 log file switch (private strand flush incomplete)

User sessions trying to generate redo, wait on this event when LGWR waits for DBWR to complete flushing redo from IMU buffers into the log buffer; when DBWR is complete LGWR can then finish writing the current log, and then switch log files.

**Wait Time:** 1 second

**Parameters:** None

### C.3.100 log file switch completion

Waiting for a log switch to complete.

**Wait Time:** 1 second

**Parameters:** None

### C.3.101 log file sync

When a user session commits, the session's redo information must be flushed to the redo logfile. The user session will post the LGWR to write the log buffer to the redo log file. When the LGWR has finished writing, it will post the user session.

**Wait Time:** The wait time includes the writing of the log buffer and the post.

| Parameter      | Description                                                                        |
|----------------|------------------------------------------------------------------------------------|
| <i>buffer#</i> | The number of the physical buffer in the redo log buffer that must be synchronized |

 **See Also:**

- *Oracle Database Performance Tuning Guide* for more information about this wait event
- *Oracle Database Performance Tuning Guide* for information about potential causes of this wait event

## C.3.102 log switch/archive

Used as part of the `ALTER SYSTEM ARCHIVE LOG CHANGE scn` statement. The session waits for the current log from all open threads to be archived.

**Wait Time:** Wait for up to 10 seconds

| Parameter      | Description                                                                 |
|----------------|-----------------------------------------------------------------------------|
| <i>thread#</i> | The thread number of the thread that is currently archiving its current log |

## C.3.103 optimizer stats update retry

When concurrent sessions try to update optimizer statistics for the same object, all of them except the one that successfully acquired all necessary locks/pins on the library/row cache entries, wait on this wait event and then retry locking after a short period of time. In addition to explicit statistics gathering and maintenance operations using the `DBMS_STATS` package, Oracle database itself may try to update statistics for some objects, either on behalf of the user or for its own maintenance purposes.

**Wait Time:** 10 ms

**Parameters:** None

## C.3.104 parallel recovery change buffer free

The parallel recovery coordinator is waiting for a change mapping buffer to be released by one of the recovery workers.

**Wait Time:** 100ms

**Parameters:** None

## C.3.105 parallel recovery control message reply

The parallel recovery coordinator is waiting for all recovery workers to respond to a synchronous control message.

**Wait Time:** 100ms

**Parameters:** None

### C.3.106 parallel recovery coord send blocked

The parallel recovery coordinator cannot send a redo change message because the recovery worker is still actively applying redo that it has already received and has not yet released the channel.

**Wait Time:** 100ms

**Parameters:** None

### C.3.107 parallel recovery coord wait for reply

The parallel recovery coordinator is waiting for all recovery workers to exit.

**Wait Time:** 100ms

**Parameters:** None

### C.3.108 parallel recovery coordinator waits for slave cleanup

The parallel recovery coordinator is waiting for all recovery workers to exit gracefully.

**Wait Time:** 10ms

**Parameters:** None

### C.3.109 parallel recovery read buffer free

The parallel recovery coordinator is waiting for a log read buffer to be released by all recovery workers. Only after every recovery worker finishes applying redo from a log read buffer, can the buffer be used by the coordinator to issue the next log read.

**Wait Time:** 100ms

**Parameters:** None

### C.3.110 parallel recovery slave next change

A parallel recovery worker is idle and waiting for the next change message from the coordinator.

**Wait Time:** 100ms

**Parameters:** None

### C.3.111 pending global transaction(s)

This event should happen only during testing. The session waits for pending transactions to clear.

**Wait Time:** 30 seconds

| Parameter    | Description                                                                  |
|--------------|------------------------------------------------------------------------------|
| <i>scans</i> | Number of times the session has scanned the <code>PENDING_TRANS</code> table |

### C.3.112 pipe get

The session waits for a message to be received on the pipe or for the pipe timer to expire.

**Wait Time:** There is a 5 second wake up (check) and the pipe timer set by the user

| Parameter             | Description                                   |
|-----------------------|-----------------------------------------------|
| <i>handle address</i> | The library cache object handle for this pipe |
| <i>buffer length</i>  | The length of the buffer                      |
| <i>timeout</i>        | The pipe timer set by the user                |



#### See Also:

*Oracle Database Performance Tuning Guide* for more information about this wait event

### C.3.113 pipe put

The session waits for the pipe send timer to expire or for space to be made available in the pipe.

**Wait Time:** There is the 5 second wakeup (check) and the user-supplied timeout value

| Parameter             | Description                                                        |
|-----------------------|--------------------------------------------------------------------|
| <i>handle address</i> | The library cache object handle for this pipe                      |
| <i>record length</i>  | The length of the record or buffer that has been put into the pipe |
| <i>timeout</i>        | The pipe timer set by the user                                     |

### C.3.114 PL/SQL lock timer

This event is called through the `DBMS_LOCK.SLEEP` procedure. This event will most likely originate from procedures written by a user.

**Wait Time:** The wait time is in hundredths of seconds and depends on the user context

| Parameter       | Description                                                                        |
|-----------------|------------------------------------------------------------------------------------|
| <i>duration</i> | The duration that the user specified in the <code>DBMS_LOCK.SLEEP</code> procedure |

### C.3.115 pmon timer

This is the main wait event for PMON. When PMON is idle, it is waiting on this event.

**Wait Time:** Up to 3 seconds, if not posted before

| Parameter       | Description                                                |
|-----------------|------------------------------------------------------------|
| <i>duration</i> | The actual amount of time that the PMON is trying to sleep |

**See Also:**

*Oracle Database Performance Tuning Guide* for more information about this wait event

## C.3.116 prior spawner clean up

When a prior process has died while spawning a background, the current process which is trying to spawn new a background must wait until the prior process state is cleaned up.

**Wait Time:** Usually 3 - 10 seconds

| Parameter          | Description                                                                                                 |
|--------------------|-------------------------------------------------------------------------------------------------------------|
| <i>process_pid</i> | process identifier (see <code>V\$PROCESS.PID</code> ) of the process whose state must be cleaned up.        |
| <i>process_sno</i> | process serial number (see <code>V\$PROCESS.SERIAL#</code> ) of the process whose state must be cleaned up. |

## C.3.117 process startup

Wait for a shared server, Dispatcher, or other background process to start.

**Wait Time:** Wait up to 1 second for a background process to start. If timed out, then re-wait until 5 minutes have passed and signal an error. If the process has started, the event will acknowledge this.

| Parameter       | Description                                     |
|-----------------|-------------------------------------------------|
| <i>type</i>     | The process type that was started               |
| <i>process#</i> | The process number of the process being started |
| <i>waited</i>   | Cumulative time waited for the process to start |

## C.3.118 PX Deque wait

The process is waiting for a message during a parallel execute.

**Wait Time:** The wait time depends on how quickly the message arrives. Wait times can vary, but it will normally be a short period of time.

| Parameter        | Description                                          |
|------------------|------------------------------------------------------|
| <i>reason</i>    | The reason for dequeuing                             |
| <i>sleeptime</i> | The amount of time that the session slept            |
| <i>loop</i>      | The total number of times that the session has slept |

## C.3.119 PX qref latch

Each parallel execution process has a parallel execution qref latch, which must be acquired before the queue buffers can be manipulated.

**Wait Time:** Wait up to 1 second

| Parameter        | Description                                                           |
|------------------|-----------------------------------------------------------------------|
| <i>function</i>  | Indicates the type of wait that the session is doing                  |
| <i>sleeptime</i> | The amount of time that the session waits (in hundredths of a second) |
| <i>qref</i>      | The address of the process queue for which the session is waiting     |

## C.3.120 PX server shutdown

During normal or immediate shutdown the parallel execution servers are posted to shutdown cleanly. If any parallel execution servers are still running after 10 seconds, they are terminated.

**Wait Time:** Wait up to 0.5 seconds

| Parameter        | Description                                                         |
|------------------|---------------------------------------------------------------------|
| <i>nalive</i>    | The number of parallel execution servers that are still running     |
| <i>sleeptime</i> | The total sleeptime since the session started to wait on this event |
| <i>loop</i>      | The number of times the session waited for this event               |

## C.3.121 PX signal server

This event occurs only in Exclusive mode. The query coordinator is signaling the Query Workers that an error has occurred.

**Wait Time:** 0.5 seconds

| Parameter     | Description                                        |
|---------------|----------------------------------------------------|
| <i>serial</i> | The serial number of the worker process queue      |
| <i>error</i>  | The error that has occurred                        |
| <i>nbusy</i>  | The number of worker processes that are still busy |

## C.3.122 rdbms ipc message

The background processes (LGWR, DBWR, LMS0) use this event to indicate that they are idle and are waiting for the foreground processes to send them an IPC message to do some work.

**Wait Time:** Up to 3 seconds. The parameter *timeout* shows the true sleep time.

| Parameter      | Description                                                  |
|----------------|--------------------------------------------------------------|
| <i>timeout</i> | The amount of time that the session waits for an IPC message |

**See Also:**

*Oracle Database Performance Tuning Guide* for more information about this wait event

### C.3.123 rdbms ipc message block

This event indicates that all message blocks are in use and that the session had to wait for a message block to become available.

**Wait Time:** Wait up to 60 seconds

**Parameters:** None

### C.3.124 rdbms ipc reply

This event is used to wait for a reply from one of the background processes.

**Wait Time:** The wait time is specified by the user and is indicated by the parameter *timeout*.

| Parameter           | Description                                                                                                             |
|---------------------|-------------------------------------------------------------------------------------------------------------------------|
| <i>from_process</i> | The background process for which the session is waiting. The wait is for a reply to an IPC message sent by the session. |
| <i>timeout</i>      | The amount of time in seconds that this process will wait for a reply                                                   |

### C.3.125 read by other session

This event occurs when a session requests a buffer that is currently being read into the buffer cache by another session. Prior to release 10.1, waits for this event were grouped with the other reasons for waiting for buffers under the 'buffer busy waits' event.

**Wait Time:** Time waited for the buffer to be read by the other session (in microseconds)

| Parameter     | Description                    |
|---------------|--------------------------------|
| <i>file#</i>  | See " <a href="#">file#</a> "  |
| <i>block#</i> | See " <a href="#">block#</a> " |
| <i>class#</i> | See " <a href="#">class</a> "  |

### C.3.126 recovery active instance mapping setup

This event is used to track the time taken (in centiseconds) to set up recovery context on remote instances.

### C.3.127 recovery apply pending

This event tracks the time the logmerger process waited (in centiseconds) for apply workers to apply all pending changes up to a certain SCN.

### C.3.128 recovery cancel

This wait event is used to track the time taken (in centiseconds) to cancel multi instance media recovery.

### C.3.129 recovery checkpoint

This wait event tracks the time (in centiseconds) spent waiting for DBWR processes on all instances to write dirty buffers to disk up to a certain SCN.

### C.3.130 recovery file header update for checkpoint

This wait event tracks the time (in centiseconds) spent by MRP0 process waiting on logmerger to update file headers to record the latest checkpoint.

### C.3.131 recovery file header update for fuzziness

This wait event tracks the time taken (in centiseconds) to update file headers to record media recovery fuzziness.

### C.3.132 recovery marker apply

This wait event is used to track the time (in centiseconds) taken to process a recovery marker.

### C.3.133 recovery merge pending

This wait event is used to track the time spent (in centiseconds) by the MRP0 process waiting for remote logmergers to merge changes up to a certain SCN.

### C.3.134 recovery metadata latch

This wait event tracks the time taken (in centiseconds) to get the active DataGuard metadata update latch to advance a query SCN.

### C.3.135 recovery move influx buffers

This wait event is used to track the time spent (in centiseconds) waiting for all apply workers to move their influx buffers to the dirty queue.

### C.3.136 recovery read

A parallel recovery worker (or serial recovery process) is waiting for a batch of data block reads to complete.

**Wait Time:** Time it takes to complete the physical I/O (read)



**Parameters:** None

### C.3.137 recovery receive buffer free

This wait event is used to track the time (in centiseconds) spent by the receiver process on instance waiting for apply workers to apply changes from received buffers so that they can be freed for the next change.

### C.3.138 recovery remote file verification

This wait event tracks the time spent (in centiseconds) by the MRP0 process waiting for remote logmergers to finish file verification on remote instances.

### C.3.139 recovery send buffer free

This wait event is used to track the time spent (in centiseconds) by the sender process waiting for apply workers to apply changes from the local instance so that the buffer can be reused for new changes.

### C.3.140 recovery shutdown

This wait event is used to track the time (in centiseconds) taken for remote logmergers to shut down.

### C.3.141 Redo Transport Attach

Used to track the time spent (in centiseconds) doing Connect, Logon, and RFSATTACH for any network process.



#### See Also:

*Oracle Data Guard Concepts and Administration* for more information about using RFS to manage standby redo logs.

### C.3.142 Redo Transport Close

Used to track the time spent (in centiseconds) by ARC*n*, NSS*n*, and TT*nn* processes doing RFS\_CLOSE and RFSRGSTR operations.



#### See Also:

*Oracle Data Guard Concepts and Administration* for more information about using RFS to manage standby redo logs.

### C.3.143 Redo Transport Detach

Used to track the time spent (in centiseconds) doing RFSDETACH and Disconnect for *any* network process.

 **See Also:**

*Oracle Data Guard Concepts and Administration* for more information about using RFS to manage standby redo logs.

### C.3.144 Redo Transport Open

Used to track the time spent (in centiseconds) by ARC*n*, NSS*n*, and TT*nn* background processes doing RFSCREAT and RFSANNCE operations.

 **See Also:**

*Oracle Data Guard Concepts and Administration* for more information about using RFS to manage standby redo logs.

### C.3.145 Redo Transport Ping

Used to track the time spent (in centiseconds) by ARC*n* background processes doing RFSPING operations.

 **See Also:**

*Oracle Data Guard Concepts and Administration* for more information about using RFS to manage standby redo logs.

### C.3.146 Redo Transport Slave Startup

Used to track the time spent (in centiseconds) by LGWR doing NSS*n* and TT*nn* process startup and initialization.

### C.3.147 Redo Writer Remote Sync Complete

Used to track the time spent (in centiseconds) by LGWR reaping completed network writes to remote destinations.

### C.3.148 Redo Writer Remote Sync Notify

Used to track the time spent (in centiseconds) by LGWR issuing network writes to remote destinations.

### C.3.149 resmgr:become active

The session is waiting for a resource manager active session slot. This event occurs when the resource manager is enabled and the number of active sessions in the session's current consumer group exceeds the current resource plan's active session limit for the consumer group. To reduce the occurrence of this wait event, increase the active session limit for the session's current consumer group.

**Wait Time:** The time the session waited to be allocated an active session slot

| Parameter       | Description          |
|-----------------|----------------------|
| <i>location</i> | location of the wait |

### C.3.150 resmgr:cpu quantum

The session is waiting to be allocated a quantum of CPU. This event occurs when the resource manager is enabled and is throttling CPU consumption. To reduce the occurrence of this wait event, increase the CPU allocation for the sessions's current consumer group.

**Wait Time:** The time the session waited to acquire a CPU quantum

| Parameter                | Description                                                                                                                                               |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>location</i>          | Location of the wait                                                                                                                                      |
| <i>Consumer Group ID</i> | Consumer group ID of the session waiting. This value is from the <code>CONSUMER_GROUP_ID</code> column in the <code>DBA_RSRC_CONSUMER_GROUPS</code> view. |



**See Also:**

["DBA\\_RSRC\\_CONSUMER\\_GROUPS"](#)

### C.3.151 resmgr: I/O rate limit

The session is waiting for I/O bandwidth to be available to issue I/Os. This event occurs when PDB I/O rate limits are enabled by setting the `MAX_IOPS` and/or `MAX_MBPS` parameters.

To reduce the occurrence of this wait event, the PDB I/O rate limit values need to be increased. This can be achieved by increasing the values of `MAX_IOPS` and `MAX_MBPS` or by removing the limits altogether by setting the parameter value to 0.

**Wait Time:** The time the session waited for the I/O bandwidth to become available.

| Parameter         | Description                                                                                                                                |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| <i>P1: PDB_ID</i> | This the PDB ID of the PDB that has its I/O throttled because the <code>MAX_IOPS</code> or <code>MAX_MBPS</code> parameter was set for it. |

**See Also:**

- ["MAX\\_IOPS"](#)
- ["MAX\\_MBPS"](#)

## C.3.152 resmgr:pq queued

The session is waiting in the parallel statement queue.

**Wait Time:** The time the session waited for sufficient parallel query processes to become available to run this session with the requested degree of parallelism

| Parameter       | Description          |
|-----------------|----------------------|
| <i>location</i> | Location of the wait |

**See Also:**

*Oracle Database VLDB and Partitioning Guide* for more information about this wait event

## C.3.153 rolling migration: cluster quiesce

This is the wait event that instances wait on when cluster is about to start a rolling migration. The instances are waiting for any privileged operations that blocks rolling migration to complete before allowing rolling migration.

**Wait Time:** 1 second

| Parameter       | Description                                                                                                                                                                                                                                       |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>location</i> | Its value will be 1 if the wait is for completion of the privileged operations so that a rolling upgrade/downgrade can start. Its value will be 2 if the wait is for completion of the rolling upgrade/downgrade on all the nodes in the cluster. |
| <i>waits</i>    | The number of seconds spent waiting at the current location.                                                                                                                                                                                      |

## C.3.154 row cache lock

The session is trying to get a data dictionary lock.

**Wait Time:** Wait up to 60 seconds.

| Parameter       | Description                                                               |
|-----------------|---------------------------------------------------------------------------|
| <i>cache id</i> | The <code>CACHE#</code> column value in the <code>V\$ROWCACHE</code> view |
| <i>mode</i>     | See <a href="#">"mode"</a>                                                |
| <i>request</i>  | The pipe timer set by the user                                            |

**See Also:**

*Oracle Database Performance Tuning Guide* for more information about this wait event

## C.3.155 RVWR wait for flashback copy

Waits for a process to copy flashback database data into the flashback buffer, in order to write out the requested flashback data.

**Wait Time:** 10 milliseconds

| Parameter           | Description                                           |
|---------------------|-------------------------------------------------------|
| <i>copy latch #</i> | The number of flashback copy latch RVWR is waiting on |

## C.3.156 sbtbufinfo

This function is called when Oracle needs to discover the size, and number, of I/O buffers that have been allocated by the SBT layer. It should be very fast and never block.

**Wait Time:** Less than one millisecond

**Parameters:** None

## C.3.157 sbtgetbuf

This function obtains one I/O buffer that Oracle will use for I/O during a backup job.

**Wait Time:** Less than one millisecond

**Parameters:** None

## C.3.158 sbtmapbuf

This is an internal function used to facilitate multi-process buffer management. It should be very fast and never block.

**Wait Time:** Less than one millisecond

**Parameters:** None

## C.3.159 sbtrelbuf

This function releases an I/O buffer that has been already processed during a restore job, so that the SBT layer can fill it with more data. It should be very fast and never block.

**Wait Time:** Less than one millisecond

**Parameters:** None

### C.3.160 scginq AST call

Called by the session to find the highest lock mode that is held on a resource.

**Wait Time:** Wait up to 0.2 seconds, but the wait will continue until the NULL mode Acquisition AST has fired.

**Parameters:** None

### C.3.161 SGA: allocation forcing component growth

Process waiting on an immediate mode memory transfer with auto-tune SGA after a 4031 for MMAN to get the memory and post it.

**Wait Time:** 10 msec

**Parameters:** None

### C.3.162 SGA: MMAN sleep for component shrink

MMAN to wait and post itself for satisfying an auto-tuned memory request while trying to fully free a component's quiesced granules. In Release 10.1, the name of this event was 'wait for SGA component shrink'.

**Wait Time:** 10 msec

| Parameter | Description                                     |
|-----------|-------------------------------------------------|
| <i>P1</i> | component_id (corresponding to the memory pool) |
| <i>P2</i> | Current size in granules                        |
| <i>P3</i> | Target size in granules                         |

### C.3.163 SGA: sga\_target resize

Memory resize requests wait while sga target is being resized. In Release 10.1, the name of this event was 'wait for sga\_target resize'.

**Wait Time:** 10 msec

**Parameters:** None

### C.3.164 Shared IO Pool Memory

Wait until a shared I/O pool buffer becomes available. This happens when processes are using these buffers for I/O and the current process needs to wait for the release of any one of the buffers to the shared I/O pool.

**Wait Time:** 10msec

**Parameters:** None

## C.3.165 shared server idle wait

Idle wait event for a shared server.

The server waits on the common queue for a virtual circuit. (See also "[virtual circuit wait](#)".)

**Wait Time:** 30 seconds

**Parameters:** None



### See Also:

*Oracle Database Performance Tuning Guide* for more information about this wait event

## C.3.166 single-task message

When running single task, this event indicates that the session waits for the client side of the executable.

**Wait Time:** Total elapsed time that this session spent in the user application

**Parameters:** None

## C.3.167 smon timer

This is the main idle event for SMON. SMON will be waiting on this event most of the time until it times out or is posted by another process.

**Wait Time:** 5 minutes (300 seconds)

| Parameter        | Description                                                         |
|------------------|---------------------------------------------------------------------|
| <i>sleeptime</i> | The amount of time that SMON tries to wait on this event in seconds |
| <i>failed</i>    | The number of times SMON was posted when there some kind of error   |



### See Also:

*Oracle Database Performance Tuning Guide* for more information about this wait event

## C.3.168 SQL\*Net break/reset to client

The server sends a break or reset message to the client. The session running on the server waits for a reply from the client.

**Wait Time:** The actual time it takes for the break or reset message to return from the client

| Parameter        | Description                       |
|------------------|-----------------------------------|
| <i>driver id</i> | See " <a href="#">driver id</a> " |
| <i>break?</i>    | See " <a href="#">break?</a> "    |

### C.3.169 SQL\*Net break/reset to dblink

Same as **SQL\*Net break/reset to client**, but in this case, the break/reset message is sent to another server process over a database link.

**Wait Time:** The actual time it takes for the break or reset message to return from the other server process

| Parameter        | Description                       |
|------------------|-----------------------------------|
| <i>driver id</i> | See " <a href="#">driver id</a> " |
| <i>break?</i>    | See " <a href="#">break?</a> "    |

### C.3.170 SQL\*Net message from client

The server process (foreground process) waits for a message from the client process to arrive.

**Wait Time:** The time it took for a message to arrive from the client since the last message was sent to the client

| Parameter        | Description                                                                      |
|------------------|----------------------------------------------------------------------------------|
| <i>driver id</i> | See " <a href="#">driver id</a> "                                                |
| <i>#bytes</i>    | The number of bytes received by the server (foreground process) from the client. |



#### See Also:

*Oracle Database Performance Tuning Guide* for more information about this wait event

### C.3.171 SQL\*Net message from dblink

The session waits while the server process (foreground process) receives messages over a database link from another server process.

**Wait Time:** The time it took for a message to arrive from another server (foreground process) since a message was sent to the other foreground process.

| Parameter        | Description                                                                                                           |
|------------------|-----------------------------------------------------------------------------------------------------------------------|
| <i>driver id</i> | See " <a href="#">driver id</a> "                                                                                     |
| <i>#bytes</i>    | The number of bytes received by the server (foreground process) from another foreground process over a database link. |



**See Also:**

*Oracle Database Performance Tuning Guide* for more information about this wait event

## C.3.172 SQL\*Net message to client

The server (foreground process) is sending a message to the client.

**Wait Time:** The actual time the **send** takes

| Parameter        | Description                                                  |
|------------------|--------------------------------------------------------------|
| <i>driver id</i> | See " <a href="#">driver id</a> "                            |
| <i>#bytes</i>    | The number of bytes sent by the server process to the client |

## C.3.173 SQL\*Net message to dblink

The server process (foreground process) is sending a message over a database link to another server process.

**Wait Time:** The actual time the **send** takes

| Parameter        | Description                                                                                   |
|------------------|-----------------------------------------------------------------------------------------------|
| <i>driver id</i> | See " <a href="#">driver id</a> "                                                             |
| <i>#bytes</i>    | The number of bytes sent by the server process to another server process over a database link |

**See Also:**

*Oracle Database Performance Tuning Guide* for more information about this wait event

## C.3.174 SQL\*Net more data from client

The server is waiting on the client to send more data to its client shadow process, in an already initiated operation.

**Wait Time:** The time waited depends on the time it took to receive the data (including the waiting time)

| Parameter        | Description                                  |
|------------------|----------------------------------------------|
| <i>driver id</i> | See " <a href="#">driver id</a> "            |
| <i>#bytes</i>    | The number of bytes received from the client |

### C.3.175 SQL\*Net more data from dblink

The foreground process is expecting more data from a data base link.

**Wait Time:** The total time it takes to read the data from the database link (including the waiting time for the data to arrive)

| Parameter        | Description                       |
|------------------|-----------------------------------|
| <i>driver id</i> | See " <a href="#">driver id</a> " |
| <i>#bytes</i>    | The number of bytes received      |

### C.3.176 SQL\*Net more data to client

The server process is sending more data/messages to the client. The previous operation to the client was also a **send**.

**Wait Time:** The actual time it took for the **send** to complete

| Parameter        | Description                                           |
|------------------|-------------------------------------------------------|
| <i>driver id</i> | See " <a href="#">driver id</a> "                     |
| <i>#bytes</i>    | The number of bytes that are being sent to the client |



#### See Also:

*Oracle Database Performance Tuning Guide* for more information about this wait event

### C.3.177 SQL\*Net more data to dblink

The event indicates that the server is sending data over a database link again. The previous operation over this database link was also a **send**.

**Wait Time:** The actual time it takes to send the data to the other server

| Parameter        | Description                                                                          |
|------------------|--------------------------------------------------------------------------------------|
| <i>driver id</i> | See " <a href="#">driver id</a> "                                                    |
| <i>#bytes</i>    | The number of bytes that are sent over the database link to the other server process |

### C.3.178 Streams AQ: waiting for messages in the queue

The session is waiting on an empty OLTP queue (Advanced Queuing) for a message to arrive so that the session can dequeue that message.

**Wait Time:** The amount of time that the session wants to wait is determined by the parameter *wait time*

| Parameter        | Description                                                  |
|------------------|--------------------------------------------------------------|
| <i>queue id</i>  | The ID of the OLTP queue for which this session is waiting   |
| <i>process#</i>  | The process number of the process in which this session runs |
| <i>wait time</i> | The intended wait time for this session                      |

### C.3.179 switch logfile command

The session waits on the user command `SWITCH LOGFILE` to complete.

**Wait Time:** 5 seconds

**Parameters:** None

### C.3.180 SYNC Remote Write

Used to track the time spent by LGWR doing SYNC RFSWRITE operations.



#### See Also:

*Oracle Data Guard Concepts and Administration* for more information about using RFS to manage standby redo logs.

### C.3.181 TCP Socket (KGAS)

A session is waiting for an external host to provide requested data over a network socket. The time that this wait event tracks does not indicate a problem, and even a long wait time is not a reason to contact Oracle Support. It naturally takes time for data to flow between hosts over a network, and for the remote aspect of an application to process any request made to it.

An application that communicates with a remote host must wait until the data it will read has arrived. In addition, on Microsoft Windows, a separate thread monitors the arrival of traffic. This thread spends most of its life in waits tracked by the TCP Socket (KGAS) wait event.

**Wait Time:** The total elapsed time for the network connection to be established or for data to arrive from over the network

| Parameter | Description                                                                                                                                                    |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>P0</i> | For Oracle internal use only. Values 8, 9, and 10 occur within the special thread present on Microsoft Windows; other P0 values occur in normal user sessions. |
| <i>P1</i> | For Oracle internal use only                                                                                                                                   |

### C.3.182 timer in sksawt

The session waits for the Archiver (ARCn) asynchronous I/O to complete.

**Wait Time:** 0.01 seconds

**Parameters:** None

## C.3.183 transaction

Wait for a blocking transaction to be rolled back. Continue waiting until the transaction has been rolled back.

**Wait Time:** 1 second

| Parameter        | Description                                                         |
|------------------|---------------------------------------------------------------------|
| <i>undo seg#</i> | The rollback segment ID                                             |
| <i>slot#</i>     | The slot ID inside the rollback segment                             |
| <i>wrap#</i>     | The sequence number that is incremented for each transaction        |
| <i>count</i>     | The number of times that the session has waited on this transaction |

## C.3.184 unbound tx

The session waits to see if there are any transactions that have been started but do not have a Rollback Segment associated with them.

**Wait Time:** 1 second

**Parameters:** None

## C.3.185 undo\_retention publish retry

This wait can occur for two reasons. A session issuing an `ALTER SYSTEM SET UNDO_RETENTION` may wait on this event wait while a cluster reconfiguration takes place. Or the background process MMNL may wait for cluster reconfiguration while attempting to determine the max `UNDO_RETENTION`.

**Wait time:** 1 second

| Parameter | Description                                                                                                                                                                           |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>P1</i> | Identifies where the retry is happening. Id = 1 retry while publishing into the max undo_retention namespace. Id = 2 retry while iterator accessing the max undo_retention namespace. |
| <i>P2</i> | Retry count (maximum number of retries is 5)                                                                                                                                          |

## C.3.186 undo segment extension

The undo segment is being extended or shrunk. The session must wait until the operation on the undo segment has finished.

**Wait Time:** 0.01 seconds

| Parameter       | Description                                                     |
|-----------------|-----------------------------------------------------------------|
| <i>segment#</i> | The ID of the rollback segment that is being extended or shrunk |

## C.3.187 undo segment recovery

PMON is rolling back a terminated transaction. The wait continues until rollback finishes.

**Wait Time:** 3 seconds

| Parameter       | Description                                                                            |
|-----------------|----------------------------------------------------------------------------------------|
| <i>segment#</i> | The ID of the rollback segment that contains the transaction that is being rolled back |
| <i>tx flags</i> | The transaction flags (options) set for the transaction that is being rolled back      |

## C.3.188 undo segment tx slot

Wait for a transaction slot to become available within the selected rollback segment. Continue waiting until the slot is available.

**Wait Time:** 1 second

| Parameter       | Description                                                                            |
|-----------------|----------------------------------------------------------------------------------------|
| <i>segment#</i> | The ID of the rollback segment that contains the transaction that is being rolled back |

## C.3.189 utl\_file I/O

Waits associated with operations performed using the `UTL_FILE` package.

## C.3.190 virtual circuit wait

The session waits for a virtual circuit operation to complete.

**Wait Time:** 30 seconds

| Parameter       | Description                                                |
|-----------------|------------------------------------------------------------|
| <i>circuit#</i> | Indicates the virtual circuit# being waited on             |
| <i>type</i>     | Indicates the type of operation the session is waiting for |

## C.3.191 WCR: replay client notify

During replay, the Workload Replay Client always keeps an open connection to the database to detect some special errors. This session will normally be in the wait state until some specific replay-related exception occurs.

**Wait Time:** Waits until notified. Times out every 30 seconds.

| Parameter       | Description                                                                                                                                                                                                        |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>who am I</i> | Identifies the reason for wait for the admin thread.<br>1 - waiting for <code>REPLAY.START()</code> to be issued.<br>2 - waiting for the replay to run to completion or <code>REPLAY.CANCEL()</code> to be issued. |

## C.3.192 WCR: replay clock

A session will wait on this event during replay if it has some logical dependencies on another session that has not yet committed its work.

**Wait Time:** Depends upon the amount of row lock contention in the original capture

| Parameter                        | Description                                                          |
|----------------------------------|----------------------------------------------------------------------|
| <i>wait for scn's hi 4 bytes</i> | High 4 bytes of the 8-byte replay SCN that the session is waiting on |
| <i>wait for scn's lo 4 bytes</i> | Low 4 bytes of the 8-byte replay SCN that the session is waiting on  |

## C.3.193 WCR: replay lock order

A session will wait on this event during replay if it saw some lock contention during capture.

**Wait Time:** Depends upon the amount of row lock contention in the original capture

| Parameter                        | Description                                                          |
|----------------------------------|----------------------------------------------------------------------|
| <i>wait for scn's hi 4 bytes</i> | High 4 bytes of the 8-byte replay SCN that the session is waiting on |
| <i>wait for scn's lo 4 bytes</i> | Low 4 bytes of the 8-byte replay SCN that the session is waiting on  |

## C.3.194 WCR: replay paused

When the user issues a DBMS\_WORKLOAD\_REPLAY.PAUSE\_REPLAY command, all the replayed sessions are waiting on this wait event until replay is resumed.

**Parameters:** None

## C.3.195 WCR: Sync context busy

In the default replay mode, commits during replay are synchronized to follow the same order as capture. All commits are serialized using the Sync context. A replayed session will wait on this event if it is trying to commit at the same time as another replayed session.

**Parameters:** None

## C.3.196 write complete waits

The session waits for a buffer to be written. The write is caused by normal aging or by a cross-instance call.

**Wait Time:** 1 second

| Parameter     | Description                                                                       |
|---------------|-----------------------------------------------------------------------------------|
| <i>file#</i>  | The rollback segment id that contains the transaction that is being rolled back   |
| <i>block#</i> | The transaction flags (options) set for the transaction that is being rolled back |
| <i>id</i>     | Identifies the reason for waiting                                                 |

# D

## Oracle Enqueue Names

This appendix lists Oracle enqueues. **Enqueues** are shared memory structures (locks) that serialize access to database resources. They can be associated with a session or transaction. Enqueue names are displayed in the `LOCK_TYPE` column of the `DBA_LOCK` and `DBA_LOCK_INTERNAL` data dictionary views.

A **resource** uniquely identifies an object that can be locked by different sessions within an instance (local resource) or between instances (global resource). Each session that tries to lock the resource will have an **enqueue** on the resource.



### Note:

The names of enqueues and their definitions may change from release to release.



### See Also:

`"DBA_LOCK_INTERNAL"` and `"DBA_LOCK"`

The Oracle enqueues are:

- BL, Buffer Cache Management
- BR, Backup/Restore
- CF, Controlfile Transaction
- CI, Cross-instance Call Invocation
- CU, Bind Enqueue
- DF, Datafile
- DL, Direct Loader Index Creation
- DM, Database Mount
- DR, Distributed Recovery Process
- DW, SecureFiles
- DX, Distributed Transaction
- FP, File Object
- FS, File Set
- HW, High-Water Lock
- IN, Instance Number
- IR, Instance Recovery
- IS, Instance State

- IV, Library Cache Invalidation
- JI, Enqueue used during AJV snapshot refresh
- JQ, Job Queue
- KK, Redo Log "Kick"
- KP, contention in Oracle Data Pump startup and shutdown processes
- KO, Multiple Object Checkpoint
- L[A-P], Library Cache Lock
- LS, Log Start or Switch
- MM, Mount Definition
- MR, Media Recovery
- N[A-Z], Library Cache Pin
- PE, ALTER SYSTEM SET PARAMETER = VALUE
- PF, Password File
- PI, Parallel Slaves
- PR, Process Startup
- PS, Parallel Slave Synchronization
- Q[A-Z], Row Cache
- RO, Object Reuse
- RT, Redo Thread
- RW, Row Wait
- SC, System Change Number
- SM, SMON
- SN, Sequence Number
- SQ, Sequence Number Enqueue
- SR, Synchronized Replication
- SS, Sort Segment
- ST, Space Management Transaction
- SV, Sequence Number Value
- TA, Transaction Recovery
- TC, Thread Checkpoint
- TE, Extend Table
- TM, DML Enqueue
- TO, Temporary Table Object Enqueue
- TS, Temporary Segment (also TableSpace)
- TT, Temporary Table
- TX, Transaction
- UL, User-defined Locks
- UN, User Name



- US, Undo Segment, Serialization
- WL, Being Written Redo Log
- XA, Instance Attribute Lock
- XI, Instance Registration Lock
- ZA, Exclusive Lock When Moving Audit Table

# E

## Statistics Descriptions

This appendix describes the statistics stored in the `V$SESSTAT` and `V$SYSSTAT` dynamic performance tables. These statistics are useful in identifying and correcting performance problems.

This appendix contains the following topics:

- [Displaying Statistics](#)
- [Statistics Descriptions](#)

### E.1 Displaying Statistics

The `V$SESSTAT` view displays statistics on a per-session basis and is valid only for the session currently connected. When a session disconnects, all statistics for the session are updated in `V$SYSSTAT`. The values for the statistics are cleared until the next session uses them.

The `V$STATNAME` view contains all of the statistics for an Oracle release.

Many of these statistics are tied to the internal implementation of Oracle and therefore are subject to change or deletion without notice, even between patch releases. Application developers should be aware of this and write their code to tolerate missing or extra statistics.



#### See Also:

["V\\$SESSTAT"](#), ["V\\$STATNAME"](#), and ["V\\$SYSSTAT"](#) for more information on these views

### E.2 Statistics Descriptions

This section describes some of the statistics stored in the `V$SESSTAT` and `V$SYSSTAT` views.

The statistics are listed in alphabetical order.

The `CLASS` column contains a number representing one or more statistics classes. The following class numbers are additive:

- 1, User
- 2, Redo
- 4, Enqueue
- 8, Cache
- 16, OS
- 32, Real Application Clusters
- 64, SQL
- 128, Debug

- 256, Instance level

For example, a class value of 72 represents a statistic that relates to SQL statements and caching.

Some statistics are populated only if the `TIMED_STATISTICS` initialization parameter is set to `true`. Those statistics are flagged with a Y in the right-hand column.

**Table E-1 Database Statistics Descriptions**

| Name                                   | Class | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | TIMED_STATISTICS |
|----------------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| application wait time                  | 1     | The total wait time (in centiseconds) for waits that belong to the Application wait class                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                  |
| background checkpoints completed       | 8     | Number of checkpoints completed by the background process. This statistic is incremented when the background process successfully advances the thread checkpoint.                                                                                                                                                                                                                                                                                                                                                                                                                     |                  |
| background checkpoints started         | 8     | Number of checkpoints started by the background process. This statistic can be larger than "background checkpoints completed" if a new checkpoint overrides an incomplete checkpoint or if a checkpoint is currently under way. This statistic includes only checkpoints of the redo thread. It does not include: <ul style="list-style-type: none"> <li>• Individual file checkpoints for operations such as offline or begin backup</li> <li>• Foreground (user-requested) checkpoints (for example, performed by <code>ALTER SYSTEM CHECKPOINT LOCAL</code> statements)</li> </ul> |                  |
| background timeouts                    | 128   | This is a count of the times where a background process has set an alarm for itself and the alarm has timed out rather than the background process being posted by another process to do some work.                                                                                                                                                                                                                                                                                                                                                                                   |                  |
| branch node splits                     | 128   | Number of times an index branch block was split because of the insertion of an additional value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                  |
| buffer is not pinned count             | 72    | Number of times a buffer was free when visited. Useful only for internal debugging purposes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |
| buffer is pinned count                 | 72    | Number of times a buffer was pinned when visited. Useful only for internal debugging purposes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                  |
| bytes received via SQL*Net from client | 1     | Total number of bytes received from the client over Oracle Net Services                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |
| bytes received via SQL*Net from dblink | 1     | Total number of bytes received from a database link over Oracle Net Services                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |
| bytes sent via SQL*Net to client       | 1     | Total number of bytes sent to the client from the foreground processes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |
| bytes sent via SQL*Net to dblink       | 1     | Total number of bytes sent over a database link                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                  |
| Cached Commit SCN referenced           | 128   | Useful only for internal debugging purposes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                  |
| calls to get snapshot scn: kcmgss      | 32    | Number of times a snapshot system change number (SCN) was allocated. The SCN is allocated at the start of a transaction.                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                  |
| calls to kcmgas                        | 128   | Number of calls to routine kcmgas to get a new SCN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                  |
| calls to kcmgcs                        | 128   | Number of calls to routine kcmgcs to get a current SCN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |
| calls to kcmgrs                        | 128   | Number of calls to routine kcmgrs to get a recent SCN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                  |
| cell flash cache read hits             | 8     | Number of read requests that were satisfied by the cache                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                  |

Table E-1 (Cont.) Database Statistics Descriptions

| Name                                                        | Class | Description                                                                                                                                                                                                                                                          | TIMED_STATISTICS |
|-------------------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| cell flash cache read hits for smart IO                     | 8     | Number of read requests for smart IO that were satisfied by the cache                                                                                                                                                                                                |                  |
| cell flash cache read hits for temp IO                      | 8     | Number of read requests for temp IO that were satisfied by the cache                                                                                                                                                                                                 |                  |
| cell IO uncompressed bytes                                  | 64    | Total size of uncompressed data that is processed on the cell<br>For operations on segments compressed using Exadata Hybrid Columnar Compression, this statistic is the size of the data after decompression.                                                        |                  |
| cell num bytes in passthru due to quarantine                | 8     | Number of bytes that were not offloaded and sent back to the database for processing due to a quarantine on the cell                                                                                                                                                 |                  |
| cell num bytes in passthru during predicate offload         | 64    | Number of bytes that were not offloaded and sent back to the database for processing                                                                                                                                                                                 |                  |
| cell overwrites in flash cache                              | 8     | Total number of write requests that overwrote an existing cacheline in Exadata Smart Flash Cache that had not been written to disk<br>In effect, this is the amount of disk I/O saved by using Write-Back mode. This statistic is incremented once per mirror write. |                  |
| cell partial writes in flash cache                          | 8     | Total number of write requests written to both Exadata Smart Flash Cache and disk<br>Part of the data was written to flash, and the rest was written to disk. This statistic is incremented once per mirror write.                                                   |                  |
| cell physical IO bytes added to storage index               | 8     | Number of bytes added to the storage index during a Smart Scan<br>This is an indication that the storage index is being built.                                                                                                                                       |                  |
| cell physical IO bytes eligible for predicate offload       | 64    | Number of bytes on-disk eligible for predicate offload                                                                                                                                                                                                               |                  |
| cell physical IO bytes eligible for smart IOs               | 8     | Number of actual bytes eligible for predicate offload<br>For example, when using columnar cache, this is the size of columnar cache instead of the on-disk size.                                                                                                     |                  |
| cell physical IO bytes processed for IM capacity            | 64    | Number of bytes read from the columnar cache in <code>memcompress for capacity</code> format                                                                                                                                                                         |                  |
| cell physical IO bytes processed for IM query               | 64    | Number of bytes read from the columnar cache in <code>memcompress for query</code> format                                                                                                                                                                            |                  |
| cell physical IO bytes processed for no memcompress         | 64    | Number of bytes read from the columnar cache in <code>no memcompress</code> format                                                                                                                                                                                   |                  |
| cell physical IO bytes saved by columnar cache              | 8     | Number of bytes saved by columnar cache, that is, the number of bytes of reading that were avoided                                                                                                                                                                   |                  |
| cell physical IO bytes saved by storage index               | 8     | Number of bytes saved by the storage index                                                                                                                                                                                                                           |                  |
| cell physical IO bytes saved during optimized file creation | 64    | Number of I/O bytes saved by the database host by offloading the file creation operation to the cells<br>This statistic shows the benefit of optimized file creation operations.                                                                                     |                  |

Table E-1 (Cont.) Database Statistics Descriptions

| Name                                                            | Class | Description                                                                                                                                                                              | TIMED_STATISTICS |
|-----------------------------------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| cell physical IO bytes saved during optimized RMAN file restore | 64    | Number of I/O bytes saved by the database host by offloading the RMAN file restore operation to the cells<br>This statistic shows the benefit of optimized RMAN file restore operations. |                  |
| cell physical IO bytes sent directly to DB node to balance CPU  | 64    | Number of I/O bytes sent back to the database server for processing due to high storage server CPU usage                                                                                 |                  |
| cell physical IO interconnect bytes                             | 64    | Number of I/O bytes exchanged over the interconnect between the database host and the cells                                                                                              |                  |
| cell physical IO interconnect bytes returned by smart scan      | 64    | Number of I/O bytes that are returned by the cell for Smart Scan operations<br>This value does not include bytes for other database I/O.                                                 |                  |
| cell pmem cache read hits                                       | 8     | Number of non-RDMA read requests processed by <code>cellsrv</code> resulting in a PMEM cache hit                                                                                         |                  |
| cell pmem cache writes                                          | 264   | Number of non-RDMA write requests processed by <code>cellsrv</code> resulting in a PMEM cache write                                                                                      |                  |
| cell pmem log writes                                            | 258   | Number of redo log write requests that used PMEM log                                                                                                                                     |                  |
| cell ram cache read hits                                        | 8     | Number of read requests that hit the RAM cache on the cell                                                                                                                               |                  |
| cell RDMA reads                                                 | 8     | Number of PMEM cache read requests using RDMA                                                                                                                                            |                  |
| cell RDMA writes                                                | 264   | Number of PMEM cache write requests using RDMA                                                                                                                                           |                  |
| cell writes to flash cache                                      | 8     | Total number of write requests written entirely to Exadata Smart Flash Cache<br>This statistic is incremented once per mirror write.                                                     |                  |
| cell writes to flash cache for temp IO                          | 8     | Number of write requests for temporary segments that were absorbed by Exadata Smart Flash Cache                                                                                          |                  |
| change write time                                               | 8     | Elapsed redo write time for changes made to <code>CURRENT</code> blocks in 10s of milliseconds.                                                                                          | Y                |
| cleanouts and rollbacks - consistent read gets                  | 128   | Number of consistent gets that require both block rollbacks and block cleanouts.<br><b>See Also:</b> " <a href="#">consistent gets</a> "                                                 |                  |
| cleanouts only - consistent read gets                           | 128   | Number of consistent gets that require only block cleanouts, no rollbacks.<br><b>See Also:</b> " <a href="#">consistent gets</a> "                                                       |                  |
| cluster key scan block gets                                     | 64    | Number of blocks obtained in a cluster scan                                                                                                                                              |                  |
| cluster key scans                                               | 64    | Number of cluster scans that were started                                                                                                                                                |                  |
| cluster wait time                                               | 1     | The total wait time (in centiseconds) for waits that belong to the Cluster wait class                                                                                                    |                  |
| cold recycle reads                                              | 8     | Number of buffers that were read through the least recently used end of the recycle cache with fast aging strategy                                                                       |                  |
| commit cleanout failures: block lost                            | 8     | Number of times Oracle attempted a cleanout at commit but could not find the correct block due to forced write, replacement, or switch <code>CURRENT</code>                              |                  |
| commit cleanout failures: buffer being written                  | 8     | Number of times Oracle attempted a cleanout at commit, but the buffer was currently being written                                                                                        |                  |

Table E-1 (Cont.) Database Statistics Descriptions

| Name                                             | Class | Description                                                                                                                                                                                                                                                                                                | TIMED_STATISTICS |
|--------------------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| commit cleanout failures: callback failure       | 8     | Number of times the cleanout callback function returns <code>FALSE</code>                                                                                                                                                                                                                                  |                  |
| commit cleanout failures: cannot pin             | 8     | Total number of times a commit cleanout was performed but failed because the block could not be pinned                                                                                                                                                                                                     |                  |
| commit cleanout failures: hot backup in progress | 8     | Number of times Oracle attempted block cleanout at commit during hot backup. The image of the block must be logged before the buffer can be made dirty.                                                                                                                                                    |                  |
| commit cleanout failures: pmem only              | 264   | Number of time Oracle attempted a cleanout at commit, but could not modify PMEM buffers directly without a DRAM version                                                                                                                                                                                    |                  |
| commit cleanout failures: write disabled         | 8     | Number of times a cleanout block at commit was performed but the writes to the database had been temporarily disabled                                                                                                                                                                                      |                  |
| commit cleanouts                                 | 8     | Total number of times the cleanout block at commit function was performed                                                                                                                                                                                                                                  |                  |
| commit cleanouts successfully completed          | 8     | Number of times the cleanout block at commit function completed successfully                                                                                                                                                                                                                               |                  |
| commit nowait performed                          | 1     | The number of asynchronous commits that were actually performed. These commits did not wait for the commit redo to be flushed and be present on disk before returning.                                                                                                                                     |                  |
| commit nowait requested                          | 1     | The number of no-wait commit or asynchronous commit requests that were made either using SQL or the OCI transaction control API                                                                                                                                                                            |                  |
| Commit SCN cached                                | 128   | Number of times the system change number of a commit operation was cached                                                                                                                                                                                                                                  |                  |
| commit wait/nowait performed                     | 1     | The number of asynchronous/synchronous commits that were actually performed                                                                                                                                                                                                                                |                  |
| commit wait/nowait requested                     | 1     | The number of no-wait or wait commits that were made either using SQL or the OCI transaction control API                                                                                                                                                                                                   |                  |
| commit wait performed                            | 1     | The number of synchronous commits that were actually performed. These commits waited for the commit redo to be flushed and be present on disk before returning.                                                                                                                                            |                  |
| commit wait requested                            | 1     | The number of waiting or synchronous commit requests that were made either using SQL or the OCI transaction control API                                                                                                                                                                                    |                  |
| concurrency wait time                            | 1     | The total wait time (in centiseconds) for waits that belong to the Concurrency wait class                                                                                                                                                                                                                  |                  |
| consistent changes                               | 8     | Number of times a user process has applied rollback entries to perform a consistent read on the block<br><br>Work loads that produce a great deal of consistent changes can consume a great deal of resources. The value of this statistic should be small in relation to the "consistent gets" statistic. |                  |
| consistent gets                                  | 8     | Number of times a consistent read was requested for a block.<br><br><b>See Also:</b> " <a href="#">consistent changes</a> " and " <a href="#">session logical reads</a> " statistics                                                                                                                       |                  |

Table E-1 (Cont.) Database Statistics Descriptions

| Name                                        | Class | Description                                                                                                                                                                                                                                                                                                                                                                                                            | TIMED_STATISTICS |
|---------------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| consistent gets direct                      | 8     | Number of times a consistent read was requested for a block bypassing the buffer cache (for example, direct load operation). This is a subset of "consistent gets" statistics value.                                                                                                                                                                                                                                   |                  |
| consistent gets from cache                  | 8     | Number of times a consistent read was requested for a block from buffer cache. This is a subset of "consistent gets" statistics value.                                                                                                                                                                                                                                                                                 |                  |
| consistent gets from pmem                   | 8     | Number of direct-mapped blocks accessed in CR (consistent read) mode from PMEM. This is a subset of "consistent gets" statistics value.                                                                                                                                                                                                                                                                                |                  |
| consistent gets pmem direct                 | 8     | Number of CR gets from pmem in direct read (e.g. tablescan) code path. This is a subset of "consistent gets from pmem" statistics value.                                                                                                                                                                                                                                                                               |                  |
| consistent gets pmem examination            | 8     | Number of direct-mapped blocks accessed and examined in CR mode from PMEM, via regular path. This is a subset of "consistent gets from pmem" statistics value.                                                                                                                                                                                                                                                         |                  |
| consistent gets pmem examination (fastpath) | 8     | Number of direct-mapped blocks accessed and examined in CR mode from PMEM, via fast path. This is a subset of both "consistent gets from pmem" and "consistent gets pmem examination" statistics values.                                                                                                                                                                                                               |                  |
| consistent gets pmem pin                    | 8     | Number of direct-mapped blocks accessed and pinned in CR mode from PMEM, via regular path. This is a subset of "consistent gets from pmem" statistics value.                                                                                                                                                                                                                                                           |                  |
| consistent gets pmem pin (fastpath)         | 8     | Number of direct-mapped blocks accessed and pinned in CR mode from PMEM, via fast path. This is a subset of both "consistent gets from pmem" and "consistent gets pmem pin" statistics values.                                                                                                                                                                                                                         |                  |
| CPU used by this session                    | 1     | Amount of CPU time (in 10s of milliseconds) used by a session from the time a user call starts until it ends. If a user call completes within 10 milliseconds, the start and end user-call time are the same for purposes of this statistics, and 0 milliseconds are added.<br><br>A similar problem can exist in the reporting by the operating system, especially on systems that suffer from many context switches. | Y                |
| CPU used when call started                  | 128   | The CPU time used when the call is started<br><br><b>See Also:</b> " <a href="#">CPU used by this session</a> "                                                                                                                                                                                                                                                                                                        | Y                |
| CR blocks created                           | 8     | Number of CURRENT blocks cloned to create CR (consistent read) blocks. The most common reason for cloning is that the buffer is held in a incompatible mode.                                                                                                                                                                                                                                                           |                  |
| cumulative begin requests                   | 32    | Total number of begin requests received by the Oracle database allowing the database to detect and process requests                                                                                                                                                                                                                                                                                                    |                  |
| cumulative DB time in requests              | 288   | Total database time DB Time (in microseconds) within requests to the Oracle database, measuring DB time used from the beginning to the end of each request. (See also DB time statistic.)                                                                                                                                                                                                                              |                  |

Table E-1 (Cont.) Database Statistics Descriptions

| Name                                                      | Class | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | TIMED_STATISTICS |
|-----------------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| cumulative DB time protected in requests                  | 288   | Total database time DB Time (in microseconds) within requests to the Oracle database protected by Application Continuity or Transparent Application Continuity, measuring DB time used from the beginning to the end of each request. (See also DB time statistic.)<br><br>This is a subset of "cumulative DB time in requests" value, which enables you to calculate the ratio of total time in requests to protected time in requests. See also Application Continuity Protection Check (ACCHK). |                  |
| cumulative end requests                                   | 32    | Total number of end requests received by the Oracle database allowing the database to detect and process requests                                                                                                                                                                                                                                                                                                                                                                                  |                  |
| cumulative time in requests                               | 32    | Total wall clock time (in microseconds) within requests to the Oracle database, measuring time spent from the beginning to the end of each request. This statistic is used by draining and planned failover. (See <code>drain_timeout</code> .)                                                                                                                                                                                                                                                    |                  |
| cumulative user calls in requests                         | 32    | Total number of user calls received by the Oracle database within requests to the Oracle database                                                                                                                                                                                                                                                                                                                                                                                                  |                  |
| cumulative user calls protected by Application Continuity | 32    | Total number of user calls received by the Oracle database within requests to the Oracle database that were protected by Application Continuity or Transparent Application Continuity                                                                                                                                                                                                                                                                                                              |                  |
| current blocks converted for CR                           | 8     | Number <code>CURRENT</code> blocks converted to CR state                                                                                                                                                                                                                                                                                                                                                                                                                                           |                  |
| cursor authentications                                    | 128   | Number of privilege checks conducted during execution of an operation                                                                                                                                                                                                                                                                                                                                                                                                                              |                  |
| data blocks consistent reads - undo records applied       | 128   | Number of undo records applied to data blocks that have been rolled back for consistent read purposes                                                                                                                                                                                                                                                                                                                                                                                              |                  |
| data warehousing cooling action                           | 8     | Number of times that cooling occurred on this instance                                                                                                                                                                                                                                                                                                                                                                                                                                             |                  |
| data warehousing evicted objects                          | 8     | Number of times that objects got evicted by automatic big table caching on this instance                                                                                                                                                                                                                                                                                                                                                                                                           |                  |
| data warehousing evicted objects - cooling                | 8     | Number of times that objects got evicted on this instance due to a cooling action                                                                                                                                                                                                                                                                                                                                                                                                                  |                  |
| data warehousing evicted objects - replace                | 8     | Number of times that objects got evicted due to caching replacement, that is, when an object is evicted because a hotter object forces it to be evicted from the cache                                                                                                                                                                                                                                                                                                                             |                  |
| data warehousing scanned blocks                           | 8     | Number of blocks scanned by automatic big table caching on this instance using parallel query                                                                                                                                                                                                                                                                                                                                                                                                      |                  |
| data warehousing scanned blocks - disk                    | 8     | Number of blocks scanned by automatic big table caching on this instance by direct read from disk                                                                                                                                                                                                                                                                                                                                                                                                  |                  |
| data warehousing scanned blocks - memory                  | 8     | Number of blocks scanned by automatic big table caching on this instance by cache read from memory                                                                                                                                                                                                                                                                                                                                                                                                 |                  |
| data warehousing scanned blocks - offload                 | 8     | Number of blocks scanned by automatic big table caching on this instance by Exadata offloading                                                                                                                                                                                                                                                                                                                                                                                                     |                  |
| data warehousing scanned objects                          | 8     | Number of times the objects in automatic big table caching are scanned using parallel query                                                                                                                                                                                                                                                                                                                                                                                                        |                  |



Table E-1 (Cont.) Database Statistics Descriptions

| Name                                           | Class | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | TIMED_STATISTICS |
|------------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| db block changes                               | 8     | <p>Closely related to "<a href="#">consistent changes</a>", this statistic counts the total number of changes that were part of an update or delete operation that were made to all blocks in the SGA. Such changes generate redo log entries and hence become permanent changes to the database if the transaction is committed.</p> <p>This approximates total database work. This statistic indicates the rate at which buffers are being dirtied (on a per-transaction or per-second basis, for example).</p> |                  |
| db block gets                                  | 8     | <p>Number of times a <code>CURRENT</code> block was requested</p> <p><b>See Also:</b> "<a href="#">consistent gets</a>"</p>                                                                                                                                                                                                                                                                                                                                                                                       |                  |
| db block gets direct                           | 8     | Number of times a <code>CURRENT</code> block was requested bypassing the buffer cache (for example, a direct load operation). This is a subset of "db block gets" statistics value.                                                                                                                                                                                                                                                                                                                               |                  |
| db block gets from cache                       | 8     | Number of times a <code>CURRENT</code> block was requested from the buffer cache. This is a subset of "db block gets" statistics value.                                                                                                                                                                                                                                                                                                                                                                           |                  |
| db block gets from pmem                        | 8     | Number of direct-mapped blocks accessed in <code>CURRENT</code> mode from PMEM, via regular path                                                                                                                                                                                                                                                                                                                                                                                                                  |                  |
| db block gets from pmem (fastpath)             | 8     | Number of direct-mapped blocks accessed in <code>CURRENT</code> mode from PMEM, via fast path                                                                                                                                                                                                                                                                                                                                                                                                                     |                  |
| DBWR checkpoint buffers written                | 8     | Number of buffers that were written for checkpoints                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |
| DBWR checkpoints                               | 8     | Number of times the DBWR was asked to scan the cache and write all blocks marked for a checkpoint or the end of recovery. This statistic is always larger than " <a href="#">background checkpoints completed</a> ".                                                                                                                                                                                                                                                                                              |                  |
| DBWR lru scans                                 | 8     | Number of times that DBWR scans the LRU queue looking for buffers to write. This count includes scans to fill a batch being written for another purpose (such as a checkpoint).                                                                                                                                                                                                                                                                                                                                   |                  |
| DBWR revisited being-written buffer            | 8     | <p>Number of times that DBWR tried to save a buffer for writing and found that it was already in the write batch. This statistic measures the amount of "useless" work that DBWR had to do in trying to fill the batch.</p> <p>Many sources contribute to a write batch. If the same buffer from different sources is considered for adding to the write batch, then all but the first attempt will be "useless" because the buffer is already marked as being written.</p>                                       |                  |
| DBWR transaction table writes                  | 8     | Number of rollback segment headers written by DBWR. This statistic indicates how many "hot" buffers were written, causing a user process to wait while the write completed.                                                                                                                                                                                                                                                                                                                                       |                  |
| DBWR undo block writes                         | 8     | Number of rollback segment blocks written by DBWR                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                  |
| DDL statements parallelized                    | 32    | Number of DDL statements that were executed in parallel                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                  |
| deferred (CURRENT) block cleanout applications | 128   | Number of times cleanout records are deferred, piggyback with changes, always current get                                                                                                                                                                                                                                                                                                                                                                                                                         |                  |
| DFO trees parallelized                         | 32    | Number of times a serial execution plan was converted to a parallel plan                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |

**Table E-1 (Cont.) Database Statistics Descriptions**

| Name                                | Class | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | TIMED_STATISTICS |
|-------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| dirty buffers inspected             | 8     | Number of dirty buffers found by the user process while it is looking for a buffer to reuse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                  |
| DML statements parallelized         | 32    | Number of DML statements that were executed in parallel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                  |
| DML statements retried              | 64    | <p>When a long-running DML is executing, the cursor may get invalidated due to some concurrent DDL on one of the cursor's dependencies. In this case, an internal ORA-14403 error is thrown and is caught and cleared in one of the calling functions. The current work is rolled back and the DML is restarted without the user being notified of this.</p> <p>The statistic counts the number of times that the thrown, caught, and cleared (ORA-14403) sequence occurred for DML statements. Should a DML vary widely in execution time, check this statistic to see if it increments during the DML execution. If so, then concurrent DDL may be the cause of the extra elapsed time.</p> |                  |
| enqueue conversions                 | 4     | Total number of conversions of the state of table or row lock                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                  |
| enqueue deadlocks                   | 4     | Total number of deadlocks between table or row locks in different sessions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                  |
| enqueue releases                    | 4     | Total number of table or row locks released                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                  |
| enqueue requests                    | 4     | Total number of table or row locks acquired                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                  |
| enqueue timeouts                    | 4     | Total number of table and row locks (acquired and converted) that timed out before they could complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                  |
| enqueue waits                       | 4     | Total number of waits that occurred during an enqueue convert or get because the enqueue get was deferred                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                  |
| exchange deadlocks                  | 8     | Number of times that a process detected a potential deadlock when exchanging two buffers and raised an internal, restartable error. Index scans are the only operations that perform exchanges.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |
| execute count                       | 64    | Total number of calls (user and recursive) that executed SQL statements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                  |
| fbda woken up                       | 128   | Number of times the flashback data archive background process was woken up to do archiving                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                  |
| file io wait time                   | 1     | Total time spent in wait (in microseconds) for I/O to datafiles, excluding the service time for such I/O. This is cumulative for all I/Os for all datafiles. The service time for one I/O operation is estimated as the minimum time spent in the I/O call seen so far. This service time is subtracted from the time spent in each I/O call to get the wait time for that I/O.                                                                                                                                                                                                                                                                                                               |                  |
| flash cache eviction: aged out      | 8     | Flash cache buffer is aged out of the Database Smart Flash Cache                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                  |
| flash cache eviction: buffer pinned | 8     | Database Smart Flash Cache buffer is invalidated due to object or range reuse, and so on. The Database Flash Cache Buffer was in use at the time of eviction.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                  |
| flash cache eviction: invalidated   | 8     | Database Smart Flash Cache buffer is invalidated due to object or range reuse, and so on. The Database Smart Flash Cache buffer was not in use at the time of eviction.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                  |
| flash cache insert skip: corrupt    | 8     | In-memory buffer was skipped for insertion into the Database Smart Flash Cache because the buffer was corrupted                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |

Table E-1 (Cont.) Database Statistics Descriptions

| Name                                       | Class | Description                                                                                                                                                                                                                                                                                                                                           | TIMED_STATISTICS |
|--------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| flash cache insert skip: DBWR overloaded   | 8     | In-memory buffer was skipped for insertion into the Database Smart Flash Cache because DBWR was busy writing other buffers                                                                                                                                                                                                                            |                  |
| flash cache insert skip: exists            | 8     | In-memory buffer was skipped for insertion into the Database Smart Flash Cache because it was already in the flash cache                                                                                                                                                                                                                              |                  |
| flash cache insert skip: modification      | 8     | In-memory buffer was skipped for insertion into the Database Smart Flash Cache because it was being modified                                                                                                                                                                                                                                          |                  |
| flash cache insert skip: not current       | 8     | In-memory buffer was skipped for insertion into the Database Smart Flash Cache because it was not current                                                                                                                                                                                                                                             |                  |
| flash cache insert skip: not useful        | 8     | In-memory buffer was skipped for insertion into the Database Smart Flash Cache because the type of buffer was not useful to keep                                                                                                                                                                                                                      |                  |
| flash cache inserts                        | 8     | Total number of in-memory buffers inserted into the Database Smart Flash Cache                                                                                                                                                                                                                                                                        |                  |
| flashback log write bytes                  | 2     | Total size in bytes of flashback database data written by RVWR to flashback database logs                                                                                                                                                                                                                                                             |                  |
| flashback log writes                       | 2     | Total number of writes by RVWR to flashback database logs                                                                                                                                                                                                                                                                                             |                  |
| foreground propagated tracked transactions | 128   | Number of transactions modifying tables enabled for flashback data archive which were archived by a foreground process                                                                                                                                                                                                                                |                  |
| free buffer inspected                      | 8     | Number of buffers skipped over from the end of an LRU queue to find a reusable buffer. The difference between this statistic and "dirty buffers inspected" is the number of buffers that could not be used because they had a user, a waiter, or were being read or written, or because they were busy or needed to be written after rapid aging out. |                  |
| free buffer inspected for pmem             | 8     | Number of PMEM buffers skipped over from the end of an LRU queue to find a reusable PMEM buffer                                                                                                                                                                                                                                                       |                  |
| free buffer requested                      | 8     | Number of times a reusable buffer or a free buffer was requested to create or load a block                                                                                                                                                                                                                                                            |                  |
| free buffer requested for pmem             | 8     | Number of times a reusable PMEM buffer or a free PMEM buffer was requested to directly access a block                                                                                                                                                                                                                                                 |                  |
| gc read wait failures                      | 40    | A read wait is when a CR server waits for a disk read to complete before serving a block to another instance. This statistic displays the number of times a read wait ended in failure, that is, after waiting it was unable to serve a block.                                                                                                        |                  |
| gc read wait timeouts                      | 40    | A read wait is when a CR server waits for a disk read to complete before serving a block to another instance. This statistic displays the number of times a read wait timed out, that is, the disk read did not complete in time, so the wait was terminated.                                                                                         |                  |
| gc read waits                              | 40    | The number of times a CR server waited for a disk read, and then successfully served a block                                                                                                                                                                                                                                                          |                  |

Table E-1 (Cont.) Database Statistics Descriptions

| Name                                     | Class | Description                                                                                                                                                                                                                                                                                                                         | TIMED_STATISTICS |
|------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| global enqueue CPU used by this session  | 32    | Amount of CPU time (in 10s of milliseconds) used by synchronous and asynchronous global enqueue activity in a session from the time a user call starts until it ends. If a user call completes within 10 milliseconds, the start and end user-call time are the same for purposes of this statistics, and 0 milliseconds are added. |                  |
| global enqueue get time                  | 32    | Total elapsed time in 10s of milliseconds of all synchronous and asynchronous global enqueue gets and converts                                                                                                                                                                                                                      |                  |
| global enqueue gets async                | 32    | Total number of asynchronous global enqueue gets and converts                                                                                                                                                                                                                                                                       |                  |
| global enqueue gets sync                 | 32    | Total number of synchronous global enqueue gets and converts                                                                                                                                                                                                                                                                        |                  |
| global enqueue releases                  | 32    | Total number of synchronous global enqueue releases                                                                                                                                                                                                                                                                                 |                  |
| HCC analyze table CUs                    | 128   | Number of Compression Units that were decompressed for <code>ANALYZE TABLE</code>                                                                                                                                                                                                                                                   |                  |
| HCC analyzer calls                       | 128   | Number of times <code>ANALYZE TABLE</code> has been run on Hybrid Columnar Compression (HCC) compressed tables                                                                                                                                                                                                                      |                  |
| HCC block compressions attempted         | 128   | Number of times the system failed to recompress an OLTP compressed block in HCC format                                                                                                                                                                                                                                              |                  |
| HCC block compressions completed         | 128   | Number of times an OLTP compressed block was successfully recompressed in HCC format                                                                                                                                                                                                                                                |                  |
| HCC DML conventional                     | 128   | Number of searched DML statements ( <code>UPDATE</code> and <code>DELETE</code> ) issued against HCC compressed tables                                                                                                                                                                                                              |                  |
| HCC DML CUs                              | 128   | Number of Compression Units that were decompressed for searched DMLs ( <code>UPDATE</code> and <code>DELETE</code> )                                                                                                                                                                                                                |                  |
| HCC fetch by rowid CUs                   | 128   | Number of Compression Units that were decompressed by single row fetch                                                                                                                                                                                                                                                              |                  |
| HCC load conventional bytes compressed   | 128   | Length of the data after compression stored in Compression Units by conventional loads. The amount of space used on disk is the sum of the data stored plus the metadata needed to locate the stored data.                                                                                                                          |                  |
| HCC load conventional bytes uncompressed | 128   | Length of the data before compression stored in Compression Units by conventional loads. The amount of space used on disk is the sum of the data stored plus the metadata needed to locate the stored data.                                                                                                                         |                  |
| HCC load conventional CUs                | 128   | Number of Compression Units that were successfully compressed in any format from conventional loads                                                                                                                                                                                                                                 |                  |
| HCC load conventional CUs archive high   | 128   | Number of Compression Units that were successfully compressed in HCC <code>ARCHIVE HIGH</code> format from conventional loads                                                                                                                                                                                                       |                  |
| HCC load conventional CUs archive low    | 128   | Number of Compression Units that were successfully compressed in HCC <code>ARCHIVE LOW</code> format from conventional loads                                                                                                                                                                                                        |                  |
| HCC load conventional CUs query high     | 128   | Number of Compression Units that were successfully compressed in HCC <code>QUERY HIGH</code> format from conventional loads                                                                                                                                                                                                         |                  |

Table E-1 (Cont.) Database Statistics Descriptions

| Name                                      | Class | Description                                                                                                                                                                                                | TIMED_STATISTICS |
|-------------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| HCC load conventional CUs query low       | 128   | Number of Compression Units that were successfully compressed in HCC <code>QUERY LOW</code> format from conventional loads                                                                                 |                  |
| HCC load conventional rows                | 128   | Number of rows that were successfully compressed in HCC format from conventional loads                                                                                                                     |                  |
| HCC load conventional rows not compressed | 128   | Number of rows that were unable to be compressed in HCC format from conventional loads because the compression resulted in taking more space, not less                                                     |                  |
| HCC load direct bytes compressed          | 128   | Length of the data after compression stored in Compression Units by Direct Path Loads. The amount of space used on disk is the sum of the data stored plus the metadata needed to locate the stored data.  |                  |
| HCC load direct bytes uncompressed        | 128   | Length of the data before compression stored in Compression Units by Direct Path Loads. The amount of space used on disk is the sum of the data stored plus the metadata needed to locate the stored data. |                  |
| HCC load direct CUs                       | 128   | Number of Compression Units that were successfully HCC compressed by Direct Path Loads                                                                                                                     |                  |
| HCC load direct CUs archive high          | 128   | Number of rows from Direct Path Loads that were HCC compressed with <code>ARCHIVE HIGH</code> successfully                                                                                                 |                  |
| HCC load direct CUs archive low           | 128   | Number of rows from Direct Path Loads that were HCC compressed with <code>ARCHIVE LOW</code> successfully                                                                                                  |                  |
| HCC load direct CUs query high            | 128   | Number of rows from Direct Path Loads that were HCC compressed with <code>QUERY HIGH</code> successfully                                                                                                   |                  |
| HCC load direct CUs query low             | 128   | Number of rows from Direct Path Loads that were HCC compressed with <code>QUERY LOW</code> successfully                                                                                                    |                  |
| HCC load direct rows                      | 128   | Number of rows from Direct Path Loads that were HCC compressed successfully                                                                                                                                |                  |
| HCC load direct rows not compressed       | 128   | Number of rows from Direct Path Loads that were OLTP compressed instead of HCC compressed due to negative compression                                                                                      |                  |
| HCC scan cell bytes compressed            | 128   | Length of the compressed data stored in Compression Units prior to decompression. This is the length of all columns, not just the columns accessed.                                                        |                  |
| HCC scan cell bytes decompressed          | 128   | Length of the data after decompression stored in Compression Units. This is the length of all columns, not just the columns accessed.                                                                      |                  |
| HCC scan cell CUs archive high            | 128   | Number of Compression Units scanned that had been compressed with <code>ARCHIVE HIGH</code>                                                                                                                |                  |
| HCC scan cell CUs archive low             | 128   | Number of Compression Units scanned that had been compressed with <code>ARCHIVE LOW</code>                                                                                                                 |                  |
| HCC scan cell CUs columns accessed        | 128   | Number of columns that needed to be decompressed on the storage server to process the Compression Unit                                                                                                     |                  |
| HCC scan cell CUs decompressed            | 128   | Number of Compression Units that needed to be decompressed on the storage server                                                                                                                           |                  |

Table E-1 (Cont.) Database Statistics Descriptions

| Name                                        | Class | Description                                                                                                                                         | TIMED_STATISTICS |
|---------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| HCC scan cell CUs decompression time        | 128   | Total time spent decompressing the columns that were needed on the storage server                                                                   |                  |
| HCC scan cell CUs optimized read            | 128   | Number of Compression Units where all the rows were within the stored Min/Max values. Evaluation of those predicates was optimized out.             |                  |
| HCC scan cell CUs pruned                    | 128   | Number of Compression Units that were pruned based on the Min/Max value checks                                                                      |                  |
| HCC scan cell CUs query high                | 128   | Number of Compression Units scanned that had been compressed with <code>QUERY HIGH</code>                                                           |                  |
| HCC scan cell CUs query low                 | 128   | Number of Compression Units scanned that had been compressed with <code>QUERY LOW</code>                                                            |                  |
| HCC scan cell CUs sent compressed           | 64    | Number of Compression Units that the storage server returned to the RDBMS still compressed after predicate evaluation was done                      |                  |
| HCC scan cell CUs sent head piece           | 64    | Number of Compression Units that the storage server was unable to process and the block header was returned to the RDBMS to be processed            |                  |
| HCC scan cell CUs sent uncompressed         | 64    | Number of Compression Units that the storage server returned to the RDBMS in uncompressed columnar format                                           |                  |
| HCC scan cell rows                          | 128   | Number of rows from columnar formatted data that were returned by the storage server to the RDBMS                                                   |                  |
| HCC scan CUs pcode aggregation pushdown     | 128   | Number of Compression Units that were aggregated on the cell using P(ortable)-byte code                                                             |                  |
| HCC scan CUs pcode pred evald               | 128   | Number of predicates that were evaluated using P(ortable)-byte code                                                                                 |                  |
| HCC scan CUs pcode pred evald using rowsets | 128   | Number of predicates that were evaluated using P(ortable)-byte code using vectorized data                                                           |                  |
| HCC scan CUs predicates applied             | 128   | Number of predicates where at least some value passed the Min/Max check                                                                             |                  |
| HCC scan CUs predicates optimized           | 128   | Number of predicates that could be evaluated directly against columnar data                                                                         |                  |
| HCC scan CUs predicates received            | 128   | Number of predicates sent to the storage server that could be evaluated directly against HCC format data after decompression                        |                  |
| HCC scan rdbms bytes compressed             | 128   | Length of the compressed data stored in Compression Units prior to decompression. This is the length of all columns, not just the columns accessed. |                  |
| HCC scan rdbms bytes decompressed           | 128   | Length of the data after decompression stored in Compression Units. This is the length of all columns, not just the columns accessed.               |                  |
| HCC scan rdbms CUs archive high             | 128   | Number of HCC Compression Units decompressed by the RDBMS table scan that had been compressed with <code>ARCHIVE HIGH</code>                        |                  |
| HCC scan rdbms CUs archive low              | 128   | Number of HCC Compression Units decompressed by the RDBMS table scan that had been compressed with <code>ARCHIVE LOW</code>                         |                  |

Table E-1 (Cont.) Database Statistics Descriptions

| Name                                       | Class | Description                                                                                                                                                                                                                                                   | TIMED_STATISTICS |
|--------------------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| HCC scan rdbms CUs columns accessed        | 128   | Number of columns that were decompressed                                                                                                                                                                                                                      |                  |
| HCC scan rdbms CUs decompressed            | 128   | Number of Compression Units that were decompressed on the RDBMS server                                                                                                                                                                                        |                  |
| HCC scan rdbms CUs decompression time      | 128   | Total time spent decompressing the columns that were needed on the RDBMS server                                                                                                                                                                               |                  |
| HCC scan rdbms CUs normal                  | 128   | Number of HCC Compression Units decompressed by the RDBMS regular table scan, i.e., 'Table Access Full' in a query plan. This is typically used in specialized scans that, for example, use row versions, row SCN, or use the <code>LONG RAW</code> datatype. |                  |
| HCC scan rdbms CUs pruned                  | 128   | Number of Compression Units that were eliminated by comparing the predicates to the stored Min and Max values for that Compression Unit                                                                                                                       |                  |
| HCC scan rdbms CUs query high              | 128   | Number of HCC Compression Units decompressed by the RDBMS table scan that had been compressed with <code>QUERY HIGH</code> (which is the default)                                                                                                             |                  |
| HCC scan rdbms CUs query low               | 128   | Number of HCC Compression Units decompressed by the RDBMS table scan that had been compressed with <code>QUERY LOW</code>                                                                                                                                     |                  |
| HCC scan rdbms CUs turbo                   | 128   | Number of HCC Compression Units decompressed by the RDBMS fast table scan (TurboScan). This is separate to decompression that happens on an Exadata cell.                                                                                                     |                  |
| HCC scan rdbms rows                        | 128   | Number of rows returned from HCC blocks or that were returned from an Exadata cell in columnar format that passed the predicates on that table                                                                                                                |                  |
| HCC scan rows pcode aggregated             | 128   | Number of rows from HCC blocks or from columnar format blocks returned by an Exadata cell that could be aggregated using the P(ortable)-code style of query compilation                                                                                       |                  |
| HCC usage cloud                            | 128   | Internal count of how often TurboScan is invoked for HCC data stored in an Oracle Cloud environment. It does not include Oracle on other vendor's clouds. This may or may not correspond with the number of queries or granules scanned.                      |                  |
| HCC usage pillar                           | 128   | Internal count of how often TurboScan is invoked for HCC data stored on Pillar storage. This may or may not correspond with the number of queries or granules scanned.                                                                                        |                  |
| HCC usage ZFS                              | 128   | Internal count of how often TurboScan is invoked for HCC data stored on ZFS storage. This may or may not correspond with the number of queries or granules scanned.                                                                                           |                  |
| hot buffers moved to head of LRU           | 8     | When a hot buffer reaches the tail of its replacement list, Oracle moves it back to the head of the list to keep it from being reused. This statistic counts such moves.                                                                                      |                  |
| hot buffers moved to head of LRU for pmem  | 8     | When a hot PMEM buffer reaches the tail of its replacement list, Oracle moves it back to the head of the list to keep it from being reused. This statistic counts such moves.                                                                                 |                  |
| hot pmem block exchange with dram attempts | 264   | Number of hot PMEM buffers that were attempted to be exchanged with colder DRAM buffers, to ensure both blocks are still cached                                                                                                                               |                  |



**Table E-1 (Cont.) Database Statistics Descriptions**

| Name                                            | Class | Description                                                                                                                                                                  | TIMED_STATISTICS |
|-------------------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| hot pmem block exchange with dram successes     | 264   | Number of hot PMEM buffers that were successfully exchanged with colder DRAM buffers, with both blocks still cached                                                          |                  |
| hot pmem block migration to dram attempts       | 8     | Number of hot PMEM buffer cache blocks that were attempted to be migrated to DREM to reduce access latency                                                                   |                  |
| hot pmem block migration to dram successes      | 264   | Number of hot PMEM buffer cache blocks that were successfully migrated to DRAM to reduce access latency                                                                      |                  |
| immediate (CR) block cleanout applications      | 128   | Number of times cleanout records are applied immediately during consistent-read requests                                                                                     |                  |
| immediate (CURRENT) block cleanout applications | 128   | Number of times cleanout records are applied immediately during current gets. Compare this statistic with " <a href="#">deferred (CURRENT) block cleanout applications</a> " |                  |
| IM (HPK4SQL) hash joins attempted               | 384   | Number of in-memory vectorized hash joins attempted                                                                                                                          |                  |
| IM (HPK4SQL) hash joins completed               | 384   | Number of in-memory vectorized hash joins completed                                                                                                                          |                  |
| IM (hybrid) scan blocks on hybrid list          | 384   | Number of blocks on the hybrid In-Memory scan list                                                                                                                           |                  |
| IM (hybrid) scan rows on hybrid list            | 384   | Number of rows on the hybrid In-Memory scan list                                                                                                                             |                  |
| IM default area resized                         | 128   | The amount of memory by which the column store got resized                                                                                                                   |                  |
| IM populate accumulated time (ms)               | 128   | Total amount of DB time (in milliseconds) spent populating CUs into the IM column store due to segment scans                                                                 |                  |
| IM populate bytes in-memory EU data             | 128   | Size in bytes of in-memory EU data populated due to segment scans                                                                                                            |                  |
| IM populate bytes uncompressed EU data          | 128   | Uncompressed size in bytes of in-memory EU data populated due to segment scans                                                                                               |                  |
| IM populate CUs                                 | 128   | Number of CUs populated in the IM column store due to segment scans                                                                                                          |                  |
| IM populate CUs memcompress for capacity high   | 128   | Number of CUs populated in the IM column store due to segment scans using memcompress for capacity high                                                                      |                  |
| IM populate CUs memcompress for capacity low    | 128   | Number of CUs populated in the IM column store due to segment scans using memcompress for capacity low                                                                       |                  |
| IM populate CUs memcompress for dml             | 128   | Number of CUs populated in the IM column store due to segment scans using memcompress for DML                                                                                |                  |
| IM populate CUs memcompress for query high      | 128   | Number of CUs populated in the IM column store due to segment scans using memcompress for query high                                                                         |                  |
| IM populate CUs memcompress for query low       | 128   | Number of CUs populated in the IM column store due to segment scans using memcompress for query low                                                                          |                  |
| IM populate CUs no memcompress                  | 128   | Number of CUs populated in the IM column store due to segment scans without compression                                                                                      |                  |
| IM populate CUs requested                       | 128   | Number of CUs requested to be populated due to segment scans                                                                                                                 |                  |
| IM populate EUs                                 | 128   | Number of EUs populated in the IM column store due to segment scans                                                                                                          |                  |



**Table E-1 (Cont.) Database Statistics Descriptions**

| Name                                             | Class | Description                                                                                                          | TIMED_STATISTICS |
|--------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------|------------------|
| IM populate EUs accumulated time (ms)            | 128   | Total amount of DB time (in milliseconds) spent populating EUs into the IM column store due to segment scans         |                  |
| IM populate EUs columns                          | 128   | Number of columns populated in EUs due to segment scans                                                              |                  |
| IM populate EUs memcompress for capacity high    | 128   | Number of EUs populated in the IM column store due to segment scans at memcompress for capacity high                 |                  |
| IM populate EUs memcompress for capacity low     | 128   | Number of EUs populated in the IM column store due to segment scans at memcompress for capacity low                  |                  |
| IM populate EUs memcompress for dml              | 128   | Number of EUs populated in the IM column store due to segment scans at memcompress for dml                           |                  |
| IM populate EUs memcompress for query high       | 128   | Number of EUs populated in the IM column store due to segment scans at memcompress for query high                    |                  |
| IM populate EUs memcompress for query low        | 128   | Number of EUs populated in the IM column store due to segment scans at memcompress for query low                     |                  |
| IM populate EUs no memcompress                   | 128   | Number of EUs populated in the IM column store without compression due to segment scans                              |                  |
| IM populate EUs requested                        | 128   | Number of EUs requested to be populated in the IM column store due to segment scans                                  |                  |
| IM populate no contiguous inmemory space         | 128   | Number of CUs that fail to populate due to lack of contiguous space in the In-Memory Area                            |                  |
| IM populate segments                             | 128   | Number of segments populated due to segment scan                                                                     |                  |
| IM populate segments requested                   | 128   | Number of segments requested to be populated due to segment scan                                                     |                  |
| IM populate segments wall clock time (ms)        | 128   | Total amount of wall clock time (in milliseconds) spent populating CUs into the IM column store due to segment scans |                  |
| IM prepopulate accumulated time (ms)             | 128   | Total amount of DB time (in milliseconds) spent prepopulating CUs into the IM column store priority                  |                  |
| IM prepopulate bytes in-memory EU data           | 128   | Size in bytes of in-memory EU data populated due to priority                                                         |                  |
| IM prepopulate bytes uncompressed EU data        | 128   | Uncompressed size in bytes of in-memory EU data populated due to priority                                            |                  |
| IM prepopulate CUs                               | 128   | Number of CUs prepopulated in the IM column store due to priority                                                    |                  |
| IM prepopulate CUs memcompress for capacity high | 128   | Number of CUs prepopulated in the IM column store due to priority using memcompress for capacity high                |                  |
| IM prepopulate CUs memcompress for capacity low  | 128   | Number of CUs prepopulated in the IM column store due to priority using memcompress for capacity low                 |                  |
| IM prepopulate CUs memcompress for dml           | 128   | Number of CUs prepopulated in the IM column store due to priority using memcompress for DML                          |                  |
| IM prepopulate CUs memcompress for query high    | 128   | Number of CUs prepopulated in the IM column store due to priority using memcompress for query high                   |                  |
| IM prepopulate CUs memcompress for query low     | 128   | Number of CUs prepopulated in the IM column store due to priority using memcompress for query low                    |                  |
| IM prepopulate CUs no memcompress                | 128   | Number of CUs prepopulated in the IM column store due to priority without compression                                |                  |

**Table E-1 (Cont.) Database Statistics Descriptions**

| Name                                             | Class | Description                                                                                                                 | TIMED_STATISTICS |
|--------------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------|------------------|
| IM prepopulate CUs requested                     | 128   | Number of CUs requested to be prepopulated due to priority                                                                  |                  |
| IM prepopulate EUs                               | 128   | Number of EUs populated in the IM column store due to priority                                                              |                  |
| IM prepopulate EUs accumulated time (ms)         | 128   | Total amount of DB time (in milliseconds) spent populating EUs into the IM column store due to priority                     |                  |
| IM prepopulate EUs columns                       | 128   | Number of columns populated in EUs due to priority                                                                          |                  |
| IM prepopulate EUs memcompress for capacity high | 128   | Number of EUs populated in the IM column store due to priority at memcompress for capacity high                             |                  |
| IM prepopulate EUs memcompress for capacity low  | 128   | Number of EUs populated in the IM column store due to priority at memcompress for capacity low                              |                  |
| IM prepopulate EUs memcompress for dml           | 128   | Number of EUs populated in the IM column store due to priority at memcompress for dml                                       |                  |
| IM prepopulate EUs memcompress for query high    | 128   | Number of EUs populated in the IM column store due to priority at memcompress for query high                                |                  |
| IM prepopulate EUs memcompress for query low     | 128   | Number of EUs populated in the IM column store due to priority at memcompress for query low                                 |                  |
| IM prepopulate EUs no memcompress                | 128   | Number of EUs populated in the IM column store without compression due to priority                                          |                  |
| IM prepopulate EUs requested                     | 128   | Number of EUs requested to be populated in the IM column store due to priority                                              |                  |
| IM prepopulate segments                          | 128   | Number of segments prepopulated due to priority                                                                             |                  |
| IM prepopulate segments requested                | 128   | Number of segments requested to be prepopulated due to priority                                                             |                  |
| IM repopulate accumulated time (ms)              | 128   | Total amount of DB time (in milliseconds) spent repopulating CUs into the IM column store due to DML changes                |                  |
| IM repopulate bytes in-memory EU data            | 128   | Size in bytes of in-memory EU data repopulated due to EU reaching staleness threshold                                       |                  |
| IM repopulate CUs                                | 128   | Total number of CUs requested to be repopulated due to CU reaching staleness threshold                                      |                  |
| IM repopulate CUs memcompress for capacity high  | 128   | Number of CUs repopulated in the IM column store using memcompress for capacity high due to CU reaching staleness threshold |                  |
| IM repopulate CUs memcompress for capacity low   | 128   | Number of CUs repopulated in the IM column store using memcompress for capacity low due to CU reaching staleness threshold  |                  |
| IM repopulate CUs memcompress for dml            | 128   | Number of CUs repopulated in the IM column store using memcompress for DML due to CU reaching staleness threshold           |                  |
| IM repopulate CUs memcompress for query high     | 128   | Number of CUs repopulated in the IM column store using memcompress for query high due to CU reaching staleness threshold    |                  |
| IM repopulate CUs memcompress for query low      | 128   | Number of CUs repopulated in the IM column store using memcompress for query low due to CU reaching staleness threshold     |                  |
| IM repopulate CUs no memcompress                 | 128   | Number of CUs repopulated in the IM column store without compression due to CU reaching staleness threshold                 |                  |

**Table E-1 (Cont.) Database Statistics Descriptions**

| Name                                            | Class | Description                                                                                                               | TIMED_STATISTICS |
|-------------------------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------|------------------|
| IM repopulate CUs requested                     | 128   | Total number of CUs requested to be repopulated due to CU reaching staleness threshold                                    |                  |
| IM repopulate (doublebuffering) CUs             | 128   | Number of CUs repopulated with double-buffering enabled on the earlier version of the CUs                                 |                  |
| IM repopulate (doublebuffering) CUs requested   | 128   | Number of CUs requested to be repopulated with double-buffering enabled on the earlier version of the CUs                 |                  |
| IM repopulate EUs                               | 128   | Number of EUs requested to be repopulated due to EU reaching staleness threshold                                          |                  |
| IM repopulate EUs accumulated time (ms)         | 128   | Total amount of DB time (in milliseconds) spent repopulating EUs into the IM column store due to DML changes              |                  |
| IM repopulate EUs columns                       | 128   | Number of columns repopulated in EUs due to EU reaching staleness threshold                                               |                  |
| IM repopulate EUs memcompress for capacity high | 128   | Number of EUs repopulated in the IM column store at memcompress for capacity high due to EU reaching staleness threshold  |                  |
| IM repopulate EUs memcompress for capacity low  | 128   | Number of EUs repopulated in the IM column store at memcompress for capacity low due to EU reaching staleness threshold   |                  |
| IM repopulate EUs memcompress for dml           | 128   | Number of EUs repopulated in the IM column store at memcompress for DML due to EU reaching staleness threshold            |                  |
| IM repopulate EUs memcompress for query high    | 128   | Number of EUs repopulated in the IM column store at memcompress for query high due to EU reaching staleness threshold     |                  |
| IM repopulate EUs memcompress for query low     | 128   | Number of EUs repopulated in the IM column store at memcompress for query low due to EU reaching staleness threshold      |                  |
| IM repopulate EUs no memcompress                | 128   | Number of EUs repopulated in the IM column store without compression due to EU reaching staleness threshold               |                  |
| IM repopulate EUs requested                     | 128   | Total number of EUs requested to be repopulated due to EU reaching staleness threshold                                    |                  |
| IM repopulate (incremental) CUs                 | 128   | Number of CUs repopulated incrementally from earlier versions of the CUs                                                  |                  |
| IM repopulate (incremental) CUs requested       | 128   | Number of CUs requested to be repopulated incrementally from earlier versions of the CUs                                  |                  |
| IM repopulate (incremental) EUs                 | 128   | Number of EUs repopulated using unchanged data from the current EU due to EU reaching staleness threshold                 |                  |
| IM repopulate (incremental) EUs requested       | 128   | Number of EUs requested to be repopulated using unchanged data from the current EU due to EU reaching staleness threshold |                  |
| IM repopulate no contiguous inmemory space      | 128   | Number of CUs that failed to repopulate due to lack of contiguous space in the In-Memory Area                             |                  |
| IM repopulate (scan) CUs                        | 128   | Number of CUs repopulated in the IM column store due to scans                                                             |                  |
| IM repopulate (scan) CUs requested              | 128   | Number of CUs requested to be repopulated in the IM column store due to scans                                             |                  |

**Table E-1 (Cont.) Database Statistics Descriptions**

| Name                                                      | Class | Description                                                                                                          | TIMED_STATISTICS |
|-----------------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------|------------------|
| IM repopulate (scan) EUs                                  | 128   | Number of EUs repopulated in the IM column store that were triggered by scans on the EU                              |                  |
| IM repopulate (scan) EUs requested                        | 128   | Number of EUs requested for repopulation in the IM column store that were triggered by scans on the EU               |                  |
| IM repopulate segments                                    | 128   | Number of segments repopulated                                                                                       |                  |
| IM repopulate segments requested                          | 128   | Indicates the number of segments requested to be repopulated                                                         |                  |
| IM repopulate (trickle) accumulated time (ms)             | 128   | Total amount of DB time (in milliseconds) spent trickle repopulating CUs into the IM column store due to DML changes |                  |
| IM repopulate (trickle) bytes in-memory EU data           | 128   | Size in bytes of in-memory EU data repopulated due to DML changes                                                    |                  |
| IM repopulate (trickle) bytes uncompressed EU data        | 128   | Uncompressed size in bytes of in-memory EU data repopulated due to EU reaching staleness threshold                   |                  |
| IM repopulate (trickle) CUs                               | 128   | Number of CUs trickle repopulated in the IM column store due to DML changes                                          |                  |
| IM repopulate (trickle) CUs memcompress for capacity high | 128   | Number of CUs trickle repopulated in the IM column store using memcompress for capacity high due to DML changes      |                  |
| IM repopulate (trickle) CUs memcompress for capacity low  | 128   | Number of CUs trickle repopulated in the IM column store using memcompress for capacity low due to DML changes       |                  |
| IM repopulate (trickle) CUs memcompress for dml           | 128   | Number of CUs trickle repopulated in the IM column store using memcompress for DML due to DML changes                |                  |
| IM repopulate (trickle) CUs memcompress for query high    | 128   | Number of CUs trickle repopulated in the IM column store using memcompress for query high due to DML changes         |                  |
| IM repopulate (trickle) CUs memcompress for query low     | 128   | Number of CUs trickle repopulated in the IM column store using memcompress for query low due to DML changes          |                  |
| IM repopulate (trickle) CUs no memcompress                | 128   | Number of CUs trickle repopulated in the IM column store without compression due to DML changes                      |                  |
| IM repopulate (trickle) CUs requested                     | 128   | Total number of CUs requested to be trickle repopulated due to DML changes                                           |                  |
| IM repopulate (trickle) CUs resubmitted                   | 128   | Number of CUs trickle repopulate tasks submitted                                                                     |                  |
| IM repopulate (trickle) EUs                               | 128   | Number of EUs trickle repopulated in the IM column store due to DML changes                                          |                  |
| IM repopulate (trickle) EUs accumulated time (ms)         | 128   | Total amount of DB time (in milliseconds) spent trickle repopulating EUs into the IM column store due to DML changes |                  |
| IM repopulate (trickle) EUs columns                       | 128   | Number of columns repopulated in EUs due to DML changes                                                              |                  |
| IM repopulate (trickle) EUs memcompress for capacity high | 128   | Number of EUs trickle repopulated in the IM column store due to DML changes at memcompress for capacity high         |                  |
| IM repopulate (trickle) EUs memcompress for capacity low  | 128   | Number of EUs trickle repopulated in the IM column store due to DML changes at memcompress for capacity low          |                  |
| IM repopulate (trickle) EUs memcompress for dml           | 128   | Number of EUs trickle repopulated in the IM column store due to DML changes at memcompress for dml                   |                  |

**Table E-1 (Cont.) Database Statistics Descriptions**

| Name                                                    | Class | Description                                                                                                                                                                    | TIMED_STATISTICS |
|---------------------------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| IM repopulate (trickle) EUs memcompress for query high  | 128   | Number of EUs trickle repopulated in the IM column store due to DML changes at memcompress for query high                                                                      |                  |
| IM repopulate (trickle) EUs memcompress for query low   | 128   | Number of EUs trickle repopulated in the IM column store due to DML changes at memcompress for query low                                                                       |                  |
| IM repopulate (trickle) EUs no memcompress              | 128   | Number of EUs trickle repopulated in the IM column store without compression due to DML changes                                                                                |                  |
| IM repopulate (trickle) EUs requested                   | 128   | Number of EUs requested to be trickle repopulated in the IM column store due to DML changes                                                                                    |                  |
| IM scan CUs column not in memory                        | 128   | Number of extents that could not be read from the IM column store because one of the columns required was not in memory                                                        |                  |
| IM scan CUs invalid or missing revert to on disk extent | 128   | Number of extents where no IMCU exists                                                                                                                                         |                  |
| IM scan CUs memcompress for query low                   | 128   | Number of memcompress for query high CUs scanned in the IM column store                                                                                                        |                  |
| IM scan CUs memcompress for query high                  | 128   | Number of memcompress for query high CUs scanned in the IM column store                                                                                                        |                  |
| IM scan CUs memcompress for capacity low                | 128   | Number of memcompress for capacity low CUs scanned in the IM column store                                                                                                      |                  |
| IM scan CUs memcompress for capacity high               | 128   | Number of memcompress for capacity high CUs scanned in the IM column store                                                                                                     |                  |
| IM scan CUs memcompress for dml                         | 128   | Number of memcompress for DML CUs scanned in the IM column store                                                                                                               |                  |
| IM scan CUs predicates applied                          | 128   | Number of where clause predicates applied to the In-Memory storage index                                                                                                       |                  |
| IM scan CUs predicates optimized                        | 128   | Number of where clause predicates applied to the IM column store for which either all rows pass min/max pruning via an In-Memory storage index or no rows pass min/max pruning |                  |
| IM scan CUs pruned                                      | 128   | Number of CUs pruned by the storage index                                                                                                                                      |                  |
| IM scan (dynamic) multi-threaded scans                  | 128   | Number of In-Memory table scans which benefited from In-Memory dynamic scans                                                                                                   |                  |
| IM scan (dynamic) tasks processed by parent             | 128   | Number of IMCUs processed normally because of Resource Manager limit                                                                                                           |                  |
| IM scan (dynamic) tasks processed by thread             | 128   | Number of IMCUs processed in parallel by a worker thread                                                                                                                       |                  |
| IM scan (dynamic) rows                                  | 128   | Number of rows processed by In-Memory dynamic scans                                                                                                                            |                  |
| IM scan EU bytes in-memory                              | 128   | Size in bytes of in-memory EU data accessed by scans                                                                                                                           |                  |
| IM scan EU bytes uncompressed                           | 128   | Uncompressed size in bytes of in-memory EU data accessed by scans                                                                                                              |                  |
| IM scan EU rows                                         | 128   | Number of rows scanned from EUs in the IM column store before where clause predicate applied                                                                                   |                  |
| IM scan EUs columns accessed                            | 128   | Number of columns in the EUs accessed by scans                                                                                                                                 |                  |
| IM scan EUs columns decompressed                        | 128   | Number of columns in the EUs decompressed by scans                                                                                                                             |                  |

Table E-1 (Cont.) Database Statistics Descriptions

| Name                                      | Class | Description                                                                                                                                                         | TIMED_STATISTICS |
|-------------------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| IM scan EUs columns theoretical max       | 128   | Number of columns that would have been accessed from the EU if the scans looked at all columns                                                                      |                  |
| IM scan EUs memcompress for capacity high | 128   | Number of memcompress for capacity high EUs scanned in the IM column store                                                                                          |                  |
| IM scan EUs memcompress for capacity low  | 128   | Number of memcompress for capacity low EUs scanned in the IM column store                                                                                           |                  |
| IM scan EUs memcompress for dml           | 128   | Number of memcompress for DML EUs scanned in the IM column store                                                                                                    |                  |
| IM scan EUs memcompress for query high    | 128   | Number of memcompress for query high EUs scanned in the IM column store                                                                                             |                  |
| IM scan EUs memcompress for query low     | 128   | Number of memcompress for query low EUs scanned in the IM column store                                                                                              |                  |
| IM scan EUs no memcompress                | 128   | Number of uncompressed EUs scanned in the IM column store                                                                                                           |                  |
| IM scan EUs split pieces                  | 128   | Number of split EU pieces among all IM EUs                                                                                                                          |                  |
| IM scan rows                              | 128   | Number of rows in scanned In-Memory Compression Units (IMCUs)                                                                                                       |                  |
| IM scan rows optimized                    | 128   | Number of rows that were not scanned in the IM column store as they were pruned via a number of optimizations such as min/max pruning via In-Memory storage indexes |                  |
| IM scan rows projected                    | 128   | Number of rows returned from the IM column store                                                                                                                    |                  |
| IM scan rows valid                        | 128   | Number of rows scanned from the IM column store after applying valid vector                                                                                         |                  |
| IM scan segments minmax eligible          | 128   | Number of CUs that are eligible for min/max pruning via storage index                                                                                               |                  |
| IM space CU bytes allocated               | 128   | Number of In-Memory bytes allocated                                                                                                                                 |                  |
| IM space CU creations initiated           | 128   | Number of space requests for CUs                                                                                                                                    |                  |
| IM space CU extents allocated             | 128   | Number of In-Memory extents allocated                                                                                                                               |                  |
| IM space segments allocated               | 128   | Number of snapshot segments created                                                                                                                                 |                  |
| IM space segments freed                   | 128   | Number of snapshot segments deleted                                                                                                                                 |                  |
| IM transactions                           | 128   | Number of transactions that triggered data to be journaled in the IM column store                                                                                   |                  |
| IM transactions CUs invalid               | 128   | Number of CUs in the IM column store invalidated by transactions                                                                                                    |                  |
| IM transactions rows invalidated          | 128   | Number of rows in the IM column store invalidated by transactions                                                                                                   |                  |
| IM transactions rows journaled            | 128   | Number of rows logged in the transaction journal                                                                                                                    |                  |
| in call idle wait time                    | 1     | The total wait time (in microseconds) for waits that belong to the Idle wait class.<br><b>See Also:</b> "non-idle wait count" and "non-idle wait time"              |                  |
| index cmph cu, uncomp sentinels           | 128   | Number of CUs created with uncompressed sentinels                                                                                                                   |                  |
| index cmph dm, cu lock expand             | 128   | Number of times CU lock structure expanded                                                                                                                          |                  |
| index cmph dm, cu migrate row             | 128   | Number of times a row migrated from a CU                                                                                                                            |                  |

**Table E-1 (Cont.) Database Statistics Descriptions**

| Name                                                       | Class | Description                                                                    | TIMED_STATISTICS |
|------------------------------------------------------------|-------|--------------------------------------------------------------------------------|------------------|
| index cmph dm, insert unpurge CU row                       | 128   | Number of times a CU row was unpurged during insert                            |                  |
| index cmph dm, purge dummy CU                              | 128   | Number of times dummy CU purged from leaf block                                |                  |
| index cmph dm, split for cu lock expand                    | 128   | Number of times leaf block split for CU lock expansion                         |                  |
| index cmph dm, split for cu migrate row                    | 128   | Number of leaf block splits due to CU row migration                            |                  |
| index cmph ld, CU fit                                      | 128   | Number of times load created a well sized CU, no space for uncompressed rows   |                  |
| index cmph ld, CU fit, add rows                            | 128   | Number of times load created a well sized CU, with space for uncompressed rows |                  |
| index cmph ld, CU negative comp                            | 128   | Number of times load CU gave negative compression                              |                  |
| index cmph ld, CU over-est                                 | 128   | Number of times load created an oversized CU                                   |                  |
| index cmph ld, CU under-est                                | 128   | Number of times load created a small CU                                        |                  |
| index cmph ld, infinite loop                               | 128   | Number of times shrink CU attempts resulted in uncompressed rows               |                  |
| index cmph ld, lf blks flushed                             | 128   | Number of leaf blocks flushed by load                                          |                  |
| index cmph ld, lf blks w/ und CU                           | 128   | Number of leaf blocks flushed with small CU                                    |                  |
| index cmph ld, lf blks w/o CU                              | 128   | Number of leaf blocks flushed without a CU                                     |                  |
| index cmph ld, lf blks w/o unc r                           | 128   | Number of leaf blocks flushed without uncompressed rows                        |                  |
| index cmph ld, retry in over-est                           | 128   | Number of times CU was resized after creating an oversized CU                  |                  |
| index cmph ld, rows compressed                             | 128   | Number of rows compressed by load                                              |                  |
| index cmph ld, rows uncompressed                           | 128   | Number of rows left uncompressed by load                                       |                  |
| index cmph sc, ffs decomp buffers                          | 128   | Number of blocks decompressed for fast scan                                    |                  |
| index cmph sc, ffs decomp buffers released and found valid | 128   | Number of times decompressed CU buffer was reused by fast scan                 |                  |
| index cmph sc, ffs decomp buffers rows avail               | 128   | Number of rows in decompressed buffer for fast scan                            |                  |
| index cmph sc, ffs decomp buffers rows used                | 128   | Number of rows used from decompressed buffer for fast scan                     |                  |
| index cmph sc, ffs decomp failures                         | 128   | Number of time decompress CU was not possible for fast scan                    |                  |
|                                                            | 128   | Number of times 90-10 leaf block CU splits were made 50-50                     |                  |
| index cmph sp, leaf norecomp limit                         | 128   | Number of times leaf block recompression reached the recompression limit       |                  |
| index cmph sp, leaf norecomp negcomp                       | 128   | Number of times leaf block recompression returned negative compression         |                  |
| index cmph sp, leaf norecomp nospace                       | 128   | Number of times leaf block recompression returned not enough space             |                  |



**Table E-1 (Cont.) Database Statistics Descriptions**

| Name                                      | Class | Description                                                                                                                                                                                                                                                                                                      | TIMED_STATISTICS |
|-------------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| index cmph sp, leaf norecomp notry        | 128   | Number of times leaf block recompression not attempted                                                                                                                                                                                                                                                           |                  |
| index cmph sp, leaf norecomp oversize     | 128   | Number of times leaf block recompression returned an oversized CU                                                                                                                                                                                                                                                |                  |
| index cmph sp, leaf norecomp zerocur      | 128   | Number of times leaf block recompression returned a CU with 0 rows                                                                                                                                                                                                                                               |                  |
| index cmph sp, leaf recomp fewer ucs      | 128   | Number of CUs created with reduced number of sentinels                                                                                                                                                                                                                                                           |                  |
| index cmph sp, leaf recomp zero ucs       | 128   | Number of CUs created with zero sentinels                                                                                                                                                                                                                                                                        |                  |
| index cmph sp, leaf recompress            | 128   | Number of times a leaf block CU was recompressed                                                                                                                                                                                                                                                                 |                  |
| index cmpl co, prefix mismatch            | 128   | Number of times reorg found a neighboring block prefix count mismatch                                                                                                                                                                                                                                            |                  |
| index cmpl ro, blocks not compressed      | 128   | Number of times prefix compression was not applied to avoid negative compression                                                                                                                                                                                                                                 |                  |
| index cmpl ro, prefix change at block     | 128   | Number of times prefix count was changed to an optimal value                                                                                                                                                                                                                                                     |                  |
| index cmpl ro, prefix no change at block  | 128   | Number of times prefix count was already the optimal value                                                                                                                                                                                                                                                       |                  |
| index cmpl ro, reorg avoid load new block | 128   | Number of times a block reorg avoided a new block being created during load                                                                                                                                                                                                                                      |                  |
| index cmpl ro, reorg avoid split          | 128   | Number of times a block reorg avoided a block split during DML                                                                                                                                                                                                                                                   |                  |
| index fast full scans (direct read)       | 64    | Number of fast full scans initiated using direct read                                                                                                                                                                                                                                                            |                  |
| index fast full scans (full)              | 64    | Number of fast full scans initiated for full segments                                                                                                                                                                                                                                                            |                  |
| index fast full scans (rowid ranges)      | 64    | Number of fast full scans initiated with rowid endpoints specified                                                                                                                                                                                                                                               |                  |
| large tracked transactions                | 128   | For tables tracked by flashback data archive, the number of transactions modifying rows in those tables which are large in terms of size or number of changes                                                                                                                                                    |                  |
| leaf node splits                          | 128   | Number of times an index leaf node was split because of the insertion of an additional value                                                                                                                                                                                                                     |                  |
| lob reads                                 | 8     | Number of LOB API read operations performed in the session/system. A single LOB API read may correspond to multiple physical/logical disk block reads.                                                                                                                                                           |                  |
| lob writes                                | 8     | Number of LOB API write operations performed in the session/system. A single LOB API write may correspond to multiple physical/logical disk block writes.                                                                                                                                                        |                  |
| lob writes unaligned                      | 8     | Number of LOB API write operations whose start offset or buffer size is not aligned to the internal chunk size of the LOB. Writes aligned to chunk boundaries are the most efficient write operations. The internal chunk size of a LOB is available through the LOB API (for example, DBMS_LOB.GETCHUNKSIZE()). |                  |



Table E-1 (Cont.) Database Statistics Descriptions

| Name                                    | Class | Description                                                                                                                                                                                                                                                    | TIMED_STATISTICS |
|-----------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| logons cumulative                       | 1     | Total number of logons since the instance started. Useful only in V\$SYSSTAT. It gives an instance overview of all processes that logged on.                                                                                                                   |                  |
| logons current                          | 1     | Total number of current logons. Useful only in V\$SYSSTAT.                                                                                                                                                                                                     |                  |
| memopt r failed puts                    | 128   | Total failed puts on hash index                                                                                                                                                                                                                                |                  |
| memopt r failed reads on blocks         | 128   | Total lookup failures due to read failure on blocks because of concurrent changes                                                                                                                                                                              |                  |
| memopt r failed reads on buckets        | 128   | Total lookup failures due to concurrent hash bucket changes                                                                                                                                                                                                    |                  |
| memopt r hits                           | 128   | Total hits on hash index – primary key found                                                                                                                                                                                                                   |                  |
| memopt r lookup detected CR buffer      | 128   | Total lookup failures due to block pointed to by hash index being no longer the current version                                                                                                                                                                |                  |
| memopt r lookups                        | 128   | Total number of lookups on hash index                                                                                                                                                                                                                          |                  |
| memopt r misses                         | 128   | Total misses on hash index due to primary key not found                                                                                                                                                                                                        |                  |
| memopt r puts                           | 128   | Total puts on hash index                                                                                                                                                                                                                                       |                  |
| memopt r successful puts                | 128   | Total successful puts on hash index                                                                                                                                                                                                                            |                  |
| messages received                       | 128   | Number of messages sent and received between background processes                                                                                                                                                                                              |                  |
| messages sent                           | 128   | Number of messages sent and received between background processes                                                                                                                                                                                              |                  |
| MLE JIT compilation duration cumulative | 1     | Total amount of cpu time (in milliseconds) spent by asynchronous just-in-time compilations for a session                                                                                                                                                       |                  |
| MLE JIT compilation duration max        | 1     | Duration (in milliseconds) of the most time-consuming just-in-time compilation per session (not applicable for V\$SYSSTAT)                                                                                                                                     |                  |
| MLE JIT compilation error count         | 1     | Number of just-in-time compilation operations in a session that failed with an error                                                                                                                                                                           |                  |
| MLE JIT compilation success count       | 1     | Number of successful just-in-time compilations in a session                                                                                                                                                                                                    |                  |
| MLE full GC accumulated time            | 1     | Cumulative time (in milliseconds) spent collecting the entire MLE heap                                                                                                                                                                                         |                  |
| MLE full GC count                       | 1     | Number of times the entire MLE heap was collected                                                                                                                                                                                                              |                  |
| MLE incremental GC accumulated time     | 1     | Cumulative time (in milliseconds) spent collecting the young-generation portion of the MLE heap                                                                                                                                                                |                  |
| MLE incremental GC count                | 1     | Number of times the young-generation portion of the MLE heap was collected                                                                                                                                                                                     |                  |
| MLE total memory in use                 | 1     | Total amount of memory (in bytes) used for the MLE instance in a session, across all contexts                                                                                                                                                                  |                  |
| no buffer to keep pinned count          | 72    | Number of times a visit to a buffer attempted, but the buffer was not found where expected. Like " <a href="#">buffer is not pinned count</a> " and " <a href="#">buffer is pinned count</a> ", this statistic is useful only for internal debugging purposes. |                  |
| no work - consistent read gets          | 128   | Number consistent gets that require neither block cleanouts nor rollbacks.<br><b>See Also:</b> " <a href="#">consistent gets</a> "                                                                                                                             |                  |

Table E-1 (Cont.) Database Statistics Descriptions

| Name                                   | Class | Description                                                                                                                                                                                                                                                                              | TIMED_STATISTICS |
|----------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| non-idle wait count                    | 1     | The total number of waits performed with wait events that were not part of the Idle wait class.<br><b>See Also:</b> <a href="#">"in call idle wait time"</a> and <a href="#">"non-idle wait time"</a>                                                                                    |                  |
| non-idle wait time                     | 1     | The total wait time (in microseconds) for waits that do not belong to the Idle wait class.<br><b>See Also:</b> <a href="#">"in call idle wait time"</a> and <a href="#">"non-idle wait count"</a>                                                                                        |                  |
| OLAP Aggregate Function Calc           | 64    | The number of times the AGGREGATE function computes a parent value based on the values of its children.                                                                                                                                                                                  |                  |
| OLAP Aggregate Function Logical NA     | 64    | The number of times an AGGREGATE function evaluates to a logical NA value. This could be because the AGGINDEX is on and the composite tuple does not exist.                                                                                                                              |                  |
| OLAP Aggregate Function Precompute     | 64    | The number of times the AGGREGATE function is to compute a value and finds it precomputed in the cube.                                                                                                                                                                                   |                  |
| OLAP Custom Member Limit               | 64    | The number of times an OLAP table function issues a custom member limit                                                                                                                                                                                                                  |                  |
| OLAP Engine Calls                      | 64    | The total number of OLAP transactions executed within the session. This value provides a general indication of the level of OLAP activity in the session.                                                                                                                                |                  |
| OLAP Fast Limit                        | 64    | The number of times an OLAP table function issues a fast limit                                                                                                                                                                                                                           |                  |
| OLAP Full Limit                        | 64    | The number of times an OLAP table function issues a full limit                                                                                                                                                                                                                           |                  |
| OLAP GID Limit                         | 64    | The number of times an OLAP table function issues a Cube Grouping ID (CGID) limit. Typically, this type of limit occurs for query rewrite transformations that resolve to a cube organized materialized view.                                                                            |                  |
| OLAP Import Rows Loaded                | 64    | The number of OLAP import rows loaded. This statistic provides the number of rows of the source cursor that are actually loaded into an Analytic Workspace (AW).<br>The difference between the OLAP Import Rows Pushed and OLAP Import Rows Loaded provides the number of rejected rows. |                  |
| OLAP Import Rows Pushed                | 64    | The number of OLAP import rows pushed. This statistic refers to the number of rows encountered from a source cursor and is useful during cube build operations.                                                                                                                          |                  |
| OLAP INHIER Limit                      | 64    | The number of times an OLAP table function issues an in-hierarchy limit. This type of limit can occur when you use cube dimension hierarchy views.                                                                                                                                       |                  |
| OLAP Limit Time                        | 64    | The total time taken by all the OLAP Limit operations that were performed during the last call to the OLAP table function                                                                                                                                                                |                  |
| OLAP Paging Manager Cache Changed Page | 64    | The number of times the OLAP page pool is changed for any attached AW.                                                                                                                                                                                                                   |                  |
| OLAP Paging Manager Cache Hit          | 64    | The number of times a requested page is found in the OLAP page pool. Use this statistic in conjunction with <a href="#">OLAP Paging Manager Cache Miss</a> to determine the OLAP page pool efficiency ratio.                                                                             |                  |

Table E-1 (Cont.) Database Statistics Descriptions

| Name                            | Class | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | TIMED_STATISTICS |
|---------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| OLAP Paging Manager Cache Miss  | 64    | The number of times a requested page is not found in the OLAP page pool. Use this statistic in conjunction with OLAP Paging Manager Cache Hit to determine the OLAP page pool efficiency ratio.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  |
| OLAP Paging Manager Cache Write | 64    | The number of times the OLAP paging manager writes to a page in the OLAP page pool.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                  |
| OLAP Paging Manager New Page    | 64    | The number of newly-created pages in the OLAP page pool that have not yet been written to the workspace LOB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                  |
| OLAP Paging Manager Pool Size   | 64    | Size, in bytes, of the OLAP page pool allocated to a session and the sum of all OLAP page pools in the system.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                  |
| OLAP Perm LOB Read              | 64    | The number of times data was read from the table where the AW is stored. These are permanent LOB reads.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |
| OLAP Row Id Limit               | 64    | The number of times an OLAP table function issues a row Id limit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |
| OLAP Row Load Time              | 64    | <p>The total time spent loading rows into an AW during cube build and OLAP SQL import operations.</p> <p>Use this statistic along with the <a href="#">OLAP engine elapsed time</a> to measure time spent running OLAP engine routines that involve loading data into AWs from a SQL source.</p> <p>This statistic has the following levels of precision:</p> <ul style="list-style-type: none"> <li>Low precision timer <p>This captures the elapsed time of the entire fetch phase of the SQL cursor that is being loaded into AWs. It includes the SQL execution time that occurs during a fetch operation from a source cursor and time taken by the OLAP engine to populate AWs.</p> </li> <li>High precision timer <p>This captures the elapsed time, excluding the SQL processing of the cursor being loaded. It records the time spent in the OLAP engine only.</p> </li> <li>Default timer precision: <p>This is based on the <code>STATISTIC_LEVEL</code> parameter. If the low precision is used, then <code>STATISTICS_LEVEL</code> is TYPICAL. The high precision timer is used when <code>STATISTIC_LEVEL</code> is set to ALL. No timing is captured when <code>STATISTICS_LEVEL</code> is BASIC.</p> </li> </ul> |                  |
| OLAP Row Source Rows Processed  | 64    | The number of rows processed by the OLAP row source                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                  |
| OLAP Session Cache Hit          | 64    | The number of times the requested, dynamically-aggregated value of an AW object, was found in the OLAP session cache.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |
| OLAP Session Cache Miss         | 64    | The number of times the requested, dynamically-aggregated value of an AW object, was not found in the OLAP session cache.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                  |
| OLAP Temp Segment Read          | 64    | The number of times data was read from a temporary segment and not from the OLAP page pool                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                  |
| OLAP Temp Segments              | 64    | The number of OLAP pages stored in temporary segments for analytic workspaces                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                  |

**Table E-1 (Cont.) Database Statistics Descriptions**

| Name                                        | Class | Description                                                                                                                                                                                                              | TIMED_STATISTICS |
|---------------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| OLAP Unique Key Attribute Limit             | 64    | The number of times an OLAP table function issues a unique key attribute limit                                                                                                                                           |                  |
| opened cursors cumulative                   | 1     | In V\$SYSSTAT: Total number of cursors opened since the instance started.<br>In V\$SESSTAT: Total number of cursors opened since the start of the session.                                                               |                  |
| opened cursors current                      | 1     | Total number of current open cursors                                                                                                                                                                                     |                  |
| OS CPU Qt wait time                         | 1     | The time a session spends on the CPU run queue (in microseconds), waiting to get the CPU to run                                                                                                                          |                  |
| OS Involuntary context switches             | 16    | Number of context switches that were enforced by the operating system                                                                                                                                                    |                  |
| OS Signals received                         | 16    | Number of signals received                                                                                                                                                                                               |                  |
| OS Swaps                                    | 16    | Number of swap pages                                                                                                                                                                                                     |                  |
| OS Voluntary context switches               | 16    | Number of voluntary context switches (for example, when a process gives up the CPU by a SLEEP() system call)                                                                                                             |                  |
| Parallel operations downgraded 1 to 25 pct  | 32    | Number of times parallel execution was requested and the degree of parallelism was reduced because of insufficient parallel execution servers                                                                            |                  |
| Parallel operations downgraded 25 to 50 pct | 32    | Number of times parallel execution was requested and the degree of parallelism was reduced because of insufficient parallel execution servers                                                                            |                  |
| Parallel operations downgraded 50 to 75 pct | 32    | Number of times parallel execution was requested and the degree of parallelism was reduced because of insufficient parallel execution servers                                                                            |                  |
| Parallel operations downgraded 75 to 99 pct | 32    | Number of times parallel execution was requested and the degree of parallelism was reduced because of insufficient parallel execution servers                                                                            |                  |
| Parallel operations downgraded to serial    | 32    | Number of times parallel execution was requested but execution was serial because of insufficient parallel execution servers                                                                                             |                  |
| Parallel operations not downgraded          | 32    | Number of times parallel execution was executed at the requested degree of parallelism                                                                                                                                   |                  |
| parse count (describe)                      | 64    | Total number of parse calls on a describe cursor. This operation is a less expensive than a hard parse and more expensive than a soft parse.                                                                             |                  |
| parse count (hard)                          | 64    | Total number of parse calls (real parses). A hard parse is a very expensive operation in terms of memory use, because it requires Oracle to allocate a workheap and other memory structures and then build a parse tree. |                  |
| parse count (total)                         | 64    | Total number of parse calls (hard, soft, and describe). A soft parse is a check on an object already in the shared pool, to verify that the permissions on the underlying object have not changed.                       |                  |
| parse time cpu                              | 64    | Total CPU time used for parsing (hard and soft) in 10s of milliseconds                                                                                                                                                   | Y                |

Table E-1 (Cont.) Database Statistics Descriptions

| Name                                     | Class | Description                                                                                                                                                                                                                                                                                                                                                          | TIMED_STATISTICS |
|------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| parse time elapsed                       | 64    | Total elapsed time for parsing, in 10s of milliseconds. Subtract "parse time cpu" from this statistic to determine the total waiting time for parse resources.                                                                                                                                                                                                       | Y                |
| physical maps pmem                       | 264   | Number of direct-mapped references acquired from FsDirect. Note that in steady state this is approximately the same as the number of unmaps, because each map requires an unmap (e.g. reuses a PMEM buffer).                                                                                                                                                         |                  |
| physical read bytes                      | 8     | Total size in bytes of all disk reads by application activity (and not other instance activity) only.                                                                                                                                                                                                                                                                |                  |
| physical read flash cache hits           | 8     | Total number of reads from flash cache instead of disk                                                                                                                                                                                                                                                                                                               |                  |
| physical read IO requests                | 8     | Number of read requests for application activity (mainly buffer cache and direct load operation) which read one or more database blocks per request. This is a subset of "physical read total IO requests" statistic.                                                                                                                                                |                  |
| physical read requests optimized         | 8     | Number of read requests that read one or more database blocks from the Database Smart Flash Cache or the Exadata Smart Flash Cache.                                                                                                                                                                                                                                  |                  |
| physical read total bytes                | 8     | Total size in bytes of disk reads by all database instance activity including application reads, backup and recovery, and other utilities. The difference between this value and "physical read bytes" gives the total read size in bytes by non-application workload.                                                                                               |                  |
| physical read total IO requests          | 8     | Number of read requests which read one or more database blocks for all instance activity including application, backup and recovery, and other utilities.<br><br>The difference between this value and "physical read total multi block requests" gives the total number of small I/O requests which are less than 128 kilobytes down to single block read requests. |                  |
| physical read total multi block requests | 8     | Total number of Oracle instance read requests which read 128 kilobytes or more in two or more database blocks per request for all instance activity including application, backup and recovery, and other utilities.                                                                                                                                                 |                  |
| physical reads                           | 8     | Total number of data blocks read from disk. This value can be greater than the value of "physical reads direct" plus "physical reads cache" as reads into process private buffers also included in this statistic.                                                                                                                                                   |                  |
| physical reads cache                     | 8     | Total number of data blocks read from disk into the buffer cache. This is a subset of "physical reads" statistic.                                                                                                                                                                                                                                                    |                  |
| physical reads cache prefetch            | 8     | Number of contiguous and noncontiguous blocks that were prefetched.                                                                                                                                                                                                                                                                                                  |                  |
| physical reads direct                    | 8     | Number of reads directly from disk, bypassing the buffer cache. For example, in high bandwidth, data-intensive operations such as parallel query, reads of disk blocks bypass the buffer cache to maximize transfer rates and to prevent the premature aging of shared data blocks resident in the buffer cache.                                                     |                  |
| physical reads direct (lob)              | 8     | Number of buffers that were read directly for LOBs                                                                                                                                                                                                                                                                                                                   |                  |

**Table E-1 (Cont.) Database Statistics Descriptions**

| Name                                       | Class | Description                                                                                                                                                                                                                                                                                             | TIMED_STATISTICS |
|--------------------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| physical reads direct temporary tablespace | 8     | Number of buffers that were read directly from temporary tablespaces                                                                                                                                                                                                                                    |                  |
| physical reads for flashback new           | 8     | Number of blocks read for newing (that is, preparing a data block for a completely new change) blocks while flashback database is enabled                                                                                                                                                               |                  |
| physical reads pmem                        | 8     | Number of blocks read/copied from PMEM into DRAM cache                                                                                                                                                                                                                                                  |                  |
| physical reads pmem decrypt                | 8     | Number of blocks read/copied from PMEM into DRAM cache due to the need for decryption. This is a subset of "physical reads pmem" statistics value.                                                                                                                                                      |                  |
| physical reads pmem direct path            | 8     | Number of blocks read from PMEM into PGA memory due to direct path access. This is a subset of "physical reads pmem" statistics value.                                                                                                                                                                  |                  |
| physical reads pmem exclusive              | 8     | Number of blocks read/copied from PMEM into DRAM cache due to exclusive access requests, which prevents other processes from accessing the block on PMEM directly. This is a subset of "physical reads pmem" statistics value.                                                                          |                  |
| physical reads pmem modification           | 8     | Number of blocks read/copied from PMEM into DRAM cache due to modification. This is a subset of "physical reads pmem" statistics value.                                                                                                                                                                 |                  |
| physical reads pmem promote                | 8     | Number of blocks read/copied from PMEM into DRAM cache due to hot block promotion. This is a subset of "physical reads pmem" statistics value. This statistic is further categorized into "hot pmem block migration to dram successes" and "hot pmem block exchange with dram successes" statistics.    |                  |
| physical reads pmem rollback               | 8     | Number of blocks read/copied from PMEM into DRAM cache due to CR rollback. This is a subset of "physical reads pmem" statistics value.                                                                                                                                                                  |                  |
| physical reads prefetch warmup             | 8     | Number of data blocks that were read from the disk during the automatic prewarming of the buffer cache.                                                                                                                                                                                                 |                  |
| physical unmaps pmem forced                | 264   | Number of forfeited direct-mapped references requested by FsDirect due to PMEM memory pressure                                                                                                                                                                                                          |                  |
| physical write bytes                       | 8     | Total size in bytes of all disk writes from the database application activity (and not other kinds of instance activity).                                                                                                                                                                               |                  |
| physical write IO requests                 | 8     | Number of write requests for application activity (mainly buffer cache and direct load operation) which wrote one or more database blocks per request.                                                                                                                                                  |                  |
| physical write total bytes                 | 8     | Total size in bytes of all disk writes for the database instance including application activity, backup and recovery, and other utilities. The difference between this value and "physical write bytes" gives the total write size in bytes by non-application workload.                                |                  |
| physical write total IO requests           | 8     | Number of write requests which wrote one or more database blocks from all instance activity including application activity, backup and recovery, and other utilities. The difference between this stat and "physical write total multi block requests" gives the number of single block write requests. |                  |

Table E-1 (Cont.) Database Statistics Descriptions

| Name                                        | Class | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | TIMED_STATISTICS |
|---------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| physical write total multi block requests   | 8     | Total number of Oracle instance write requests which wrote two or more blocks per request to the disk for all instance activity including application activity, recovery and backup, and other utilities.                                                                                                                                                                                                                                                                                                               |                  |
| physical writes                             | 8     | Total number of data blocks written to disk. This statistics value equals the sum of "physical writes direct" and "physical writes from cache" values.                                                                                                                                                                                                                                                                                                                                                                  |                  |
| physical writes direct                      | 8     | Number of writes directly to disk, bypassing the buffer cache (as in a direct load operation)                                                                                                                                                                                                                                                                                                                                                                                                                           |                  |
| physical writes direct (lob)                | 8     | Number of buffers that were directly written for LOBs                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                  |
| physical writes direct temporary tablespace | 8     | Number of buffers that were directly written for temporary tablespaces                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  |
| physical writes from cache                  | 8     | Total number of data blocks written to disk from the buffer cache. This is a subset of "physical writes" statistic.                                                                                                                                                                                                                                                                                                                                                                                                     |                  |
| physical writes non checkpoint              | 8     | Number of times a buffer is written for reasons other than advancement of the checkpoint. Used as a metric for determining the I/O overhead imposed by setting the <code>FAST_START_IO_TARGET</code> parameter to limit recovery I/Os. (Note that <code>FAST_START_IO_TARGET</code> is a deprecated parameter.) Essentially this statistic measures the number of writes that would have occurred had there been no checkpointing. Subtracting this value from "physical writes" gives the extra I/O for checkpointing. |                  |
| pinned buffers inspected                    | 8     | Number of times a user process, when scanning the tail of the replacement list looking for a buffer to reuse, encountered a cold buffer that was pinned or had a waiter that was about to pin it. This occurrence is uncommon, because a cold buffer should not be pinned very often.                                                                                                                                                                                                                                   |                  |
| pinned buffers inspected for pmem           | 8     | Number of times a user process, when scanning the tail of the replacement list looking for a PMEM buffer to reuse in DRAM, encountered a cold buffer that was pinned or had a waiter that was about to pin it. This occurrence is uncommon, because a cold buffer should not be pinned very often.                                                                                                                                                                                                                      |                  |
| prefetched blocks aged out before use       | 8     | Number of contiguous and noncontiguous blocks that were prefetched but aged out before use                                                                                                                                                                                                                                                                                                                                                                                                                              |                  |
| process last non-idle time                  | 128   | The last time this process executed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Y                |
| PX local messages rcv'd                     | 32    | Number of local messages received for parallel execution within the instance local to the current session                                                                                                                                                                                                                                                                                                                                                                                                               |                  |
| PX local messages sent                      | 32    | Number of local messages sent for parallel execution within the instance local to the current session                                                                                                                                                                                                                                                                                                                                                                                                                   |                  |
| PX remote messages rcv'd                    | 32    | Number of remote messages received for parallel execution within the instance local to the current session                                                                                                                                                                                                                                                                                                                                                                                                              |                  |
| PX remote messages sent                     | 32    | Number of remote messages sent for parallel execution within the instance local to the current session                                                                                                                                                                                                                                                                                                                                                                                                                  |                  |
| queries parallelized                        | 32    | Number of SELECT statements executed in parallel                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                  |
| recovery array read time                    | 8     | Elapsed time of I/O during recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                  |
| recovery array reads                        | 8     | Number of reads performed during recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |

**Table E-1 (Cont.) Database Statistics Descriptions**

| Name                                          | Class | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | TIMED_STATISTICS |
|-----------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| recovery blocks read                          | 8     | Number of blocks read during recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                  |
| recovery blocks read for lost write detection | 8     | Number of blocks read for lost write checks during recovery.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  |
| recovery blocks skipped lost write checks     | 8     | Number of Block Read Records that skipped the lost write check during recovery.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |
| recursive calls                               | 1     | Number of recursive calls generated at both the user and system level. Oracle maintains tables used for internal processing. When Oracle needs to make a change to these tables, it internally generates an internal SQL statement, which in turn generates a recursive call.                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                  |
| recursive cpu usage                           | 1     | Total CPU time used by non-user calls (recursive calls). Subtract this value from " <a href="#">CPU used by this session</a> " to determine how much CPU time was used by the user calls.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                  |
| redo blocks checksummed by FG (exclusive)     | 2     | Number of exclusive redo blocks that were checksummed by the generating foreground processes. An exclusive redo block is the one whose entire redo content belongs to a single redo entry.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                  |
| redo blocks checksummed by LGWR               | 2     | Number of redo blocks that were checksummed by the LGWR.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                  |
| redo blocks written                           | 2     | Total number of redo blocks written. This statistic divided by " <a href="#">redo writes</a> " equals number of blocks per write.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                  |
| redo buffer allocation retries                | 2     | Total number of retries necessary to allocate space in the redo buffer. Retries are needed either because the redo writer has fallen behind or because an event such as a log switch is occurring.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |
| redo entries                                  | 2     | Number of times a redo entry is copied into the redo log buffer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |
| redo entries for lost write detection         | 2     | Number of times a Block Read Record is copied into the log buffer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |
| redo log space requests                       | 2     | <p>Number of times the active log file is full and Oracle must wait for disk space to be allocated for the redo log entries. Such space is created by performing a log switch.</p> <p>Log files that are small in relation to the size of the SGA or the commit rate of the work load can cause problems. When the log switch occurs, Oracle must ensure that all committed dirty buffers are written to disk before switching to a new log file. If you have a large SGA full of dirty buffers and small redo log files, a log switch must wait for DBWR to write dirty buffers to disk before continuing.</p> <p>Also examine the <b>log file space</b> and <b>log file space switch</b> wait events in V\$SESSION_WAIT</p> |                  |
| redo log space wait time                      | 2     | Total time waited in centiseconds for available space in the redo log buffer. See also " <a href="#">redo log space requests</a> "                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Y                |
| redo ordering marks                           | 2     | Number of times that a system change number was allocated to force a redo record to have a higher SCN than a record generated in another thread using the same block                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |
| redo size                                     | 2     | Total amount of redo generated in bytes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                  |
| redo size for lost write detection            | 2     | Total amount of Block Read Records generated in bytes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                  |



**Table E-1 (Cont.) Database Statistics Descriptions**

| Name                                    | Class | Description                                                                                                                                                                                                                                                                                                       | TIMED_STATISTICS |
|-----------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| redo synch time                         | 8     | Elapsed time of all " <a href="#">redo synch writes</a> " calls in 10s of milliseconds                                                                                                                                                                                                                            | Y                |
| redo synch writes                       | 8     | Number of times the redo is forced to disk, usually for a transaction commit. The log buffer is a circular buffer that LGWR periodically flushes. Usually, redo that is generated and copied into the log buffer need not be flushed out to disk immediately.                                                     |                  |
| redo wastage                            | 2     | Number of bytes wasted because redo blocks needed to be written before they are completely full. Early writing may be needed to commit transactions, to be able to write a database buffer, or to switch logs.                                                                                                    |                  |
| redo write broadcast ack count          | 2     | Number of times a commit broadcast acknowledgment has not been received by the time when the corresponding log write is completed. This is only for Oracle RAC.                                                                                                                                                   |                  |
| redo write broadcast ack time           | 2     | Total amount of the latency associated with broadcast on commit beyond the latency of the log write (in microseconds). This is only for Oracle RAC.                                                                                                                                                               | Y                |
| redo write time                         | 2     | Total elapsed time of the write from the redo log buffer to the current redo log file in 10s of milliseconds                                                                                                                                                                                                      | Y                |
| redo writes                             | 2     | Total number of writes by LGWR to the redo log files. "redo blocks written" divided by this statistic equals the number of blocks per write                                                                                                                                                                       |                  |
| rollback changes - undo records applied | 128   | Number of undo records applied to user-requested rollback changes (not consistent-read rollbacks)                                                                                                                                                                                                                 |                  |
| rollbacks only - consistent read gets   | 128   | Number of consistent gets that require only block rollbacks, no block cleanouts.<br><b>See Also:</b> " <a href="#">consistent gets</a> "                                                                                                                                                                          |                  |
| rows fetched via callback               | 64    | Rows fetched via callback. Useful primarily for internal debugging purposes.                                                                                                                                                                                                                                      |                  |
| scheduler wait time                     | 1     | The total wait time (in microseconds) for waits that belong to the Scheduler wait class                                                                                                                                                                                                                           |                  |
| SCN increments due to another database  | 128   | SCN increments due to communication with another database                                                                                                                                                                                                                                                         |                  |
| serializable aborts                     | 1     | Number of times a SQL statement in a serializable isolation level had to terminate                                                                                                                                                                                                                                |                  |
| session connect time                    | 1     | The connect time for the session in 10s of milliseconds. This value is useful only in V\$SESSTAT. It is the wall clock time since the logon to this session occurred.                                                                                                                                             | Y                |
| session cursor cache count              | 64    | Total number of cursors cached. This statistic is incremented only if SESSION_CACHED_CURSORS > 0. This statistic is the most useful in V\$SESSTAT. If the value for this statistic in V\$SESSTAT is close to the setting of the SESSION_CACHED_CURSORS parameter, the value of the parameter should be increased. |                  |

Table E-1 (Cont.) Database Statistics Descriptions

| Name                                  | Class | Description                                                                                                                                                                                                                                                                           | TIMED_STATISTICS |
|---------------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| session cursor cache hits             | 64    | Number of hits in the session cursor cache. A hit means that the SQL (including recursive SQL) or PL/SQL statement did not have to be reparsed. Subtract this statistic from " <a href="#">parse count (total)</a> " to determine the real number of parses that occurred.            |                  |
| session logical reads                 | 1     | The sum of "db block gets" plus "consistent gets". This includes logical reads of database blocks from either the buffer cache or process private memory.                                                                                                                             |                  |
| session logical reads - IM            | 128   | Number of database blocks read from the IM column store (number of blocks in IMCU - number of blocks with invalid rows)                                                                                                                                                               |                  |
| session pga memory                    | 1     | Current PGA size for the session. Useful only in V\$SESSTAT; it has no meaning in V\$SYSSTAT.                                                                                                                                                                                         |                  |
| session pga memory max                | 1     | Peak PGA size for the session. Useful only in V\$SESSTAT; it has no meaning in V\$SYSSTAT.                                                                                                                                                                                            |                  |
| session stored procedure space        | 1     | Amount of memory this session is using for stored procedures                                                                                                                                                                                                                          |                  |
| session uga memory                    | 1     | Current UGA size for the session. Useful only in V\$SESSTAT; it has no meaning in V\$SYSSTAT.                                                                                                                                                                                         |                  |
| session uga memory max                | 1     | Peak UGA size for a session. Useful only in V\$SESSTAT; it has no meaning in V\$SYSSTAT.                                                                                                                                                                                              |                  |
| shared hash latch upgrades - no wait  | 8     | A shared hash latch upgrade is when a hash latch is upgraded from shared mode to exclusive mode. This statistic displays the number of times the upgrade completed immediately.                                                                                                       |                  |
| shared hash latch upgrades - wait     | 8     | A shared hash latch upgrade is when a hash latch is upgraded from shared mode to exclusive mode. This statistics displays the number of times the upgrade did not complete immediately.                                                                                               |                  |
| shared io pool buffer get failure     | 128   | Number of unsuccessful buffer gets from the shared I/O pool from instance startup time.                                                                                                                                                                                               |                  |
| shared io pool buffer get success     | 128   | Number of successful buffer gets from the shared I/O pool from instance startup time.                                                                                                                                                                                                 |                  |
| slave propagated tracked transactions | 128   | Number of transactions modifying tables enabled for flashback data archive which were archived by a worker process                                                                                                                                                                    |                  |
| sorts (disk)                          | 64    | Number of sort operations that required at least one disk write<br>Sorts that require I/O to disk are quite resource intensive. Try increasing the size of the initialization parameter SORT_AREA_SIZE. For more information, see " <a href="#">SORT_AREA_SIZE</a> ".                 |                  |
| sorts (memory)                        | 64    | Number of sort operations that were performed completely in memory and did not require any disk writes<br>You cannot do much better than memory sorts, except maybe no sorts at all. Sorting is usually caused by selection criteria specifications within table join SQL operations. |                  |
| sorts (rows)                          | 64    | Total number of rows sorted                                                                                                                                                                                                                                                           |                  |

Table E-1 (Cont.) Database Statistics Descriptions

| Name                                | Class | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | TIMED_STATISTICS |
|-------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| SQL*Net roundtrips to/from client   | 1     | Total number of Oracle Net Services messages sent to and received from the client                                                                                                                                                                                                                                                                                                                                                                                                                                      |                  |
| SQL*Net roundtrips to/from dblink   | 1     | Total number of Oracle Net Services messages sent over and received from a database link                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |
| summed dirty queue length           | 8     | The sum of the dirty LRU queue length after every write request. Divide by <b>write requests</b> to get the average queue length after write completion.                                                                                                                                                                                                                                                                                                                                                               |                  |
| switch current from pmem            | 8     | Number of times the CURRENT PMEM block moved to a DRAM buffer, leaving a CR block in the original PMEM buffer. This happens when one Oracle process pins a CURRENT PMEM buffer for read, and another Oracle process wants to pin the same buffer for modification. The latter process clones the PMEM buffer into a new DRAM buffer for modification, while converting the original PMEM current buffer into a PMEM CR buffer.                                                                                         |                  |
| switch current to new buffer        | 8     | Number of times the CURRENT block moved to a different buffer, leaving a CR block in the original buffer                                                                                                                                                                                                                                                                                                                                                                                                               |                  |
| table fetch by rowid                | 64    | Number of rows that are fetched using a ROWID (usually recovered from an index)<br><br>This occurrence of table scans usually indicates either non-optimal queries or tables without indexes. Therefore, this statistic should increase as you optimize queries and provide indexes in the application.                                                                                                                                                                                                                |                  |
| table fetch continued row           | 64    | Number of times a chained or migrated row is encountered during a fetch<br><br>Retrieving rows that span more than one block increases the logical I/O by a factor that corresponds to the number of blocks that need to be accessed. Exporting and re-importing may eliminate this problem. Evaluate the settings for the storage parameters PCTFREE and PCTUSED. This problem cannot be fixed if rows are larger than database blocks (for example, if the LONG data type is used and the rows are extremely large). |                  |
| table scan blocks gotten            | 64    | During scanning operations, each row is retrieved sequentially by Oracle. This statistic counts the number of blocks encountered during the scan.<br><br>This statistic tells you the number of database blocks that you had to get from the buffer cache for the purpose of scanning. Compare this value with the value of " <a href="#">consistent gets</a> " to determine how much of the consistent read activity can be attributed to scanning.                                                                   |                  |
| table scan disk IMC fallback        | 128   | Number of rows fetched from the buffer cache because they were not present in the IM column store (in a scan that was otherwise performed in memory)                                                                                                                                                                                                                                                                                                                                                                   |                  |
| table scan disk non-IMC rows gotten | 128   | Number of rows fetched during non-In-Memory scan                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                  |
| table scan rows gotten              | 64    | Number of rows that are processed during scanning operations                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                  |

**Table E-1 (Cont.) Database Statistics Descriptions**

| Name                                                       | Class | Description                                                                                                                                                                                 | TIMED_STATISTICS |
|------------------------------------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| table scans (cache partitions)                             | 64    | Number of range scans performed on tables that have the CACHE option enabled                                                                                                                |                  |
| table scans (direct read)                                  | 64    | Number of table scans performed with direct read (bypassing the buffer cache)                                                                                                               |                  |
| table scans (IM)                                           | 128   | Number of segments / granules scanned using In-Memory                                                                                                                                       |                  |
| table scans (long tables)                                  | 64    | Long (or conversely short) tables can be defined as tables that do not meet the short table criteria as described in " <a href="#">table scans (short tables)</a> "                         |                  |
| table scans (rowid ranges)                                 | 64    | During parallel query, the number of table scans conducted with specified ROWID ranges                                                                                                      |                  |
| table scans (short tables)                                 | 64    | Long (or conversely short) tables can be defined by optimizer hints coming down into the row source access layer of Oracle. The table must have the CACHE option set.                       |                  |
| tracked rows                                               | 128   | Number of rows modified in tables enabled for flashback data archive                                                                                                                        |                  |
| tracked transactions                                       | 128   | Number of transactions which modified a table enabled for flashback data archive                                                                                                            |                  |
| transaction lock background get time                       | 128   | Useful only for internal debugging purposes                                                                                                                                                 |                  |
| transaction lock background gets                           | 128   | Useful only for internal debugging purposes                                                                                                                                                 |                  |
| transaction lock foreground requests                       | 128   | Useful only for internal debugging purposes                                                                                                                                                 |                  |
| transaction lock foreground wait time                      | 128   | Useful only for internal debugging purposes                                                                                                                                                 |                  |
| transaction rollbacks                                      | 128   | Number of transactions being successfully rolled back                                                                                                                                       |                  |
| transaction tables consistent read rollbacks               | 128   | Number of times rollback segment headers are rolled back to create consistent read blocks                                                                                                   |                  |
| transaction tables consistent reads - undo records applied | 128   | Number of undo records applied to transaction tables that have been rolled back for consistent read purposes                                                                                |                  |
| True Cache potentially current buffer made CR              | 264   | Count of data blocks arriving at True Cache as potentially current buffers due to timing conditions, and later deemed to be good only as consistent read buffers, so they will be aged out. |                  |
| True Cache potentially current buffer made current         | 264   | Count of data blocks arriving at True Cache as potentially current buffers due to timing conditions, and later confirmed to be real current buffers, so redo will continue to apply.        |                  |
| True Cache: message count data send                        | 256   | Total number of messages this primary instance sends to True Cache for returning data blocks.                                                                                               |                  |
| True Cache: message count request send                     | 256   | Total number of messages this True Cache sends to the primary database for requesting data blocks.                                                                                          |                  |
| True Cache: message roundtrip time data send               | 256   | Cumulative, elapsed, round-trip messaging time in microseconds of this primary instance sending data blocks to True Cache.                                                                  |                  |
| True Cache: message roundtrip time request send            | 256   | Cumulative, elapsed, round-trip messaging time in microseconds of this True Cache sending data block fetching requests to the primary database.                                             |                  |

Table E-1 (Cont.) Database Statistics Descriptions

| Name                                                | Class | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                      | TIMED_STATISTICS |
|-----------------------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| TrueCache: block requests to preferred primary      | 264   | Number of block fetch requests sent to the preferred primary Oracle RAC instance with object or undo affinity.                                                                                                                                                                                                                                                                                                                                                   |                  |
| TrueCache: block requests to primary                | 264   | Total number of block fetch requests sent to the primary database.                                                                                                                                                                                                                                                                                                                                                                                               |                  |
| txns rollback<br>priority_txns_high_wait_target     | 384   | Total number of times a LOW or MEDIUM priority transaction was rolled back by the Priority Transactions feature because the wait time specified by the PRIORITY_TXNS_HIGH_WAIT_TARGET initialization parameter was exceeded for a HIGH priority transaction<br><br>This statistic is updated when the Priority Transactions feature is enabled, that is, when the PRIORITY_TXNS_MODE initialization parameter is set to ROLLBACK.                                |                  |
| txns rollback<br>priority_txns_medium_wait_target   | 384   | Total number of times a LOW priority transaction was rolled back by the Priority Transactions feature because the wait time specified by the PRIORITY_TXNS_MEDIUM_WAIT_TARGET initialization parameter was exceeded for a MEDIUM priority transaction<br><br>This statistic is updated when the Priority Transactions feature is enabled, that is, when the PRIORITY_TXNS_MODE initialization parameter is set to ROLLBACK.                                      |                  |
| txns track mode<br>priority_txns_high_wait_target   | 384   | Total number of times a LOW or MEDIUM priority transaction would potentially be rolled back by the Priority Transactions feature because the wait time specified by the PRIORITY_TXNS_HIGH_WAIT_TARGET initialization parameter was exceeded for a HIGH priority transaction<br><br>This statistic is updated when the Priority Transactions feature is running in tracking mode, that is, when the PRIORITY_TXNS_MODE initialization parameter is set to TRACK. |                  |
| txns track mode<br>priority_txns_medium_wait_target | 384   | Total number of times a LOW priority transaction would potentially be rolled back by the Priority Transactions feature because the wait time specified by the PRIORITY_TXNS_MEDIUM_WAIT_TARGET initialization parameter was exceeded for a MEDIUM priority transaction<br><br>This statistic is updated when the Priority Transactions feature is running in tracking mode, that is, when the PRIORITY_TXNS_MODE initialization parameter is set to TRACK.       |                  |
| user calls                                          | 1     | Number of user calls such as login, parse, fetch, or execute<br><br>When determining activity, the ratio of user calls to RPI calls, give you an indication of how much internal work gets generated because of the type of requests the user is sending to Oracle.                                                                                                                                                                                              |                  |
| user commits                                        | 1     | Number of user commits. When a user commits a transaction, the redo generated that reflects the changes made to database blocks must be written to disk. Commits often represent the closest thing to a user transaction rate.                                                                                                                                                                                                                                   |                  |
| user I/O wait time                                  | 1     | The total wait time (in centiseconds) for waits that belong to the User I/O wait class                                                                                                                                                                                                                                                                                                                                                                           |                  |

Table E-1 (Cont.) Database Statistics Descriptions

| Name                               | Class | Description                                                                                                                                                                                                                                        | TIMED_STATISTICS |
|------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| user rollbacks                     | 1     | Number of times users manually issue the <code>ROLLBACK</code> statement or an error occurs during a user's transactions                                                                                                                           |                  |
| very large tracked transactions    | 128   | For tables tracked by flashback data archive, number of transactions modifying those tables which are very large in terms of size or number of changes                                                                                             |                  |
| write clones created in background | 8     | Number of times a background or foreground process clones a <code>CURRENT</code> buffer that is being written. The clone becomes the new, accessible <code>CURRENT</code> buffer, leaving the original buffer (now the clone) to complete writing. |                  |
| write clones created in foreground | 8     | Number of times a background or foreground process clones a <code>CURRENT</code> buffer that is being written. The clone becomes the new, accessible <code>CURRENT</code> buffer, leaving the original buffer (now the clone) to complete writing. |                  |

# F

## Background Processes

An Oracle Database **background process** is defined as any process that is listed in `V$PROCESS` and has a non-null value in the `PNAME` column.

Table F-1 describes Oracle Database background processes.

The External Properties column lists the type of instance in which the process runs. If the process is specific to a particular feature, then the column names the feature.



### Note:

When the `THREADED_EXECUTION` initialization parameter is set to `TRUE` on Linux and UNIX, the `DBW`, `PMON`, `PSP`, and `VKTM` background processes run as operating system processes, and the other background processes run as operating system threads.

See "[THREADED\\_EXECUTION](#)" for more information about the `THREADED_EXECUTION` initialization parameter.

**Table F-1 Background Processes**

| Name | Expanded Name                                                 | Short Description                                                                                                                | Long Description                                                                                                                                                                                                                                                                                                                                                                          | External Properties              |
|------|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| ABMR | Auto BMR Background Process                                   | Coordinates execution of tasks such as filtering duplicate block media recovery requests and performing flood control            | When a process submits a block media recovery request to ABMR, it dynamically spawns worker processes ( <code>BMRn</code> ) to perform the recovery. ABMR and <code>BMRn</code> terminate after being idle for a long time.<br><b>See Also:</b> <i>Oracle Database Backup and Recovery User's Guide</i>                                                                                   | Database instances               |
| ACFS | Oracle Advanced Cluster File System (Oracle ACFS) CSS Process | Tracks the cluster membership in CSS and informs the file system driver of membership changes                                    | The ACFS process delivers CSS membership changes to the cluster file system. These membership changes are required for the file system to maintain file system consistency within the cluster.                                                                                                                                                                                            | Oracle ASM instances, Oracle RAC |
| ACMS | Atomic Control File to Memory Service Process                 | Coordinates consistent updates to a control file resource with its SGA counterpart on all instances in an Oracle RAC environment | The ACMS process works with a coordinating caller to ensure that an operation is executed on every instance in Oracle RAC despite failures. ACMS is the process in which a distributed operation is called. As a result, this process can exhibit a variety of behaviors. In general, ACMS is limited to small, nonblocking state changes for a limited set of cross-instance operations. | Database instances, Oracle RAC   |
| AMBn | See <a href="#">ASMB</a> , <a href="#">AMBn</a>               |                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                           |                                  |

Table F-1 (Cont.) Background Processes

| Name | Expanded Name                                 | Short Description                                                                                    | Long Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | External Properties                                                                                                    |
|------|-----------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| APnn | Replication Apply Process Coordinator Process | Obtains transactions from the reader server and passes them to apply servers                         | <p>The coordinator process name is APnn, where nn can include letters and numbers.</p> <p>For more information about the coordinator process, see <code>V\$XSTREAM APPLY_COORDINATOR</code> for XStream and <code>V\$GG APPLY_COORDINATOR</code> for Oracle GoldenGate.</p> <p><b>See Also:</b> <i>Oracle Database XStream Guide</i></p>                                                                                                                                                                                                                                                                                                                                                                                          | Database instances, Logical Standby, XStream Inbound servers, XStream Outbound servers, GoldenGate Integrated Replicat |
| AQPC | AQ Process Coordinator                        | Per instance AQ global coordinator                                                                   | AQPC is responsible for performing administrative tasks for AQ Primary Class Processes including commands like starting, stopping, and other administrative tasks. This process is automatically started on instance startup.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Database instances Advanced Queueing                                                                                   |
| ARB0 | ASM Rebalance Process                         | Rebalances data extents within an Oracle ASM disk group                                              | ARB0 uses the value of the <code>ASM_POWER_LIMIT</code> initialization parameter for the Oracle ASM instance as the maximum power for disk rebalancing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Oracle ASM instances                                                                                                   |
| ARCn | Archiver Process                              | Copies the redo log files to archival storage when they are full or an online redo log switch occurs | <p>ARCn processes exist only when the database is in ARCHIVELOG mode and automatic archiving is enabled, in which case ARCn automatically archives online redo log files. LGWR cannot reuse and overwrite an online redo log group until it has been archived.</p> <p>The database starts multiple archiver processes as needed to ensure that the archiving of filled online redo logs does not fall behind. Possible processes are ARC0-ARC9 and ARCa-ARCT.</p> <p>The <code>LOG_ARCHIVE_MAX_PROCESSES</code> initialization parameter specifies the number of ARCn processes that the database initially invokes.</p> <p><b>See Also:</b> <i>Oracle Database Concepts</i> and <i>Oracle Database Administrator's Guide</i></p> | Database instances                                                                                                     |
| ARSn | ASM Recovery Worker Process                   | Recovers ASM transactional operations                                                                | The ASM RBAL background process coordinates and spawns one or more of these worker processes to recover terminated ASM transactional operations. These processes run only in the Oracle ASM instance. Possible processes are ARS0-ARS9.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Oracle ASM instances                                                                                                   |



Table F-1 (Cont.) Background Processes

| Name       | Expanded Name                            | Short Description                                                                                                                                                                                                                                       | Long Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | External Properties                                                                                   |
|------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| ASMB, AMBn | ASM Background Process                   | Communicates with an Oracle ASM instance, managing storage and providing statistics                                                                                                                                                                     | <p>In a database instance, the ASMB and AMBn processes enable the database instance to connect to an Oracle ASM instance in order to access Oracle ASM disk groups. Possible processes are ASMB and AMB1-AMB3.</p> <p>In an Oracle ASM instance, the ASMB process runs when the ASMCMD cp command runs, or when a database instance first starts if the server parameter file is stored in Oracle ASM. ASMB also runs with Oracle Cluster Registry on Oracle ASM. The only possible process is ASMB; AMBn processes do not run in Oracle ASM instances.</p> <p>In an Oracle IO Server (IOS) instance, the ASMB process enables the IOS instance to connect to an Oracle ASM instance in order to access Oracle ASM disk groups. The only possible process is ASMB; AMBn processes do not run in IOS instances.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Database instances, Oracle ASM instances, Oracle IO Server (IOS) instances                            |
| ASnn       | Replication Apply Reader or Apply Server | <p>Computes dependencies between logical change records (LCRs) and assembles messages into transactions (Reader Server)</p> <p>Applies LCRs to database objects or passes LCRs and user messages to their appropriate apply handlers (Apply Server)</p> | <p>When the reader server finishes computing dependencies between LCRs and assembling transactions, it returns the assembled transactions to the coordinator process. Query V\$STREAMS_APPLY_READER, V\$XSTREAM_APPLY_READER, and V\$GG_APPLY_READER for information about the reader server background process.</p> <p>An apply server receives the transactions from the coordinator background process, and either applies database changes in LCRs or sends LCRs or messages to apply handlers. Apply servers can also enqueue a queue. If an apply server encounters an error, then it then tries to resolve the error with a user-specified conflict handler or error handler. If an apply server cannot resolve an error, then it rolls back the transaction and places the entire transaction, including all of its messages, in the error queue. When an apply server commits a completed transaction, this transaction has been applied. When an apply server places a transaction in the error queue and commits, this transaction also has been applied. Query V\$STREAMS_APPLY_SERVER for information about the apply server background process. For XStream Inbound servers, query V\$XSTREAM_APPLY_SERVER. For GoldenGate Integrated Replicat, query V\$GG_APPLY_SERVER.</p> <p>The coordinator process name is ASnn, where nn can include letters and numbers.</p> | Database instances, XStream Outbound servers, XStream Inbound servers, GoldenGate Integrated Replicat |

Table F-1 (Cont.) Background Processes

| Name | Expanded Name                                      | Short Description                                                                                                                   | Long Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | External Properties                      |
|------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| BMRn | Automatic Block Media Recovery Worker Pool Process | Fetches blocks from a real-time readable standby database                                                                           | <p>When a process submits a block media recovery request to ABMR, it dynamically spawns worker processes (BMRn) to perform the recovery. BMRn processes fetch blocks from a real-time readable standby database. ABMR and BMRn terminate after being idle for a long time.</p> <p><b>See Also:</b> <i>Oracle Database Backup and Recovery User's Guide</i></p>                                                                                                                                                                                         | Database instances                       |
| Bnnn | ASM Blocking Worker Process for GMON               | Performs maintenance actions on Oracle ASM disk groups                                                                              | <p>Bnnn performs actions that require waiting for resources on behalf of GMON. GMON must be highly available and cannot wait.</p> <p>A Bnnn worker is spawned when a disk is taken offline in an Oracle ASM disk group. Offline timer processing and drop of the disk are performed in this worker. Up to five process (B000 to B004) can exist depending on the load.</p>                                                                                                                                                                             | Oracle ASM instances                     |
| BWnn | Database Writer Process                            | Writes modified blocks from the database buffer cache to the data files                                                             | See the <b>Long Description</b> for the DBWn process in this table for more information about the BWnn process.                                                                                                                                                                                                                                                                                                                                                                                                                                        | Database instances                       |
| CJQ0 | Job Queue Coordinator Process                      | Selects jobs that need to be run from the data dictionary and spawns job queue worker processes (Jnnn) to run the jobs              | <p>CJQ0 is automatically started and stopped as needed by Oracle Scheduler.</p> <p>The <code>JOB_QUEUE_PROCESSES</code> initialization parameter specifies the maximum number of processes that can be created for the execution of jobs. CJQ0 starts only as many job queue processes as required by the number of jobs to run and available resources.</p> <p><b>See Also:</b> <i>Oracle Database Concepts</i> and <i>Oracle Database Administrator's Guide</i></p>                                                                                  | Database instances                       |
| CKPT | Checkpoint Process                                 | Signals DBWn at checkpoints and updates all the data files and control files of the database to indicate the most recent checkpoint | <p>At specific times CKPT starts a checkpoint request by messaging DBWn to begin writing dirty buffers. On completion of individual checkpoint requests, CKPT updates data file headers and control files to record most recent checkpoint.</p> <p>CKPT checks every three seconds to see whether the amount of memory exceeds the value of the <code>PGA_AGGREGATE_LIMIT</code> initialization parameter, and if so, takes the action described in "<a href="#">PGA_AGGREGATE_LIMIT</a>".</p> <p><b>See Also:</b> <i>Oracle Database Concepts</i></p> | Database instances, Oracle ASM instances |
| CLnn | Cleanup Worker Process                             | Performs cleanup of terminated processes                                                                                            | Cleanup workers assist in the cleanup of terminated processes and terminated sessions. The number of workers will be proportional to the amount of cleanup work to be done and the current efficiency of cleanup.                                                                                                                                                                                                                                                                                                                                      | Database instances, Oracle ASM instances |
| CLG  | Persistent Cluster Flash Cache Background Process  | For Oracle Data Appliance only, this process performs actions related to recovery of a terminated instance's database flash cache   | For Oracle Data Appliance only, in the event of an instance crash, the running instance will recover the crashed instance's database flash cache. The CLG process will perform actions related to scanning the crashed instance's database flash cache and claim flash blocks mastered by the crashed instance.                                                                                                                                                                                                                                        | Database instances, Oracle RAC           |

Table F-1 (Cont.) Background Processes

| Name | Expanded Name                      | Short Description                                                                                                                                                                | Long Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | External Properties                          |
|------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| CLMN | Cleanup Main Process               | Performs cleanup of terminated processes, terminated sessions, terminated transactions, and terminated network connections                                                       | CLMN periodically performs cleanup of all the following: terminated processes, terminated sessions, transactions, network connections, idle sessions, detached transactions, and detached network connections that have exceeded their idle timeout.                                                                                                                                                                                                                                                                                                                                                                                               | Database instances, Oracle ASM instances     |
| CPnn | Replication Capture Process        | Captures database changes from the redo log by using the infrastructure of LogMiner                                                                                              | The capture process name is CPnn, where nn can include letters and numbers. The underlying LogMiner process name is MSnn, where nn can include letters and numbers. The capture process includes one reader server that reads the redo log and divides it into regions, one or more preparer servers that scan the redo log, and one builder server that merges redo records from the preparer servers. Each reader server, preparer server, and builder server is a process. Query the V\$XSTREAM_CAPTURE and V\$GOLDENGATE_CAPTURE views for information about this background process.<br><b>See Also:</b> <i>Oracle Database XStream Guide</i> | Database instances, XStream Outbound Servers |
| CRnn | LMS CR Worker Process              | Offloads the work from LMS so that blocks that require lots of UNDO to be applied do not block the LMS. Such requests are passed on to the worker so that the LMS is not stalled | There can be a maximum of eight CR processes per LMS process, with names from CR00 to CR07. Each LMS has its own set with similar name. The CRnn processes are threads and the process ID part will be the same as the owning LMS's process ID.<br>The names for CRnn processes will have the format CR0n_<spawning process id>_<thread id>.                                                                                                                                                                                                                                                                                                       | Oracle RAC                                   |
| CSnn | I/O Calibration Process            | Issues I/Os to storage as part of storage calibration.                                                                                                                           | CSnn worker processes are started on execution of the DBMS_RESOURCE_MANAGER.CALIBRATE_IO() procedure. There is one worker process per CPU on each node of the database.                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Database instances, Oracle RAC               |
| CTWR | Change Tracking Writer Process     | Tracks changed data blocks as part of the Recovery Manager block change tracking feature                                                                                         | CTWR tracks changed blocks as redo is generated at a primary database and as redo is applied at a standby database. The process is slightly different depending on the type of database.<br><b>See Also:</b> <i>Oracle Database Backup and Recovery User's Guide</i>                                                                                                                                                                                                                                                                                                                                                                               | Database instances                           |
| CXnn | Replication Capture Worker Process | Sends captured LCRs to a receiver, such as an XStream Outbound Server                                                                                                            | The capture worker process name is CXnn, where nn can include letters and numbers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Database instances, XStream Outbound Server  |
| DBRM | Database Resource Manager Process  | Sets resource plans and performs other tasks related to the Database Resource Manager                                                                                            | If a resource plan is not enabled, then this process is idle.<br><b>See Also:</b> <i>Oracle Database Administrator's Guide</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Database instances                           |

Table F-1 (Cont.) Background Processes

| Name | Expanded Name                 | Short Description                                                                                           | Long Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | External Properties                      |
|------|-------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| DBWn | Database Writer Process       | Writes modified blocks from the database buffer cache to the data files                                     | <p>The primary responsibility of the Database Writer Process is to write data blocks to disk. It also handles checkpoints, file open synchronization, and logging of Block Written records.</p> <p>In many cases the blocks that the Database Writer Process writes are scattered throughout the disk. Thus, the writes tend to be slower than the sequential writes performed by LGWR. The Database Writer Process performs multiblock writes when possible to improve efficiency. The number of blocks written in a multiblock write varies by operating system.</p> <p>The <code>DB_WRITER_PROCESSES</code> initialization parameter specifies the number of Database Writer Processes. There can be 1 to 100 Database Writer Processes. The names of the first 36 Database Writer Processes are DBW0-DBW9 and DBWa-DBWz. The names of the 37th through 100th Database Writer Processes are BW36-BW99. The database selects an appropriate default setting for the <code>DB_WRITER_PROCESSES</code> parameter or adjusts a user-specified setting based on the number of CPUs and processor groups.</p> <p><b>See Also:</b> "<a href="#">DB_WRITER_PROCESSES</a>"</p> | Database instances                       |
| DIA0 | Diagnostic Process            | Detects and resolves hangs and deadlocks                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Database instances, Oracle ASM instances |
| DIAG | Diagnostic Capture Process    | Performs diagnostic dumps                                                                                   | DIAG performs diagnostic dumps requested by other processes and dumps triggered by process or instance termination. In Oracle RAC, DIAG performs global diagnostic dumps requested by remote instances.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Database instances, Oracle ASM instances |
| DMnn | Data Pump Control Job Process | Coordinates the Data Pump job tasks performed by Data Pump worker processes and handles client interactions | The Data Pump control job process is started during job creation and coordinates all tasks performed by the Data Pump job. It handles all client interactions and communication, establishes all job contexts, and coordinates all worker process activities on behalf of the job.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Database instances, Data Pump            |

Table F-1 (Cont.) Background Processes

| Name | Expanded Name                     | Short Description                                                                                                                            | Long Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | External Properties                |
|------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| DMON | Data Guard Broker Monitor Process | Manages and monitors a database that is part of a Data Guard broker configuration                                                            | <p>When you start the Data Guard broker, a DMON process is created. DMON runs for every database instance that is managed by the broker. DMON interacts with the local database and the DMON processes of the other databases to perform the requested function. DMON also monitors the health of the broker configuration and ensures that every database has a consistent description of the configuration.</p> <p>DMON maintains profiles about all database objects in the broker configuration in a binary configuration file. A copy of this file is maintained by the DMON process for each of the databases that belong to the broker configuration. The process is created when the <code>DG_BROKER_START</code> initialization parameter is set to <code>true</code>.</p> <p><b>See Also:</b> <i>Oracle Data Guard Broker</i></p>                                                                                                                                                                                                                                                                   | Database instances, Data Guard     |
| Dnnn | Dispatcher Process                | Performs network communication in the shared server architecture                                                                             | <p>In the shared server architecture, clients connect to a dispatcher process, which creates a virtual circuit for each connection. When the client sends data to the server, the dispatcher receives the data into the virtual circuit and places the active circuit on the common queue to be picked up by an idle shared server. The shared server then reads the data from the virtual circuit and performs the database work necessary to complete the request. When the shared server must send data to the client, the server writes the data back into the virtual circuit and the dispatcher sends the data to the client. After the shared server completes the client request, the server releases the virtual circuit back to the dispatcher and is free to handle other clients.</p> <p>Several initialization parameters relate to shared servers. The principal parameters are: <code>DISPATCHERS</code>, <code>SHARED_SERVERS</code>, <code>MAX_SHARED_SERVERS</code>, <code>LOCAL_LISTENER</code>, <code>REMOTE_LISTENER</code>.</p> <p><b>See Also:</b> <i>Oracle Database Concepts</i></p> | Database instances, shared servers |
| DSKM | Worker Diskmon Process            | Acts as the conduit between the database, Oracle ASM instances, and the Primary Diskmon daemon to communicate information to Exadata storage | This process is active only if Exadata Storage is used. DSKM performs operations related to Exadata I/O fencing and Exadata cell failure handling.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Oracle ASM instances, Exadata      |
| DWnn | Data Pump Worker Process          | Performs Data Pump tasks as assigned by the Data Pump control job process                                                                    | The Data Pump worker process is responsible for performing tasks that are assigned by the Data Pump control job process, such as the loading and unloading of metadata and data.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Database instances                 |

Table F-1 (Cont.) Background Processes

| Name | Expanded Name                                        | Short Description                                                                                                               | Long Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | External Properties                                  |
|------|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| EMNC | EMON Coordinator Process                             | Coordinates database event management and notifications                                                                         | EMNC is a primary background process that coordinates event management and notification activity in the database, including Streams Event Notifications, Continuous Query Notifications, and Fast Application Notifications.                                                                                                                                                                                                                                                                                             | Database instances                                   |
| Ennn | EMON Worker Process                                  | Performs database event management and notifications                                                                            | The database event management and notification load is distributed among the EMON worker processes. These processes work on the system notifications in parallel, offering a capability to process a larger volume of notifications, a faster response time, and a lower shared memory use for staging notifications.                                                                                                                                                                                                    | Database instances                                   |
| FBDA | Flashback Data Archiver Process                      | Archives historical rows for tracked tables into flashback data archives and manages archive space, organization, and retention | When a transaction that modifies a tracked table commits, FBDA stores the pre-image of the rows in the archive. FBDA maintains metadata on the current rows and tracks how much data has been archived.<br><br>FBDA is also responsible for automatically managing the flashback data archive for space, organization (partitioning tablespaces), and retention. FBDA also keeps track of how far the archiving of tracked transactions has progressed.<br><br><b>See Also:</b> <i>Oracle Database Development Guide</i> | Database instances                                   |
| FDnn | Oracle ASM Stale FD Cleanup Worker Process           | Cleans up Oracle ASM stale file descriptors on foreground processes                                                             | This process cleans up Oracle ASM stale file descriptors on foreground processes if an Oracle ASM disk is globally closed.                                                                                                                                                                                                                                                                                                                                                                                               | Database and Oracle ASM instances                    |
| FENC | Fence Monitor Process                                | Processes fence requests for RDBMS instances which are using Oracle ASM instances                                               | CSS monitors RDBMS instances which are connected to the Oracle ASM instance and constantly doing I/Os. When the RDBMS instance terminates due to a failure, all the outstanding I/O's from the RDBMS instance should be drained and any new I/O's rejected. FENC receives and processes the fence request from CSSD.                                                                                                                                                                                                     | Oracle ASM instances                                 |
| FMON | File Mapping Monitor Process                         | Manages mapping information for the Oracle Database file mapping interface                                                      | The <code>DBMS_STORAGE_MAP</code> package enables you to control the mapping operations. When instructed by the user, FMON builds mapping information and stores it in the SGA, refreshes the information when a change occurs, saves the information to the data dictionary, and restores it to the SGA at instance startup.<br><br>FMON is started by the database whenever the <code>FILE_MAPPING</code> initialization parameter is set to <code>true</code> .                                                       | Database instances, Oracle ASM instances             |
| FSFP | Data Guard Broker Fast Start Failover Pinger Process | Maintains fast-start failover state between the primary and target standby databases                                            | FSFP is created when fast-start failover is enabled.                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Database instances, Data Guard                       |
| GCRn | Global Conflict Resolution Worker Process            | Performs synchronous tasks on behalf of LMHB                                                                                    | GCRn processes are transient workers that are started and stopped as required by LMHB to perform synchronous or resource intensive tasks.                                                                                                                                                                                                                                                                                                                                                                                | Database instances, Oracle ASM instances, Oracle RAC |

Table F-1 (Cont.) Background Processes

| Name | Expanded Name                    | Short Description                                                                          | Long Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | External Properties                                                                                 |
|------|----------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| GCWn | GCR Monitor processes (LMHB)     | GCR(DRF) monitor processes (LMHB)                                                          | Infrastructure helper processes for LMHB. Monitors the LMHB process for stalls, and restarts if necessary.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Database instances, Oracle ASM instances, Oracle RAC instances (prior to Oracle Database 23ai only) |
| GEN0 | General Task Execution Process   | Performs required tasks including SQL and DML                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Database instances, Oracle ASM instances, Oracle ASM Proxy instances                                |
| GMON | ASM Disk Group Monitor Process   | Monitors all mounted Oracle ASM disk groups                                                | GMON monitors all the disk groups mounted in an Oracle ASM instance and is responsible for maintaining consistent disk membership and status information. Membership changes result from adding and dropping disks, whereas disk status changes result from taking disks offline or bringing them online.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Oracle ASM instances                                                                                |
| GTXn | Global Transaction Process       | Provides transparent support for XA global transactions in an Oracle RAC environment       | <p>These processes help maintain the global information about XA global transactions throughout the cluster. Also, the processes help perform two-phase commit for global transactions anywhere in the cluster so that an Oracle RAC database behaves as a single system to the externally coordinated distributed transactions.</p> <p>The GLOBAL_TXN_PROCESSES initialization parameter specifies the number of GTXn processes, where <i>n</i> is 0-9 or a-j. The database automatically tunes the number of these processes based on the workload of XA global transactions. You can disable these processes by setting the parameter to 0. If you try to run XA global transactions with these processes disabled, an error is returned.</p> <p><b>See Also:</b> <i>Oracle Real Application Clusters Administration and Deployment Guide</i></p> | Database instances, Oracle RAC                                                                      |
| Innn | Disk and Tape I/O Worker Process | Serves as an I/O worker process spawned on behalf of DBWR, LGWR, or an RMAN backup session | I/O worker process can be configured on platforms where asynchronous I/O support is not available. These workers are started by setting the corresponding worker enable parameter in the server parameter file. The I/O workers simulate the asynchronous I/O behavior when the underlying platform does not have native support for asynchronous I/O.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Database instances                                                                                  |



Table F-1 (Cont.) Background Processes

| Name        | Expanded Name                               | Short Description                                                                                                    | Long Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | External Properties                                  |
|-------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| IMCO        | In-Memory Coordinator                       | Initiates background population and repopulation of in-memory enabled objects                                        | <p>The IMCO background process initiates population (prepopulation) of in-memory enabled objects with priority LOW/MEDIUM/HIGH/CRITICAL. In-memory enabled objects with priority NONE will not be prepopulated but will be populated on demand via <i>Wnnn</i> processes when queried. The IMCO background process can also initiate repopulation of in-memory objects.</p> <p>Starting with Oracle Database 19c, IMXT (In-Memory External Table) segments are dropped by the IMCO background process. In previous releases, IMXT segments were dropped by foreground processes.</p> | Database instances                                   |
| IMR0        | Instance Membership Recovery Worker Process | Performs synchronous tasks on behalf of LMON                                                                         | The IMR0 background process performs the Instance Member Recovery synchronous operations on behalf of LMON                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Oracle RAC, Database instances, Oracle ASM instances |
| INSV        | Data Guard Broker Instance Worker Process   | Performs Data Guard broker communication among instances in an Oracle RAC environment                                | INSV is created when the <code>DG_BROKER_START</code> initialization parameter is set to <code>true</code> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Database instances, Data Guard                       |
| IPC0        | IPC Service Background Process              | Common background server for basic messaging and RDMA primitives based on IPC (Inter-process communication) methods. | IPC0 handles very high rates of incoming connect requests, as well as, completing reconfigurations to support basic messaging and RDMA primitives over several transports such as UDP, RDS, InfiniBand and RC.                                                                                                                                                                                                                                                                                                                                                                       | Oracle RAC                                           |
| <i>Jnnn</i> | Job Queue Worker Process                    | Executes jobs assigned by the job coordinator                                                                        | <p>Job worker processes are created or awakened by the job coordinator when it is time for a job to be executed. Job workers gather all the metadata required to run the job from the data dictionary. The worker processes start a database session as the owner of the job, execute triggers, and then execute the job. After the job is complete, the worker processes commit and then execute appropriate triggers and close the session. The worker can repeat this operation in case additional jobs need to be run.</p>                                                       | Database instances                                   |
| <i>JPn</i>  | Java Patching Worker Process                | Patches and updates the Java in the database classes                                                                 | <i>JPn</i> patches and updates the Java in the database classes. It is only started for Oracle Real Application Clusters (Oracle RAC) databases, and one of the database instances is responsible for patching the Java in the database objects. For multitenant container databases (CDBs), the process updates each pluggable database (PDB) individually. <i>JPn</i> is started automatically and does not require user intervention.                                                                                                                                             | Oracle RAC                                           |
| <i>LCKn</i> | Lock Process                                | Manages global enqueue requests and cross-instance broadcasts                                                        | <p>The process handles all requests for resources other than data blocks. For examples, <i>LCKn</i> manages library and row cache requests.</p> <p>Possible processes are LCK0 and LCK1.</p>                                                                                                                                                                                                                                                                                                                                                                                         | Database instances, Oracle ASM instances, Oracle RAC |



Table F-1 (Cont.) Background Processes

| Name | Expanded Name                                          | Short Description                                                                                                         | Long Description                                                                                                                                                                                                                                                                                                                                                                                 | External Properties                                  |
|------|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| LDDn | Global Enqueue Service Daemon Helper Worker            | Helps the LMDn processes with various tasks                                                                               | LDDn processes are worker processes spawned on demand by LMDn processes. They are spawned to help the dedicated LMDn processes with various tasks when certain workloads start creating performance bottlenecks. These worker processes are transient as they are started on demand and they can be shutdown when no longer needed. There can be up to 36 of these worker processes (LDD0-LDDz). | Database instances, Oracle ASM instances, Oracle RAC |
| LGnn | Log Writer Worker                                      | Writes redo log                                                                                                           | On multiprocessor systems, LGWR creates worker processes to improve the performance of writing to the redo log. LGWR workers are not used when there is a SYNC standby destination.<br><br>Possible processes are LG00-LG99.                                                                                                                                                                     | Database instances                                   |
| LGWR | Log Writer Process                                     | Writes redo entries to the online redo log                                                                                | Redo log entries are generated in the redo log buffer of the system global area (SGA). LGWR writes the redo log entries sequentially into a redo log file. If the database has a multiplexed redo log, then LGWR writes the redo log entries to a group of redo log files.<br><br><b>See Also:</b> <i>Oracle Database Concepts</i> and <i>Oracle Database Administrator's Guide</i>              | Database instances, Oracle ASM instances             |
| LMnn | <b>See</b> <a href="#">LMSn</a> , <a href="#">LMnn</a> |                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                      |
| LMDn | Global Enqueue Service Daemon Process                  | Manages incoming remote resource requests from other instances                                                            | LMDn processes enqueue resources managed under Global Enqueue Service. In particular, they process incoming enqueue request messages and control access to global enqueues. They also perform distributed deadlock detections. There can be up to 36 of these processes (LMD0-LMDz).                                                                                                             | Database instances, Oracle ASM instances, Oracle RAC |
| LMFC | Lock Manager Flash Cache Process                       | For Oracle Database Appliance only, performs actions related to recovery of a terminated instance's database flash cache. | For Oracle Database Appliance only, in the event of a instance crash, the running instance will recover the crashed instance's database flash cache. The LMFC process will perform actions related to scanning the crashed instance's database flash cache and claim flash blocks mastered by the crashed instance.                                                                              | Database instances, Oracle RAC                       |
| LMHB | Global Cache/ Enqueue Service Heartbeat Monitor        | Monitor the heartbeat of several processes                                                                                | LMHB monitors the CKPT, DIAn, LCKn, LGnn, LGWR, LMDn, LMON, LMSn, and RMSn processes to ensure they are running normally without blocking or spinning.                                                                                                                                                                                                                                           | Database instances, Oracle ASM instances, Oracle RAC |
| LMON | Global Enqueue Service Monitor Process                 | Monitors an Oracle RAC cluster to manage global resources                                                                 | LMON maintains instance membership within Oracle RAC. The process detects instance transitions and performs reconfiguration of GES and GCS resources.<br><br><b>See Also:</b> <i>Oracle Real Application Clusters Administration and Deployment Guide</i>                                                                                                                                        | Database instances, Oracle ASM instances, Oracle RAC |

Table F-1 (Cont.) Background Processes

| Name          | Expanded Name                            | Short Description                                                          | Long Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | External Properties                                      |
|---------------|------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| LMSn,<br>LMnn | Global Cache Service Process             | Manages resources and provides resource control among Oracle RAC instances | <p>LMSn and LMnn processes maintain a lock database for Global Cache Service (GCS) and buffer cache resources. These processes receive, process, and send GCS requests, block transfers, and other GCS-related messages. There can be up to 100 of these processes, named as follows:</p> <p>LMS0-LMS9<br/>LMSA-LMSZ<br/>LM10-LM19<br/>LM1A-LM1Z<br/>LM20-LM29<br/>LM2A-LM2R</p> <p><b>See Also:</b> <i>Oracle Real Application Clusters Administration and Deployment Guide</i></p>                                                                                    | Database instances, Oracle ASM instances, Oracle RAC     |
| LREG          | Listener Registration Process            | Registers the instance with the listeners                                  | LREG notifies the listeners about instances, services, handlers, and endpoint.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Database instances, Oracle ASM instances, Oracle RAC     |
| LSP0          | Logical Standby Coordinator Process      | Schedules transactions for Data Guard SQL Apply                            | LSP0 is the initial process created upon startup of Data Guard SQL Apply. In addition to managing LogMiner and Apply processes, LSP0 is responsible for maintaining inter-transaction dependencies and appropriately scheduling transactions with applier processes. LSP0 is also responsible for detecting and enabling run-time parameter changes for the SQL Apply product as a whole.                                                                                                                                                                               | Database instances, Data Guard                           |
| LSP1          | Logical Standby Dictionary Build Process | Performs a logical standby dictionary build on a primary database          | The LSP1 process is spawned on a logical standby database that is intended to become the new primary database. A logical standby database becomes a primary database because of switchover or failover. The dictionary is necessary for logical standby databases to interpret the redo of the new primary database.                                                                                                                                                                                                                                                    | Database instances, Data Guard                           |
| LSP2          | Logical Standby Set Guard Process        | Determines which database objects will be protected by the database guard  | The LSP2 process is created as needed during startup of SQL Apply to update the list of objects that are protected by the database guard.                                                                                                                                                                                                                                                                                                                                                                                                                               | Database instances, Data Guard                           |
| Lnnn          | Pooled Server Process                    | Handles client requests in Database Resident Connection Pooling            | <p>In Database Resident Connection Pooling, clients connect to a connection broker process. When a connection becomes active, the connection broker hands off the connection to a compatible pooled server process. The pooled server process performs network communication directly on the client connection and processes requests until the client releases the server. After being released, the connection is returned to the broker for monitoring, leaving the server free to handle other clients.</p> <p><b>See Also:</b> <i>Oracle Database Concepts</i></p> | Database instances, Database Resident Connection Pooling |

Table F-1 (Cont.) Background Processes

| Name | Expanded Name                                     | Short Description                                                                                           | Long Description                                                                                                                                                                                                                                                                                                                                                                              | External Properties                                                              |
|------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| MARK | Mark AU for Resynchronization Coordinator Process | Marks ASM allocation units as stale following a missed write to an offline disk                             | MARK essentially tracks which extents require resynchronization for offline disks. This process runs in the database instance and is started when the database instance first begins using the Oracle ASM instance. If required, MARK can also be started on demand when disks go offline in the Oracle ASM redundancy disk group.                                                            | Database instances, Oracle ASM instances                                         |
| MMAN | Memory Manager Process                            | Serves as the instance memory manager                                                                       | This process performs the resizing of memory components on the instance.                                                                                                                                                                                                                                                                                                                      | Database instances, Oracle ASM instances                                         |
| MMNL | Manageability Monitor Lite Process                | Performs tasks relating to manageability, including active session history sampling and metrics computation | MMNL performs many tasks relating to manageability, including session history capture and metrics computation.                                                                                                                                                                                                                                                                                | Database instances, Oracle ASM instances                                         |
| MMON | Manageability Monitor Process                     | Performs or schedules many manageability tasks                                                              | MMON performs many tasks related to manageability, including taking Automatic Workload Repository snapshots and performing Automatic Database Diagnostic Monitor analysis.                                                                                                                                                                                                                    | Database instances, Oracle ASM instances                                         |
| Mnnn | Shared MMON Worker Process                        | Performs manageability tasks on behalf of MMON                                                              | The <i>Mnnn</i> processes are a pool of worker processes that can be shared by multiple <i>MZnn</i> processes.<br><br>See the <b>Long Description</b> for <i>MZnn</i> in this table for more information about the <i>MZnn</i> processes.                                                                                                                                                     | Database instances, Oracle ASM instances                                         |
| MRP0 | Managed Standby Recovery Process                  | Coordinates the application of redo on a physical standby database                                          | MRP0 is spawned at the start of redo apply on a physical standby database. This process handles the extraction of redo and coordinates the application of that redo on a physical standby database.<br><br><b>See Also:</b> <i>Oracle Data Guard Concepts and Administration</i>                                                                                                              | Database instances, Data Guard                                                   |
| MSnn | LogMiner Worker Process                           | Reads redo log files and translates and assembles into transactions                                         | Multiple <i>MSnn</i> processes can exist, where <i>n</i> is 0-9 or a-Z. A minimum of three <i>MSnn</i> processes work as a group to provide transactions to a LogMiner client, for example, a logical standby database or a database capture. There may be more than one such group, for example, multiple capture processes configured for either local or downstream capture in a database. | Database instances, Logical Standby, XStream Outbound servers, Oracle GoldenGate |
| MZnn | Dedicated MMON Worker Process                     | Performs manageability tasks on behalf of MMON                                                              | <i>MZnn</i> is a dedicated process for a single MMON worker action. It performs manageability tasks dispatched by MMON, which include taking Automatic Workload Repository snapshots and performing Automatic Database Diagnostic Monitor analysis.                                                                                                                                           | Database instances, Oracle ASM instances                                         |

Table F-1 (Cont.) Background Processes

| Name | Expanded Name                                | Short Description                                                                                         | Long Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | External Properties                                      |
|------|----------------------------------------------|-----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| Nnnn | Connection Broker Process                    | Monitors idle connections and hands off active connections in Database Resident Connection Pooling        | In Database Resident Connection Pooling, clients connect to a connection broker process. When a connection becomes active, the connection broker hands off the connection to a compatible pooled server process. The pooled server process performs network communication directly on the client connection and processes requests until the client releases the server. After being released, the connection is returned to the broker for monitoring, leaving the server free to handle other clients.<br><br><b>See Also:</b> <i>Oracle Database Concepts</i> | Database instances, Database Resident Connection Pooling |
| NFSn | Direct NFS Dispatcher IO Worker Process      | Performs direct NFS I/O for database processes                                                            | The dispatcher worker processes enable scaling of Direct NFS connections to a clustered NAS storage. These dedicated set of workers will be used to perform Direct NFS I/Os on behalf of database processes. The dispatcher processes are enabled by the <code>ENABLE_DNFS_DISPATCHER</code> initialization parameter. NFSn is spawned only if Direct NFS library is enabled for I/O to NFS servers. The number of worker processes spawned is based on the <code>CPU_COUNT</code> value.<br><br><b>See Also:</b> <a href="#">"ENABLE_DNFS_DISPATCHER"</a>       | Database instances                                       |
| NSSn | Network Server SYNC Process                  | Transfers redo from current online redo logs to remote standby destinations configured for SYNC transport | NSSn can run as multiple processes, where <i>n</i> is 1-9 or A.<br><br><b>See Also:</b> <i>Oracle Data Guard Concepts and Administration</i>                                                                                                                                                                                                                                                                                                                                                                                                                     | Database instances, Data Guard                           |
| NSVn | Data Guard Broker NetSlave Process           | Performs broker network communications between databases in a Data Guard environment                      | NSVn is created when a Data Guard broker configuration is enabled. There can be as many NSVn processes (where <i>n</i> is 0- 9 and A-U) created as there are databases in the Data Guard broker configuration.                                                                                                                                                                                                                                                                                                                                                   | Database instances, Data Guard                           |
| OCFn | ASM CF Connection Pool Process               | Maintains a connection to the Oracle ASM instance for metadata operations                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Database instances, Oracle ASM instances                 |
| OFSD | Oracle File Server Background Process        | Serves file system requests submitted to an Oracle instance                                               | This background process listens for new file system requests, both management (like mount, unmount, and export) and I/O requests, and executes them using Oracle threads.                                                                                                                                                                                                                                                                                                                                                                                        | Database instances, Oracle RAC                           |
| OFnn | Oracle File Server Background Process Thread | Serves file system requests submitted to an Oracle instance                                               | This is a thread for the OFSD background process<br>This background process thread is available only on Linux systems.                                                                                                                                                                                                                                                                                                                                                                                                                                           | Database instances, Oracle RAC                           |
| Onnn | ASM Connection Pool Process                  | Maintains a connection to the Oracle ASM instance for metadata operations                                 | Onnn worker processes are spawned on demand. These processes communicate with the Oracle ASM instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Database instances, Oracle ASM instances                 |

Table F-1 (Cont.) Background Processes

| Name | Expanded Name                            | Short Description                                                                                                           | Long Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | External Properties                                                  |
|------|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| PING | Interconnect Latency Measurement Process | Assesses latencies associated with communications for each pair of cluster instances                                        | Every few seconds, the process in one instance sends messages to each instance. The message is received by PING on the target instance. The time for the round trip is measured and collected.                                                                                                                                                                                                                                                                                                                                                                                                                                   | Database instances, Oracle ASM instances, Oracle RAC                 |
| PMAN | Process Manager                          | Manages several background processes including shared servers, pooled servers, and job queue processes                      | PMAN monitors, spawns, and stops the following as needed: <ul style="list-style-type: none"> <li>• dispatcher and shared server processes</li> <li>• connection broker and pooled server processes for database resident connection pools</li> <li>• job queue processes</li> <li>• restartable background processes</li> </ul>                                                                                                                                                                                                                                                                                                  | Database instances, Oracle ASM instances, Oracle ASM Proxy instances |
| PMON | Process Monitor                          | Scans for terminated processes and coordinates cleanup                                                                      | PMON periodically scans all processes to find any that have died in a nonstandard way. PMON is then responsible for coordinating cleanup performed by the CLMN process and the CLnn workers.<br><b>See Also:</b> <i>Oracle Database Concepts</i> and <i>Oracle Database Net Services Administrator's Guide</i>                                                                                                                                                                                                                                                                                                                   | Database instances, Oracle ASM instances, Oracle ASM Proxy instances |
| Pnnn | Parallel Query Worker Process            | Perform parallel execution of a SQL statement (query, DML, or DDL)                                                          | Parallel Query has two components: a foreground process that acts as query coordinator and a set of parallel workers (Pnnn) that are background processes. These background processes are spawned or reused during the start of a parallel statement. They receive and perform units of work sent from the query coordinator.<br><br>The maximum number of Pnnn processes is controlled by the initialization parameter PARALLEL_MAX_SERVERS. Worker processes are numbered from 0 to the PARALLEL_MAX_SERVERS setting. If the query is a GV\$ query, then these background processes are numbered backward, starting from PPA7. | Database instances, Oracle ASM instances                             |
| PRnn | Parallel Recovery Process                | Performs tasks assigned by the coordinator process performing parallel recovery                                             | PRnn serves as a worker process for the coordinator process performing parallel media recovery and carries out tasks assigned by the coordinator. The default number of these processes is based on number of CPUs.                                                                                                                                                                                                                                                                                                                                                                                                              | Database instances                                                   |
| PSP0 | Process Spawner Process                  | Spawns Oracle background processes after initial instance startup                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Database instances, Oracle ASM instances                             |
| PXMN | Parallel Execution Monitor               | Spawns parallel server processes on local instances in an Oracle RAC environment for Query Coordinator in remote instances. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Database instances                                                   |

Table F-1 (Cont.) Background Processes

| Name | Expanded Name                     | Short Description                                                                                                   | Long Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | External Properties                         |
|------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| QMNC | Non-sharded queue primary process | Monitors AQ                                                                                                         | QMNC is the non-sharded queue primary process responsible for facilitating various background activities required by AQ: time management of messages, management of nonpersistent queues, cleanup of resources, and so on. QMNC dynamically spawns <i>Qnnn</i> processes as needed for performing these tasks.<br><br>Note that if the <code>AQ_TM_PROCESSES</code> initialization parameter is set to 0, this process will not start. The database writes the following message to the alert log:<br>WARNING: AQ_TM_PROCESSES is set to 0.<br>System might be adversely affected. | Database instances<br>Advanced Queueing     |
| QMnn | AQ Primary Class Process          | Per instance per AQ Primary Class Process                                                                           | Each of this type of process represents a single class of work item such as AQ notification, queue monitors, and cross process.                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Database instances<br>Advanced Queueing     |
| Qnnn | AQ Server Class Process           | Per AQ Primary Class server process                                                                                 | Each server class process acts on behalf of an AQ primary class process. This relationship is maintained until the primary requires services of a particular service process. Once released, the server class processes are moved to a free server pool.                                                                                                                                                                                                                                                                                                                           | Database instances<br>Advanced Queueing     |
| Rnnn | ASM Block Remap Worker Process    | Remaps a block with a read error                                                                                    | A database instance reading from an Oracle ASM disk group can encounter an error during a read. If possible, Oracle ASM asynchronously schedules a <i>Rnnn</i> worker process to remap this bad block from a mirror copy.                                                                                                                                                                                                                                                                                                                                                          | Oracle ASM instances                        |
| RBAL | ASM Rebalance Primary Process     | Coordinates rebalance activity                                                                                      | In an Oracle ASM instance, it coordinates rebalance activity for disk groups. In a database instance, it manages Oracle ASM disk groups.                                                                                                                                                                                                                                                                                                                                                                                                                                           | Database instances,<br>Oracle ASM instances |
| RCBG | Result Cache Background Process   | Handles result cache messages                                                                                       | This process is used for handling invalidation and other messages generated by server processes attached to other instances in Oracle RAC.                                                                                                                                                                                                                                                                                                                                                                                                                                         | Database instances,<br>Oracle RAC           |
| RECO | Recoverer Process                 | Resolves distributed transactions that are pending because of a network or system failure in a distributed database | RECO uses the information in the pending transaction table to finalize the status of in-doubt transactions. At timed intervals, the local RECO attempts to connect to remote databases and automatically complete the commit or rollback of the local portion of any pending distributed transactions. All transactions automatically resolved by RECO are removed from the pending transaction table.<br><br><b>See Also:</b> <i>Oracle Database Concepts</i> and <i>Oracle Database Net Services Administrator's Guide</i>                                                       | Database instances                          |
| RLnn | ResetLogs Process                 | Clear online redo logs when performing open resetlogs and converting to physical standby                            | RLnn processes are spawned to clear online redo logs. These workers are terminated after the online redo logs are cleared, and the session does not persist.<br>Possible processes are RL00-RL31.                                                                                                                                                                                                                                                                                                                                                                                  | Database instances                          |
| RM   | RAT Masking Worker Process        | Extracts and masks bind values from workloads like SQL tuning sets and DB Replay capture files                      | This background process is used with Data Masking and Real Application Testing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Database instances                          |

Table F-1 (Cont.) Background Processes

| Name | Expanded Name                         | Short Description                                                                               | Long Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | External Properties             |
|------|---------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| RMON | Rolling Migration Monitor Process     | Manages the rolling migration procedure for an Oracle ASM cluster                               | The RMON process is spawned on demand to run the protocol for transitioning an ASM cluster in and out of rolling migration mode.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Oracle ASM instance, Oracle RAC |
| RMSn | Oracle RAC Management Process         | Performs manageability tasks for Oracle RAC                                                     | RMSn performs a variety of tasks, including creating resources related to Oracle RAC when new instances are added to a cluster.<br><br><b>See Also:</b> <i>Oracle Real Application Clusters Administration and Deployment Guide</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Database instances, Oracle RAC  |
| RPnn | Capture Processing Worker Process     | Processes a set of workload capture files                                                       | RPnn are worker processes spawned by calling <code>DBMS_WORKLOAD_REPLAY.PROCESS_CAPTURE(capture_dir, parallel_level)</code> . Each worker process is assigned a set of workload capture files to process.<br><br>Worker processes execute in parallel without needing to communicate with each other. After each process is finished processing its assigned files, it exits and informs its parent process.<br><br>The number of worker processes is controlled by the <code>parallel_level</code> parameter of <code>DBMS_WORKLOAD_REPLAY.PROCESS_CAPTURE</code> . By default, <code>parallel_level</code> is null. Then, the number of worker processes is computed as follows:<br><br><pre>SELECT VALUE FROM   V\$PARAMETER WHERE  NAME='cpu_count';</pre><br>When <code>parallel_level</code> is 1, no worker processes are spawned. | Database instances              |
| RPOP | Instant Recovery Repopulation Daemon  | Responsible for re-creating and/or repopulating data files from snapshot files and backup files | The RPOP process is responsible for re-creating and repopulating data files from snapshots files. It works with the instant recovery feature to ensure immediate data file access. The local instance has immediate access to the remote snapshot file's data, while repopulation of the recovered primary data files happens concurrently. Any changes in the data are managed between the instance's DBW processes and RPOP to ensure the latest copy of the data is returned to the user.                                                                                                                                                                                                                                                                                                                                              | Database instances              |
| RSnn | Global Cache Service Remaster Process | Performs remastering for cluster reconfiguration and dynamic remastering                        | Each RSnn process is a worker process for LMSn to handle remastering work. They are also helper processes for LMS to handle non-critical work from global cache service.<br><br>The RSnn processes were named RMVn in Oracle Database 12c and earlier releases.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Database instances, Oracle RAC  |
| RSM0 | Data Guard Broker Worker Process      | Performs monitoring management tasks related to Data Guard on behalf of DMON                    | The process is created when a Data Guard broker configuration is enabled.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Database instances, Data Guard  |



Table F-1 (Cont.) Background Processes

| Name | Expanded Name                                   | Short Description                                                                                      | Long Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | External Properties                    |
|------|-------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| RSMN | Remote Worker Monitor Process                   | Manages background worker process creation and communication on remote instances in Oracle RAC         | This background process manages the creation of worker processes and the communication with their coordinators and peers. These background worker processes perform tasks on behalf of a coordinating process running in another cluster instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Database instances, Oracle RAC         |
| RVWR | Recovery Writer Process                         | Writes flashback data to the flashback logs in the fast recovery area                                  | RVWR writes flashback data from the flashback buffer in the SGA to the flashback logs. RVWR also creates flashback logs and performs some tasks for flashback log automatic management.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Database instances, Flashback Database |
| Snnn | Shared Server Process                           | Handles client requests in the shared server architecture                                              | <p>In the shared server architecture, clients connect to a dispatcher process, which creates a virtual circuit for each connection. When the client sends data to the server, the dispatcher receives the data into the virtual circuit and places the active circuit on the common queue to be picked up by an idle shared server. The shared server then reads the data from the virtual circuit and performs the database work necessary to complete the request. When the shared server must send data to the client, the server writes the data back into the virtual circuit and the dispatcher sends the data to the client. After the shared server completes the client request, the server releases the virtual circuit back to the dispatcher and is free to handle other clients.</p> <p>Several initialization parameters relate to shared servers. The principal parameters are: <code>DISPATCHERS</code>, <code>SHARED_SERVERS</code>, <code>MAX_SHARED_SERVERS</code>, <code>LOCAL_LISTENER</code>, <code>REMOTE_LISTENER</code>.</p> <p><b>See Also:</b> <i>Oracle Database Concepts</i></p> | Database instances, shared servers     |
| SAnn | SGA Allocator                                   | Allocates SGA                                                                                          | <p>A small fraction of SGA is allocated during instance startup. The SAnn process allocates the rest of SGA in small chunks. The process exits upon completion of SGA allocation.</p> <p>Possible processes are SA00-SAzz.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Database instances                     |
| SCCn | ASM Disk Scrubbing Worker Check Process         | Performs Oracle ASM disk scrubbing check operation                                                     | <p>SCCn acts as a worker process for SCRB and performs the checking operations.</p> <p>Possible processes are SCC0-SCC9.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Oracle ASM instances                   |
| SCM0 | DLM Statistics Collection and Management Worker | Collects and manages statistics related to global enqueue service (GES) and global cache service (GCS) | The DLM Statistics Collection and Management worker (SCM0) is responsible for collecting and managing the statistics related to global enqueue service (GES) and global cache service (GCS). This worker exists only if DLM statistics collection is enabled.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Database instances                     |
| SCMN | Statistics Collection and Management            | Main thread for a multithreaded process in a threaded Oracle RAC architecture                          | All other threads are spawned within the processes through SCMN, based on the requests in the instance. SCMN is an idle main thread, which waits for any requests, especially spawn threads, and takes care of them, along with performing periodic maintenance operations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Oracle RAC                             |



Table F-1 (Cont.) Background Processes

| Name    | Expanded Name                            | Short Description                                                                                                                                                                                         | Long Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | External Properties  |
|---------|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| SCRB    | ASM Disk Scrubbing Primary Process       | Coordinates Oracle ASM disk scrubbing operations                                                                                                                                                          | SCRB runs in an Oracle ASM instance and coordinates Oracle ASM disk scrubbing operations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Oracle ASM instances |
| SCR $n$ | ASM Disk Scrubbing Worker Repair Process | Performs Oracle ASM disk scrubbing repair operation                                                                                                                                                       | SCR $n$ acts as a worker process for SCRB and performs the repairing operations.<br>Possible processes are SCR0-SCR9.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Oracle ASM instances |
| SCV $n$ | ASM Disk Scrubbing Worker Verify Process | Performs Oracle ASM disk scrubbing verify operation                                                                                                                                                       | SCV $n$ acts as a worker process for SCRB and performs the verifying operations.<br>Possible processes are SCV0-SCV9.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Oracle ASM instances |
| SMCO    | Space Management Coordinator Process     | Coordinates the execution of various space management tasks                                                                                                                                               | This background process coordinates the execution of various space management tasks, including proactive space allocation and space reclamation. SMCO dynamically spawns worker processes ( <i>Wnnn</i> ) to implement these tasks.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Database instances   |
| SMON    | System Monitor Process                   | Performs critical tasks such as instance recovery and terminated transaction recovery, and maintenance tasks such as temporary space reclamation, data dictionary cleanup, and undo tablespace management | <p>SMON performs many database maintenance tasks, including the following:</p> <ul style="list-style-type: none"> <li>Reclaims space used by orphaned temporary segments</li> <li>Maintains the undo tablespace by onlineing, offlineing, and shrinking the undo segments based on undo space usage statistics</li> <li>Cleans up the data dictionary when it is in a transient and inconsistent state</li> <li>Maintains the SCN to time mapping table used to support Oracle Flashback features</li> </ul> <p>In an Oracle RAC database, the SMON process of one instance can perform instance recovery for other instances that have failed.</p> <p>SMON is resilient to internal and external errors raised during background activities.</p> <p><b>See Also:</b> <i>Oracle Database Concepts</i></p> | Database instances   |
| SP      | SPA Exec Worker                          | Analyzes single SQL statements sent from SQL Performance Analyzer (SPA)                                                                                                                                   | Executions of SPA tasks created from a SQL tuning set use this worker to analyze the SQL statements of the SQL tuning set concurrently.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Database instances   |
| SVCB    | Service Background Process               | Provides database service run-time load balancing and topology information to clients.                                                                                                                    | Every 30 seconds the process processes and publishes run-time load-balancing information and keeps the topology information current. This process is started only if Oracle Real Application Clusters (Oracle RAC) is enabled.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Oracle RAC           |
| TEM $n$ | ASM disk Test Error Emulation Process    | Emulates I/O errors on Oracle ASM disks through named events                                                                                                                                              | I/O errors can be emulated on Oracle ASM disk I/O through named events. The scope can be the process, instance, or even cluster. Optionally, a set of AUs can be chosen for error emulation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Oracle ASM instances |

Table F-1 (Cont.) Background Processes

| Name | Expanded Name                                  | Short Description                                                                                                  | Long Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | External Properties                              |
|------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| TTnn | Redo Transport Worker Process                  | Ships redo from current online and standby redo logs to remote standby destinations configured for ASYNC transport | TTnn can run as multiple processes, where nn is 00 to ZZ.<br><b>See Also:</b> <i>Oracle Data Guard Concepts and Administration</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Database instances, Data Guard                   |
| Unnn | Container process for threads                  | Host processes where database processes execute as threads.                                                        | Unnn processes are database container operating system processes where database background processes like SMON, CJQ0, and database foreground processes run. The V\$PROCESS view lists database processes running in these container processes. These container processes are created only when the <code>THREADED_EXECUTION</code> initialization parameter is set to <code>TRUE</code> . The number of these processes vary depending on the active database processes. On a host with multiple NUMA nodes, there will be at least one Unnn process per NUMA node.<br><br>These processes are irrecoverable processes; if any of them is terminated, it will result in instance termination. These processes exit when the instance is shut down or terminated. | Database instances                               |
| VBGn | Volume Background Process                      | Communicates between the Oracle ASM instance and the operating system volume driver                                | VBGn handles messages originating from the volume driver in the operating system and sends them to the Oracle ASM instance.<br><br>VBGn can run as multiple processes, where n is 0-9.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Oracle ASM instances, Oracle ASM Proxy instances |
| VDBG | Volume Driver Process                          | Forwards Oracle ASM requests to perform various volume-related tasks                                               | VDBG handles requests to lock or unlock an extent for rebalancing, volume resize, disk offline, add or drop a disk, force and dismount disk group to the Dynamic Volume Manager driver.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Oracle ASM instances, Oracle ASM Proxy instances |
| VInn | Volume I/O                                     | Route ADVN volume I/O for ASM instances on compute nodes within an Exadata                                         | These processes handle requests for I/Os targeted at storage not locally accessible. They are used for Exadata targeted storage as well. These background processes only start when an ASM Volume is created and set up to be used. One process will start for each NUMA node on target machines. Under normal operation on non-Exadata hardware and on Exadata hardware that is not utilizing ASM volumes, these processes will not be started.<br><br>There can be up to 32 VI processes, and they are named sequentially from VI00 to VI31.                                                                                                                                                                                                                    | Oracle ASM Proxy instances                       |
| VKRM | Virtual Scheduler for Resource Manager Process | Serves as centralized scheduler for Resource Manager activity                                                      | VKRM manages the CPU scheduling for all managed Oracle processes. The process schedules managed processes in accordance with an active resource plan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Database instances                               |
| VKTM | Virtual Keeper of Time Process                 | Provides a wall clock time and reference time for time interval measurements                                       | VKTM acts as a time publisher for an Oracle instance. VKTM publishes two sets of time: a wall clock time using a seconds interval and a higher resolution time (which is not wall clock time) for interval measurements. The VKTM timer service centralizes time tracking and offloads multiple timer calls from other clients.                                                                                                                                                                                                                                                                                                                                                                                                                                   | Database instances, Oracle ASM instances         |

Table F-1 (Cont.) Background Processes

| Name | Expanded Name                     | Short Description                                                                                              | Long Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | External Properties                                  |
|------|-----------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| VMB0 | Volume Membership Process         | Maintains cluster membership on behalf of the Oracle ASM volume driver                                         | This process membership in the cluster as an I/O-capable client on behalf of the Oracle ASM volume driver.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Oracle ASM instances, Oracle ASM Proxy instances     |
| VOSD | Virtual Operating System Daemon   | Executes time-bound Oracle database service actions                                                            | This process is spawned on instance startup and is responsible for executing system service actions critical for the database.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Database instances, Oracle ASM instances, Oracle RAC |
| VUBG | Volume drive Umbilicus Background | Relays messages between Oracle ASM instance and Oracle ASM Proxy instance that is used by ADVN (for ACFS)      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Oracle ASM instances, Oracle ASM Proxy instances     |
| Wnnn | Space Management Worker Process   | Performs various background space management tasks, including proactive space allocation and space reclamation | <p><i>Wnnn</i> worker processes perform work on behalf of Space Management and on behalf of the Oracle Database In-Memory option.</p> <ul style="list-style-type: none"> <li>When performing work on behalf of Space Management, <i>Wnnn</i> processes are worker processes dynamically spawned by SMCO to perform space management tasks in the background. These tasks include preallocating space into locally managed tablespace and SecureFiles segments based on space usage growth analysis, and reclaiming space from dropped segments. After being started, the worker acts as an autonomous agent. After it finishes task execution, it automatically picks up another task from the queue. The process terminates itself after being idle for a long time.</li> <li>When performing work on behalf of the Oracle Database In-Memory option, <i>Wnnn</i> processes execute tasks for population or repopulation of objects that are enabled for the In-Memory column store (IM columns store), and tasks that drop in-memory segments when an object is disabled for the IM columns store.</li> </ul> <p>For in-memory population and repopulation, both the IMCO background process and foreground processes will utilize <i>Wnnn</i> workers. <i>Wnnn</i> processes are utilized by the IMCO background process for prepopulation of in-memory enabled objects with priority LOW/MEDIUM/HIGH/CRITICAL, and for repopulation of in-memory objects. In-memory populate and repopulate tasks running on <i>Wnnn</i> workers are also initiated from foreground processes in response to queries and DMLs that reference in-memory enabled objects.</p> | Database instances                                   |

**Table F-1 (Cont.) Background Processes**

| <b>Name</b> | <b>Expanded Name</b>          | <b>Short Description</b>                                        | <b>Long Description</b>                                                                                                                                                                                                                                                                                                              | <b>External Properties</b>    |
|-------------|-------------------------------|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| XDMG        | Exadata Automation Manager    | Initiates automation tasks involved in managing Exadata storage | XDMG monitors all configured Exadata cells for state changes, such as a bad disk getting replaced, and performs the required tasks for such events. Its primary tasks are to watch for when inaccessible disks and cells become accessible again, and to initiate the ASM ONLINE operation. The ONLINE operation is handled by XDWK. | Oracle ASM instances, Exadata |
| XDWK        | Exadata Automation Manager    | Performs automation tasks requested by XDMG                     | XDWK gets started when asynchronous actions such as ONLINE, DROP, and ADD an Oracle ASM disk are requested by XDMG. After a 5 minute period of inactivity, this process will shut itself down.                                                                                                                                       | Oracle ASM instances, Exadata |
| <i>Xnnn</i> | ASM Disk Expel Worker Process | Performs Oracle ASM post-rebalance activities                   | This process expels dropped disks after an Oracle ASM rebalance.                                                                                                                                                                                                                                                                     | Oracle ASM instances          |

# Index

## A

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- ACTIVE\_INSTANCE\_COUNT initialization parameter, [2-30](#)
- ADG\_ACCOUNT\_INFO\_TRACKING initialization parameter, [2-31](#)
- ADG\_REDIRECT\_DML initialization parameter, [2-31](#)
- ALL\_ALL\_TABLES view, [3-7](#)
- ALL\_ANALYTIC\_VIEW\_AGGR\_DIMS view, [3-13](#)
- ALL\_ANALYTIC\_VIEW\_AGGR\_FNS view, [3-14](#)
- ALL\_ANALYTIC\_VIEW\_AGGR\_FNS\_AE view, [3-14](#)
- ALL\_ANALYTIC\_VIEW\_AGR\_DIMS view, [3-15](#)
- ALL\_ANALYTIC\_VIEW\_AGR\_DIMS\_AE view, [3-16](#)
- ALL\_ANALYTIC\_VIEW\_ATTR\_CLASS view, [3-17](#)
- ALL\_ANALYTIC\_VIEW\_ATTR\_CLS view, [3-18](#)
- ALL\_ANALYTIC\_VIEW\_ATTR\_CLS\_AE view, [3-18](#)
- ALL\_ANALYTIC\_VIEW\_BAS\_MEAS view, [3-19](#)
- ALL\_ANALYTIC\_VIEW\_BAS\_MEAS\_AE view, [3-19](#)
- ALL\_ANALYTIC\_VIEW\_BASE\_MEAS view, [3-20](#)
- ALL\_ANALYTIC\_VIEW\_CALC\_MEAS view, [3-21](#)
- ALL\_ANALYTIC\_VIEW\_CLASS view, [3-22](#)
- ALL\_ANALYTIC\_VIEW\_CLASS\_AE view, [3-23](#)
- ALL\_ANALYTIC\_VIEW\_CLC\_MEAS view, [3-23](#)
- ALL\_ANALYTIC\_VIEW\_CLC\_MEAS\_AE view, [3-24](#)
- ALL\_ANALYTIC\_VIEW\_COLUMNS view, [3-24](#)
- ALL\_ANALYTIC\_VIEW\_COLUMNS\_AE view, [3-26](#)
- ALL\_ANALYTIC\_VIEW\_DIM\_ATTRS view, [3-27](#)
- ALL\_ANALYTIC\_VIEW\_DIM\_ATTRS\_AE view, [3-28](#)
- ALL\_ANALYTIC\_VIEW\_DIM\_ATTRS view, [3-29](#)
- ALL\_ANALYTIC\_VIEW\_DIM\_CLASS view, [3-29](#)
- ALL\_ANALYTIC\_VIEW\_DIM\_CLS view, [3-30](#)
- ALL\_ANALYTIC\_VIEW\_DIM\_CLS\_AE view, [3-30](#)
- ALL\_ANALYTIC\_VIEW\_DIMENSIONS view, [3-31](#)
- ALL\_ANALYTIC\_VIEW\_DIMS view, [3-32](#)
- ALL\_ANALYTIC\_VIEW\_DIMS\_AE view, [3-33](#)
- ALL\_ANALYTIC\_VIEW\_FACT\_COLS view, [3-34](#)
- ALL\_ANALYTIC\_VIEW\_FCT\_COLS view, [3-34](#)
- ALL\_ANALYTIC\_VIEW\_FCT\_COLS\_AE view, [3-35](#)
- ALL\_ANALYTIC\_VIEW\_HIER\_CLASS view, [3-36](#)
- ALL\_ANALYTIC\_VIEW\_HIER\_CLS view, [3-36](#)
- ALL\_ANALYTIC\_VIEW\_HIER\_CLS\_AE view, [3-37](#)
- ALL\_ANALYTIC\_VIEW\_HIERS view, [3-38](#)
- ALL\_ANALYTIC\_VIEW\_HIERS\_AE view, [3-38](#)
- ALL\_ANALYTIC\_VIEW\_KEYS view, [3-39](#)
- ALL\_ANALYTIC\_VIEW\_KEYS\_AE view, [3-40](#)
- ALL\_ANALYTIC\_VIEW\_LEVEL\_CLASS view, [3-41](#)
- ALL\_ANALYTIC\_VIEW\_LEVELS view, [3-42](#)
- ALL\_ANALYTIC\_VIEW\_LEVELS\_AE view, [3-43](#)
- ALL\_ANALYTIC\_VIEW\_LVL\_CLS view, [3-44](#)
- ALL\_ANALYTIC\_VIEW\_LVL\_CLS\_AE view, [3-44](#)
- ALL\_ANALYTIC\_VIEW\_LVLGRPS view, [3-45](#)
- ALL\_ANALYTIC\_VIEW\_LVLGRPS\_AE view, [3-46](#)
- ALL\_ANALYTIC\_VIEW\_MEAS\_CLASS view, [3-47](#)
- ALL\_ANALYTIC\_VIEW\_MEAS\_CLS view, [3-48](#)
- ALL\_ANALYTIC\_VIEW\_MEAS\_CLS\_AE view, [3-48](#)
- ALL\_ANALYTIC\_VIEWS view, [3-49](#)
- ALL\_ANALYTIC\_VIEWS\_AE view, [3-50](#)
- ALL\_ANNOTATION\_VALUES view, [3-51](#)
- ALL\_ANNOTATIONS view, [3-51](#)
- ALL\_ANNOTATIONS\_USAGE view, [3-52](#)
- ALL\_APPLY view, [3-53](#)
- ALL\_APPLY\_CHANGE\_HANDLERS view, [3-55](#)
- ALL\_APPLY\_CONFLICT\_COLUMNS view, [3-56](#)
- ALL\_APPLY\_DML\_CONF\_HANDLERS view, [3-56](#)
- ALL\_APPLY\_DML\_HANDLERS view, [3-57](#)
- ALL\_APPLY\_ENQUEUE view, [3-58](#)
- ALL\_APPLY\_ERROR view, [3-59](#)
- ALL\_APPLY\_ERROR\_MESSAGES view, [3-60](#)
- ALL\_APPLY\_EXECUTE view, [3-62](#)
- ALL\_APPLY\_HANDLE\_COLLISIONS view, [3-63](#)
- ALL\_APPLY\_INSTANTIATED\_GLOBAL view, [3-63](#)
- ALL\_APPLY\_INSTANTIATED\_OBJECTS view, [3-64](#)
- ALL\_APPLY\_INSTANTIATED\_SCHEMAS view, [3-65](#)
- ALL\_APPLY\_KEY\_COLUMNS view, [3-65](#)

ALL\_APPLY\_PARAMETERS view, [3-66](#)  
 ALL\_APPLY\_PROGRESS view, [3-66](#)  
 ALL\_APPLY\_REPERERROR\_HANDLERS view,  
     [3-67](#)  
 ALL\_APPLY\_TABLE\_COLUMNS view, [3-68](#)  
 ALL\_ARGUMENTS view, [3-69](#)  
 ALL\_ASSEMBLIES view, [3-71](#)  
 ALL\_ASSOCIATIONS view, [3-72](#)  
 ALL\_ATTRIBUTE\_DIM\_ATTR\_CLASS view, [3-73](#)  
 ALL\_ATTRIBUTE\_DIM\_ATTR\_CLS view, [3-73](#)  
 ALL\_ATTRIBUTE\_DIM\_ATTR\_CLS\_AE view,  
     [3-74](#)  
 ALL\_ATTRIBUTE\_DIM\_ATTRS view, [3-75](#)  
 ALL\_ATTRIBUTE\_DIM\_ATTRS\_AE view, [3-75](#)  
 ALL\_ATTRIBUTE\_DIM\_CLASS view, [3-76](#)  
 ALL\_ATTRIBUTE\_DIM\_CLASS\_AE view, [3-77](#)  
 ALL\_ATTRIBUTE\_DIM\_JN\_PTHS view, [3-78](#)  
 ALL\_ATTRIBUTE\_DIM\_JN\_PTHS\_AE view, [3-78](#)  
 ALL\_ATTRIBUTE\_DIM\_JOIN\_PATHS view, [3-79](#)  
 ALL\_ATTRIBUTE\_DIM\_KEYS view, [3-79](#)  
 ALL\_ATTRIBUTE\_DIM\_KEYS\_AE view, [3-80](#)  
 ALL\_ATTRIBUTE\_DIM\_LEVEL\_ATTRS view,  
     [3-81](#)  
 ALL\_ATTRIBUTE\_DIM\_LEVELS view, [3-82](#)  
 ALL\_ATTRIBUTE\_DIM\_LEVELS\_AE view, [3-83](#)  
 ALL\_ATTRIBUTE\_DIM\_LVL\_ATTRS view, [3-84](#)  
 ALL\_ATTRIBUTE\_DIM\_LVL\_ATTRS\_AE view,  
     [3-84](#)  
 ALL\_ATTRIBUTE\_DIM\_LVL\_CLASS view, [3-85](#)  
 ALL\_ATTRIBUTE\_DIM\_LVL\_CLS view, [3-86](#)  
 ALL\_ATTRIBUTE\_DIM\_LVL\_CLS\_AE view, [3-86](#)  
 ALL\_ATTRIBUTE\_DIM\_ORD\_ATTRS view, [3-87](#)  
 ALL\_ATTRIBUTE\_DIM\_ORD\_ATTRS\_AE view,  
     [3-87](#)  
 ALL\_ATTRIBUTE\_DIM\_ORDER\_ATTRS view,  
     [3-88](#)  
 ALL\_ATTRIBUTE\_DIM\_TABLES view, [3-89](#)  
 ALL\_ATTRIBUTE\_DIM\_TABLES\_AE view, [3-90](#)  
 ALL\_ATTRIBUTE\_DIMENSIONS view, [3-91](#)  
 ALL\_ATTRIBUTE\_DIMENSIONS\_AE view, [3-92](#)  
 ALL\_ATTRIBUTE\_TRANSFORMATIONS view,  
     [3-93](#)  
 ALL\_AUDIT\_POLICIES view, [3-94](#)  
 ALL\_AUDIT\_POLICY\_COLUMNS view, [3-96](#)  
 ALL\_AW\_PS view, [3-96](#)  
 ALL\_AWS view, [3-97](#)  
 ALL\_BASE\_TABLE\_MVIEWS view, [3-98](#)  
 ALL\_BLOCKCHAIN\_ROW\_VERSION\_COLS  
     view, [3-98](#)  
 ALL\_BLOCKCHAIN\_ROW\_VERSION\_HISTORY  
     view, [3-99](#)  
 ALL\_BLOCKCHAIN\_TABLE\_CHAINS view, [3-100](#)  
 ALL\_BLOCKCHAIN\_TABLE\_EPOCHS view,  
     [3-101](#)  
 ALL\_BLOCKCHAIN\_TABLE\_HASH\_COL\_ORDE  
     R view, [3-102](#)  
 ALL\_BLOCKCHAIN\_TABLES view, [3-103](#)  
 ALL\_CAPTURE view, [3-104](#)  
 ALL\_CAPTURE\_EXTRA\_ATTRIBUTES view,  
     [3-107](#)  
 ALL\_CAPTURE\_PARAMETERS view, [3-108](#)  
 ALL\_CAPTURE\_PREPARED\_DATABASE view,  
     [3-108](#)  
 ALL\_CAPTURE\_PREPARED\_SCHEMAS view,  
     [3-109](#)  
 ALL\_CAPTURE\_PREPARED\_TABLES view,  
     [3-110](#)  
 ALL\_CATALOG view, [3-111](#)  
 ALL\_CERTIFICATES view, [3-112](#)  
 ALL\_CLUSTER\_HASH\_EXPRESSIONS view,  
     [3-112](#)  
 ALL\_CLUSTERING\_DIMENSIONS view, [3-113](#)  
 ALL\_CLUSTERING\_JOINS view, [3-114](#)  
 ALL\_CLUSTERING\_KEYS view, [3-115](#)  
 ALL\_CLUSTERING\_TABLES view, [3-116](#)  
 ALL\_CLUSTERS view, [3-117](#)  
 ALL\_CODE\_ROLE\_PRIVS view, [3-119](#)  
 ALL\_COL\_COMMENTS view, [3-119](#)  
 ALL\_COL\_PENDING\_STATS view, [3-120](#)  
 ALL\_COL\_PRIVS view, [3-121](#)  
 ALL\_COL\_PRIVS\_MADE view, [3-122](#)  
 ALL\_COL\_PRIVS\_RECD view, [3-122](#)  
 ALL\_COLL\_TYPES view, [3-123](#)  
 ALL\_CONS\_COLUMNS view, [3-124](#)  
 ALL\_CONS\_OBJ\_COLUMNS view, [3-125](#)  
 ALL\_CONSTRAINTS view, [3-126](#)  
 ALL\_CONTEXT view, [3-129](#)  
 ALL\_CREDENTIALS view, [3-129](#)  
 ALL\_CUBE\_ATTR\_VISIBILITY view, [3-130](#)  
 ALL\_CUBE\_ATTRIBUTES view, [3-131](#)  
 ALL\_CUBE\_BUILD\_PROCESSES view, [3-133](#)  
 ALL\_CUBE\_CALCULATED\_MEMBERS view,  
     [3-133](#)  
 ALL\_CUBE\_DIM\_LEVELS view, [3-134](#)  
 ALL\_CUBE\_DIM\_MODELS view, [3-135](#)  
 ALL\_CUBE\_DIM\_VIEW\_COLUMNS view, [3-135](#)  
 ALL\_CUBE\_DIM\_VIEWS view, [3-136](#)  
 ALL\_CUBE\_DIMENSIONALITY view, [3-137](#)  
 ALL\_CUBE\_DIMENSIONS view, [3-137](#)  
 ALL\_CUBE\_HIER\_LEVELS view, [3-138](#)  
 ALL\_CUBE\_HIER\_VIEW\_COLUMNS view, [3-139](#)  
 ALL\_CUBE\_HIER\_VIEWS view, [3-140](#)  
 ALL\_CUBE\_HIERARCHIES view, [3-141](#)  
 ALL\_CUBE\_MEASURES view, [3-142](#)  
 ALL\_CUBE\_NAMED\_BUILD\_SPECS view, [3-143](#)  
 ALL\_CUBE\_SUB\_PARTITION\_LEVELS view,  
     [3-143](#)  
 ALL\_CUBE\_VIEW\_COLUMNS view, [3-144](#)  
 ALL\_CUBE\_VIEWS view, [3-145](#)  
 ALL\_CUBES view, [3-145](#)  
 ALL\_DB\_LINKS view, [3-146](#)  
 ALL\_DEF\_AUDIT\_OPTS view, [3-147](#)



ALL\_DEPENDENCIES view, [3-148](#)  
 ALL\_DEQUEUE\_QUEUES view, [3-149](#)  
 ALL\_DIM\_ATTRIBUTES view, [3-150](#)  
 ALL\_DIM\_CHILD\_OF view, [3-150](#)  
 ALL\_DIM\_HIERARCHIES view, [3-151](#)  
 ALL\_DIM\_JOIN\_KEY view, [3-152](#)  
 ALL\_DIM\_LEVEL\_KEY view, [3-152](#)  
 ALL\_DIM\_LEVELS view, [3-153](#)  
 ALL\_DIMENSIONS view, [3-153](#)  
 ALL\_DIRECTORIES view, [3-154](#)  
 ALL\_DOMAIN\_COLS view, [3-155](#)  
 ALL\_DOMAIN\_CONSTRAINTS view, [3-156](#)  
 ALL\_DOMAINS view, [3-158](#)  
 ALL\_EDITION\_COMMENTS view, [3-159](#)  
 ALL\_EDITIONING\_VIEW\_COLS view, [3-160](#)  
 ALL\_EDITIONING\_VIEW\_COLS\_AE view, [3-160](#)  
 ALL\_EDITIONING\_VIEWS view, [3-161](#)  
 ALL\_EDITIONING\_VIEWS\_AE view, [3-162](#)  
 ALL\_EDITIONS view, [3-162](#)  
 ALL\_ENCRYPTED\_COLUMNS view, [3-163](#)  
 ALL\_ERROR\_TRANSLATIONS view, [3-163](#)  
 ALL\_ERRORS view, [3-164](#)  
 ALL\_ERRORS\_AE view, [3-165](#)  
 ALL\_EVALUATION\_CONTEXT\_TABLES view, [3-166](#)  
 ALL\_EVALUATION\_CONTEXT\_VARS view, [3-166](#)  
 ALL\_EVALUATION\_CONTEXTS view, [3-167](#)  
 ALL\_EXPRESSION\_STATISTICS view, [3-168](#)  
 ALL\_EXTERNAL\_LOCATIONS view, [3-168](#)  
 ALL\_EXTERNAL\_TABLES view, [3-169](#)  
 ALL\_GG\_AUTO\_CDR\_COLUMN\_GROUPS view, [3-170](#)  
 ALL\_GG\_AUTO\_CDR\_COLUMNS view, [3-171](#)  
 ALL\_GG\_AUTO\_CDR\_TABLES view, [3-171](#)  
 ALL\_GG\_INBOUND\_PROGRESS view, [3-172](#)  
 ALL\_GOLDENGATE\_INBOUND view, [3-173](#)  
 ALL\_GOLDENGATE\_PRIVILEGES view, [3-174](#)  
 ALL\_GOLDENGATE\_RULES view, [3-175](#)  
 ALL\_HEAT\_MAP\_SEG\_HISTOGRAM view, [3-176](#)  
 ALL\_HEAT\_MAP\_SEGMENT view, [3-177](#)  
 ALL\_HIER\_CLASS view, [3-178](#)  
 ALL\_HIER\_CLASS\_AE view, [3-179](#)  
 ALL\_HIER\_COLUMNS view, [3-179](#)  
 ALL\_HIER\_COLUMNS\_AE view, [3-181](#)  
 ALL\_HIER\_HIER\_ATTR\_CLASS view, [3-182](#)  
 ALL\_HIER\_HIER\_ATTR\_CLASS\_AE view, [3-183](#)  
 ALL\_HIER\_HIER\_ATTRIBUTES view, [3-184](#)  
 ALL\_HIER\_HIER\_ATTRIBUTES\_AE view, [3-184](#)  
 ALL\_HIER\_JOIN\_PATHS view, [3-185](#)  
 ALL\_HIER\_JOIN\_PATHS\_AE view, [3-186](#)  
 ALL\_HIER\_LEVEL\_ID\_ATTRS view, [3-187](#)  
 ALL\_HIER\_LEVEL\_ID\_ATTRS\_AE view, [3-187](#)  
 ALL\_HIER\_LEVELS view, [3-188](#)  
 ALL\_HIER\_LEVELS\_AE view, [3-189](#)  
 ALL\_HIERARCHIES view, [3-189](#)  
 ALL\_HIERARCHIES\_AE view, [3-190](#)  
 ALL\_HIST\_SAGAS view, [3-191](#)  
 ALL\_HISTOGRAMS synonym for  
     ALL\_TAB\_HISTOGRAMS, [3-192](#)  
 ALL\_HIVE\_COLUMNS view, [3-193](#)  
 ALL\_HIVE\_DATABASES view, [3-193](#)  
 ALL\_HIVE\_PART\_KEY\_COLUMNS view, [3-194](#)  
 ALL\_HIVE\_TAB\_PARTITIONS view, [3-195](#)  
 ALL\_HIVE\_TABLES view, [3-195](#)  
 ALL\_IDENTIFIERS view, [3-196](#)  
 ALL\_IMMUTABLE\_ROW\_VERSION\_COLS view, [3-198](#)  
 ALL\_IMMUTABLE\_ROW\_VERSION\_HISTORY  
     view, [3-199](#)  
 ALL\_IMMUTABLE\_TABLE\_COLUMNS view, [3-200](#)  
 ALL\_IMMUTABLE\_TABLE\_EPOCHS view, [3-201](#)  
 ALL\_IMMUTABLE\_TABLES view, [3-202](#)  
 ALL\_INCOMPLETE\_SAGAS view, [3-203](#)  
 ALL\_IND\_COLUMNS view, [3-204](#)  
 ALL\_IND\_EXPRESSIONS view, [3-205](#)  
 ALL\_IND\_PARTITIONS view, [3-206](#)  
 ALL\_IND\_PENDING\_STATS view, [3-209](#)  
 ALL\_IND\_STATISTICS view, [3-209](#)  
 ALL\_IND\_SUBPARTITIONS view, [3-211](#)  
 ALL\_INDEXES view, [3-214](#)  
 ALL\_INDEXTYPE\_ARRAYTYPES view, [3-219](#)  
 ALL\_INDEXTYPE\_COMMENTS view, [3-219](#)  
 ALL\_INDEXTYPE\_OPERATORS view, [3-220](#)  
 ALL\_INDEXTYPES view, [3-220](#)  
 ALL\_INTERNAL\_TRIGGERS view, [3-221](#)  
 ALL\_JAVA\_ARGUMENTS view, [3-222](#)  
 ALL\_JAVA\_CLASSES view, [3-222](#)  
 ALL\_JAVA\_COMPILER\_OPTIONS view, [3-223](#)  
 ALL\_JAVA\_DERIVATIONS view, [3-224](#)  
 ALL\_JAVA\_FIELDS view, [3-225](#)  
 ALL\_JAVA\_IMPLEMENTES view, [3-226](#)  
 ALL\_JAVA\_INNERS view, [3-226](#)  
 ALL\_JAVA\_LAYOUTS view, [3-227](#)  
 ALL\_JAVA\_METHODS view, [3-228](#)  
 ALL\_JAVA\_NCOMPS view, [3-230](#)  
 ALL\_JAVA\_RESOLVERS view, [3-230](#)  
 ALL\_JAVA\_THROWS view, [3-231](#)  
 ALL\_JOBS synonym for USER\_JOBS view, [3-232](#)  
 ALL\_JOIN\_IND\_COLUMNS view, [3-232](#)  
 ALL\_JSON\_COLLECTION\_TABLES view, [3-232](#)  
 ALL\_JSON\_COLLECTION\_VIEWS view, [3-233](#)  
 ALL\_JSON\_COLLECTIONS view, [3-234](#)  
 ALL\_JSON\_COLUMNS view, [3-234](#)  
 ALL\_JSON\_DATAGUIDE\_FIELDS view, [3-236](#)  
 ALL\_JSON\_DATAGUIDES view, [3-237](#)  
 ALL\_JSON\_DOMAIN\_SCHEMA\_COLUMNS  
     view, [3-237](#)  
 ALL\_JSON\_DUALITY\_VIEW\_LINKS view, [3-238](#)

- ALL\_JSON\_DUALITY\_VIEW\_TAB\_COLS view, [3-239](#)
- ALL\_JSON\_DUALITY\_VIEW\_TABS view, [3-240](#)
- ALL\_JSON\_DUALITY\_VIEWS view, [3-242](#)
- ALL\_JSON\_INDEXES view, [3-243](#)
- ALL\_JSON\_SCHEMA\_COLUMNS view, [3-244](#)
- ALL\_LIBRARIES view, [3-245](#)
- ALL\_LOB\_PARTITIONS view, [3-245](#)
- ALL\_LOB\_SUBPARTITIONS view, [3-248](#)
- ALL\_LOB\_TEMPLATES view, [3-251](#)
- ALL\_LOBS view, [3-252](#)
- ALL\_LOG\_GROUP\_COLUMNS view, [3-254](#)
- ALL\_LOG\_GROUPS view, [3-255](#)
- ALL\_MEASURE\_FOLDER\_CONTENTS view, [3-256](#)
- ALL\_MEASURE\_FOLDER\_SUBFOLDERS view, [3-256](#)
- ALL\_MEASURE\_FOLDERS view, [3-257](#)
- ALL\_METADATA\_PROPERTIES view, [3-258](#)
- ALL\_METHOD\_PARAMS view, [3-258](#)
- ALL\_METHOD\_RESULTS view, [3-259](#)
- ALL\_MINING\_ALGORITHMS view, [3-260](#)
- ALL\_MINING\_MODEL\_ATTRIBUTES view, [3-260](#)
- ALL\_MINING\_MODEL\_PARTITIONS view, [3-262](#)
- ALL\_MINING\_MODEL\_SETTINGS view, [3-263](#)
- ALL\_MINING\_MODEL\_VIEWS view, [3-263](#)
- ALL\_MINING\_MODEL\_XFORMS view, [3-264](#)
- ALL\_MINING\_MODELS view, [3-264](#)
- ALL\_MLE\_ENV\_IMPORTS view, [3-266](#)
- ALL\_MLE\_ENVS view, [3-267](#)
- ALL\_MLE\_MODULES view, [3-267](#)
- ALL\_MLE\_PROCEDURES view, [3-268](#)
- ALL\_MVIEW\_AGGREGATES view, [3-270](#)
- ALL\_MVIEW\_ANALYSIS view, [3-270](#)
- ALL\_MVIEW\_COMMENTS view, [3-272](#)
- ALL\_MVIEW\_DETAIL\_LOGICAL\_PARTITION view, [3-273](#)
- ALL\_MVIEW\_DETAIL\_PARTITION view, [3-274](#)
- ALL\_MVIEW\_DETAIL\_RELATIONS view, [3-274](#)
- ALL\_MVIEW\_DETAIL\_SUBPARTITION view, [3-275](#)
- ALL\_MVIEW\_JOINS view, [3-276](#)
- ALL\_MVIEW\_KEYS view, [3-277](#)
- ALL\_MVIEW\_LOGS view, [3-278](#)
- ALL\_MVIEW\_REFRESH\_TIMES view, [3-279](#)
- ALL\_MVIEWS view, [3-280](#)
- ALL\_NESTED\_TABLE\_COLS view, [3-284](#)
- ALL\_NESTED\_TABLES view, [3-286](#)
- ALL\_OBJ\_COLATTRS view, [3-287](#)
- ALL\_OBJECT\_TABLES view, [3-288](#)
- ALL\_OBJECTS view, [3-293](#)
- ALL\_OBJECTS\_AE view, [3-295](#)
- ALL\_OPANCILLARY view, [3-297](#)
- ALL\_OPARGUMENTS view, [3-297](#)
- ALL\_OPBINDINGS view, [3-298](#)
- ALL\_OPERATOR\_COMMENTS view, [3-299](#)
- ALL\_OPERATORS view, [3-300](#)
- ALL\_OUTLINE\_HINTS synonym for USER\_OUTLINE\_HINTS view, [3-300](#)
- ALL\_OUTLINES synonym for USER\_OUTLINES view, [3-300](#)
- ALL\_PART\_COL\_STATISTICS view, [4-1](#)
- ALL\_PART\_HISTOGRAMS view, [4-2](#)
- ALL\_PART\_INDEXES view, [4-3](#)
- ALL\_PART\_KEY\_COLUMNS view, [4-6](#)
- ALL\_PART\_LOBS view, [4-6](#)
- ALL\_PART\_TABLES view, [4-9](#)
- ALL\_PARTIAL\_DROP\_TABS view, [4-14](#)
- ALL\_PENDING\_CONV\_TABLES view, [4-14](#)
- ALL\_PG\_EDGE\_RELATIONSHIPS view, [4-15](#)
- ALL\_PG\_ELEMENT\_LABELS view, [4-16](#)
- ALL\_PG\_ELEMENTS view, [4-16](#)
- ALL\_PG\_KEYS view, [4-17](#)
- ALL\_PG\_LABEL\_PROPERTIES view, [4-18](#)
- ALL\_PG\_LABELS view, [4-19](#)
- ALL\_PG\_PROP\_DEFINITIONS view, [4-19](#)
- ALL\_PLSQL\_COLL\_TYPES view, [4-20](#)
- ALL\_PLSQL\_OBJECT\_SETTINGS view, [4-21](#)
- ALL\_PLSQL\_TYPE\_ATTRS view, [4-22](#)
- ALL\_PLSQL\_TYPES view, [4-23](#)
- ALL\_POLICIES view, [4-24](#)
- ALL\_POLICY\_ATTRIBUTES view, [4-25](#)
- ALL\_POLICY\_CONTEXTS view, [4-26](#)
- ALL\_POLICY\_GROUPS view, [4-26](#)
- ALL\_PROCEDURES view, [4-27](#)
- ALL\_PROPAGATION view, [4-29](#)
- ALL\_PROPERTY\_GRAPHS view, [4-30](#)
- ALL\_QUEUE\_EVENT\_STREAMS view, [4-30](#)
- ALL\_QUEUE\_SCHEDULES view, [4-31](#)
- ALL\_QUEUE\_SUBSCRIBERS view, [4-33](#)
- ALL\_QUEUE\_TABLES view, [4-34](#)
- ALL\_QUEUES view, [4-35](#)
- ALL\_REFRESH view, [4-36](#)
- ALL\_REFRESH\_CHILDREN view, [4-37](#)
- ALL\_REFRESH\_DEPENDENCIES view, [4-38](#)
- ALL\_REFS view, [4-38](#)
- ALL\_REGISTERED\_MVIEWS view, [4-39](#)
- ALL\_REGISTRY\_BANNERS view, [4-40](#)
- ALL\_REPL\_DBNAME\_MAPPING view, [4-40](#)
- ALL\_REPLICATION\_PROCESS\_EVENTS view, [4-41](#)
- ALL\_REWRITE\_EQUIVALENCES view, [4-42](#)
- ALL\_RULE\_SET\_RULES view, [4-42](#)
- ALL\_RULE\_SETS view, [4-43](#)
- ALL\_RULES view, [4-44](#)
- ALL\_SAGA\_BROKERS view, [4-44](#)
- ALL\_SAGA\_DETAILS view, [4-45](#)
- ALL\_SAGA\_ERRORS view, [4-46](#)
- ALL\_SAGA\_FINALIZATION view, [4-47](#)
- ALL\_SAGA\_PARTICIPANT\_SET view, [4-48](#)
- ALL\_SAGA\_PARTICIPANTS view, [4-48](#)
- ALL\_SAGA\_PENDING view, [4-50](#)



ALL\_SAGAS view, [4-50](#)  
ALL\_SCHEDULER\_CHAIN\_RULES view, [4-52](#)  
ALL\_SCHEDULER\_CHAIN\_STEPS view, [4-52](#)  
ALL\_SCHEDULER\_CHAINS view, [4-54](#)  
ALL\_SCHEDULER\_CREDENTIALS view, [4-54](#)  
ALL\_SCHEDULER\_DB\_DESTS view, [4-55](#)  
ALL\_SCHEDULER\_DESTS view, [4-56](#)  
ALL\_SCHEDULER\_EXTERNAL\_DESTS view,  
[4-57](#)  
ALL\_SCHEDULER\_FILE\_WATCHERS view, [4-57](#)  
ALL\_SCHEDULER\_GLOBAL\_ATTRIBUTE view,  
[4-58](#)  
ALL\_SCHEDULER\_GROUP\_MEMBERS view,  
[4-59](#)  
ALL\_SCHEDULER\_GROUPS view, [4-59](#)  
ALL\_SCHEDULER\_INCOMPAT\_MEMBER view,  
[4-60](#)  
ALL\_SCHEDULER\_INCOMPATS view, [4-60](#)  
ALL\_SCHEDULER\_JOB\_ARGS view, [4-61](#)  
ALL\_SCHEDULER\_JOB\_CLASSES view, [4-62](#)  
ALL\_SCHEDULER\_JOB\_DESTS view, [4-63](#)  
ALL\_SCHEDULER\_JOB\_LOG view, [4-64](#)  
ALL\_SCHEDULER\_JOB\_RUN\_DETAILS view,  
[4-66](#)  
ALL\_SCHEDULER\_JOBS view, [4-67](#)  
ALL\_SCHEDULER\_NOTIFICATIONS view, [4-71](#)  
ALL\_SCHEDULER\_PROGRAM\_ARGS view,  
[4-72](#)  
ALL\_SCHEDULER\_PROGRAMS view, [4-73](#)  
ALL\_SCHEDULER\_REMOTE\_DATABASES  
view, [4-74](#)  
ALL\_SCHEDULER\_REMOTE\_JOBSTATE view,  
[4-74](#)  
ALL\_SCHEDULER\_RESOURCES view, [4-75](#)  
ALL\_SCHEDULER\_RSC\_CONSTRAINTS view,  
[4-76](#)  
ALL\_SCHEDULER\_RUNNING\_CHAINS view,  
[4-77](#)  
ALL\_SCHEDULER\_RUNNING\_JOBS view, [4-78](#)  
ALL\_SCHEDULER\_SCHEDULES view, [4-79](#)  
ALL\_SCHEDULER\_WINDOW\_DETAILS view,  
[4-80](#)  
ALL\_SCHEDULER\_WINDOW\_GROUPS view,  
[4-81](#)  
ALL\_SCHEDULER\_WINDOW\_LOG view, [4-82](#)  
ALL\_SCHEDULER\_WINDOWS view, [4-82](#)  
ALL\_SCHEDULER\_WINDOWGROUP\_MEMBERS  
view, [4-83](#)  
ALL\_SEC\_RELEVANT\_COLS view, [4-84](#)  
ALL\_SECONDARY\_OBJECTS view, [4-85](#)  
ALL\_SEQUENCES view, [4-85](#)  
ALL\_SERVICES view, [4-86](#)  
ALL\_SOURCE view, [4-90](#)  
ALL\_SOURCE\_AE view, [4-91](#)  
ALL\_SQL\_TRANSLATION\_PROFILES view, [4-92](#)  
ALL\_SQL\_TRANSLATIONS view, [4-93](#)  
ALL\_SQLJ\_TYPE\_ATTRS view, [4-94](#)  
ALL\_SQLJ\_TYPE\_METHODS view, [4-95](#)  
ALL\_SQLJ\_TYPES view, [4-96](#)  
ALL\_SQLSET view, [4-97](#)  
ALL\_SQLSET\_BINDS view, [4-98](#)  
ALL\_SQLSET\_PLANS view, [4-98](#)  
ALL\_SQLSET\_REFERENCES view, [4-103](#)  
ALL\_SQLSET\_STATEMENTS view, [4-103](#)  
ALL\_STAT\_EXTENSIONS view, [4-105](#)  
ALL\_STATEMENTS view, [4-106](#)  
ALL\_STORED\_SETTINGS view, [4-108](#)  
ALL\_STREAMS\_GLOBAL\_RULES view, [4-109](#)  
ALL\_STREAMS\_MESSAGE\_CONSUMERS  
view, [4-110](#)  
ALL\_STREAMS\_NEWLY\_SUPPORTED view,  
[4-111](#)  
ALL\_STREAMS\_SCHEMA\_RULES view, [4-112](#)  
ALL\_STREAMS\_TABLE\_RULES view, [4-113](#)  
ALL\_STREAMS\_TRANSFORM\_FUNCTION  
view, [4-114](#)  
ALL\_SUBPART\_COL\_STATISTICS view, [4-115](#)  
ALL\_SUBPART\_HISTOGRAMS view, [4-116](#)  
ALL\_SUBPART\_KEY\_COLUMNS view, [4-117](#)  
ALL\_SUBPARTITION\_TEMPLATES view, [4-118](#)  
ALL\_SUMDELTA view, [4-119](#)  
ALL\_SYNC\_CAPTURE view, [4-119](#)  
ALL\_SYNC\_CAPTURE\_PREPARED\_TABS view,  
[4-120](#)  
ALL\_SYNC\_CAPTURE\_TABLES view, [4-120](#)  
ALL\_SYNONYMS view, [4-121](#)  
ALL\_TAB\_COL\_STAT\_MODELS view, [4-122](#)  
ALL\_TAB\_COL\_STATISTICS view, [4-123](#)  
ALL\_TAB\_COLS view, [4-124](#)  
ALL\_TAB\_COLUMNS view, [4-128](#)  
ALL\_TAB\_COMMENTS view, [4-132](#)  
ALL\_TAB\_HISTGRM\_PENDING\_STATS view,  
[4-133](#)  
ALL\_TAB\_HISTOGRAMS view, [4-133](#)  
    ALL\_HISTOGRAMS synonym, [3-192](#)  
ALL\_TAB\_IDENTITY\_COLS view, [4-134](#)  
ALL\_TAB\_MODIFICATIONS view, [4-135](#)  
ALL\_TAB\_PARTITIONS view, [4-136](#)  
ALL\_TAB\_PENDING\_STATS view, [4-142](#)  
ALL\_TAB\_PRIVS view, [4-143](#)  
ALL\_TAB\_PRIVS\_MADE view, [4-144](#)  
ALL\_TAB\_PRIVS\_RECD view, [4-144](#)  
ALL\_TAB\_STAT\_PREFS view, [4-145](#)  
ALL\_TAB\_STATISTICS view, [4-146](#)  
ALL\_TAB\_STATS\_HISTORY view, [4-147](#)  
ALL\_TAB\_SUBPARTITIONS view, [4-148](#)  
ALL\_TABLE\_ACCESS\_STATS view, [4-152](#)  
ALL\_TABLE\_VIRTUAL\_COLUMNS view, [4-153](#)  
ALL\_TABLES view, [4-154](#)  
ALL\_TRANSFORMATIONS view, [4-161](#)  
ALL\_TRIGGER\_COLS view, [4-161](#)  
ALL\_TRIGGER\_ORDERING view, [4-162](#)

- ALL\_TRIGGERS view, [4-163](#)
- ALL\_TRIGGERS\_AE view, [4-165](#)
- ALL\_TSTZ\_TAB\_COLS view, [4-167](#)
- ALL\_TSTZ\_TABLES view, [4-168](#)
- ALL\_TXEVENTQ\_MIGRATION\_STATUS view, [4-168](#)
- ALL\_TYPE\_ATTRS view, [4-169](#)
- ALL\_TYPE\_METHODS view, [4-170](#)
- ALL\_TYPE\_VERSIONS view, [4-171](#)
- ALL\_TYPES view, [4-172](#)
- ALL\_UNIFIED\_AUDIT\_ACTIONS table, [4-173](#)
- ALL\_UNUSED\_COL\_TABS view, [4-173](#)
- ALL\_UPDATABLE\_COLUMNS view, [4-174](#)
- ALL\_USERS view, [4-175](#)
- ALL\_USTATS view, [4-176](#)
- ALL\_VARRAYS view, [4-177](#)
- ALL\_VIEWS view, [4-178](#)
- ALL\_VIEWS\_AE view, [4-180](#)
- ALL\_WARNING\_SETTINGS view, [4-181](#)
- ALL\_XML\_INDEXES view, [4-182](#)
- ALL\_XML\_NESTED\_TABLES view, [4-183](#)
- ALL\_XML\_OUT\_OF\_LINE\_TABLES view, [4-184](#)
- ALL\_XML\_SCHEMA\_ATTRIBUTES view, [4-185](#)
- ALL\_XML\_SCHEMA\_COMPLEX\_TYPES view, [4-186](#)
- ALL\_XML\_SCHEMA\_ELEMENTS view, [4-187](#)
- ALL\_XML\_SCHEMA\_NAMESPACES view, [4-188](#)
- ALL\_XML\_SCHEMA\_SIMPLE\_TYPES view, [4-188](#)
- ALL\_XML\_SCHEMA\_SUBSTGRP\_HEAD view, [4-189](#)
- ALL\_XML\_SCHEMA\_SUBSTGRP\_MBRS view, [4-190](#)
- ALL\_XML\_SCHEMAS view, [4-191](#)
- ALL\_XML\_TAB\_COLS view, [4-192](#)
- ALL\_XML\_TABLES view, [4-193](#)
- ALL\_XML\_VIEW\_COLS view, [4-194](#)
- ALL\_XML\_VIEWS view, [4-195](#)
- ALL\_XSTREAM\_ADMINISTRATOR view, [4-195](#)
- ALL\_XSTREAM\_INBOUND view, [4-196](#)
- ALL\_XSTREAM\_INBOUND\_PROGRESS view, [4-197](#)
- ALL\_XSTREAM\_OUT\_SUPPORT\_MODE view, [4-198](#)
- ALL\_XSTREAM\_OUTBOUND view, [4-199](#)
- ALL\_XSTREAM\_OUTBOUND\_PROGRESS view, [4-200](#)
- ALL\_XSTREAM\_RULES view, [4-201](#)
- ALL\_XSTREAM\_TRANSFORMATIONS view, [4-202](#)
- ALL\_XTERNAL\_LOC\_PARTITIONS view, [4-203](#)
- ALL\_XTERNAL\_LOC\_SUBPARTITIONS view, [4-204](#)
- ALL\_XTERNAL\_PART\_TABLES view, [4-205](#)
- ALL\_XTERNAL\_TAB\_PARTITIONS view, [4-206](#)
- ALL\_XTERNAL\_TAB\_SUBPARTITIONS view, [4-207](#)
- ALL\_ZONEMAP\_MEASURES view, [4-207](#)
- ALL\_ZONEMAPS view, [4-208](#)
- ALLOCATE EXTENT clause
  - of ALTER TABLE
    - instance number, [2-173](#)
- ALLOW\_GLOBAL\_DBLINKS initialization
  - parameter, [2-32](#)
- ALLOW\_GROUP\_ACCESS\_TO\_SGA
  - initialization parameter, [2-32](#)
- ALLOW\_LEGACY\_RECO\_PROTOCOL
  - initialization parameter, [2-33](#)
- ALLOW\_ROWID\_COLUMN\_TYPE initialization
  - parameter, [2-34](#)
- ALTER DATABASE statement
  - ADD LOGFILE, [2-369](#)
  - ENABLE THREAD, [2-369](#)
  - THREAD, [2-369](#)
- ALTER TABLE statement
  - allocating extents, [2-173](#)
- analytic views
  - columns, [3-24](#), [3-26](#)
  - fact columns, [3-34](#), [3-35](#)
  - hierarchical attributes, [3-184](#)
  - hierarchies, [3-38](#)
  - hierarchy classifications, [3-36](#), [3-37](#)
  - hierarchy join paths, [3-185](#), [3-186](#)
  - hierarchy level ID attributes, [3-187](#)
  - hierarchy levels, [3-188](#), [3-189](#)
  - level classifications, [3-41](#), [3-44](#)
  - levels, [3-42](#), [3-43](#)
  - measure and level groups, [3-45](#), [3-46](#)
  - measure classifications, [3-47](#), [3-48](#)
- APPROX\_FOR\_AGGREGATION initialization
  - parameter, [2-35](#)
- APPROX\_FOR\_COUNT\_DISTINCT initialization
  - parameter, [2-35](#)
- APPROX\_FOR\_PERCENTILE initialization
  - parameter, [2-36](#)
- AQ\_TM\_PROCESSES initialization parameter, [2-37](#)
- ARCHIVE LOG START statement
  - automatic archiving, [2-192](#)
- ARCHIVE\_LAG\_TARGET initialization parameter, [2-38](#)
- archived redo logs
  - destination file, [2-191](#)
  - storage device, [2-191](#), [2-199](#)
- ARCHIVELOG mode, [2-191](#)
  - archiving destination, [2-191](#), [2-199](#)
- ASM\_DISKGROUPS initialization parameter, [2-38](#)
- ASM\_DISKSTRING initialization parameter, [2-39](#)
- ASM\_IO\_PROCESSES initialization parameter, [2-40](#)

ASM\_POWER\_LIMIT initialization parameter, [2-41](#)

ASM\_PREFERRED\_READ\_FAILURE\_GROUPS initialization parameter, [2-42](#)

attribute dimension  
  join paths, [3-78](#), [3-79](#)

attribute dimensions, [3-91](#), [3-92](#)  
  attribute classifications, [3-73](#), [3-74](#)  
  attributes, [3-75](#)  
  keys, [3-39](#), [3-40](#), [3-79](#), [3-80](#)  
  level attributes, [3-81](#), [3-84](#)  
  level classifications, [3-85](#), [3-86](#)  
  levels, [3-82](#), [3-83](#)  
  order attributes, [3-87](#), [3-88](#)  
  tables, [3-89](#), [3-90](#)

AUDIT\_ACTIONS table, [4-210](#)

AUDIT\_FILE\_DEST initialization parameter, [2-43](#)

AUDIT\_SYS\_OPERATIONS initialization parameter, [2-44](#)

AUDIT\_SYSLOG\_LEVEL initialization parameter, [2-45](#)

AUDIT\_TRAIL initialization parameter, [2-46](#)

AUDIT\_UNIFIED\_CONTEXTS view, [4-211](#)

AUDIT\_UNIFIED\_ENABLED\_POLICIES view, [4-211](#)

AUDIT\_UNIFIED\_POLICIES view, [4-212](#)

AUDIT\_UNIFIED\_POLICY\_COMMENTS view, [4-214](#)

AUDITABLE\_SYSTEM\_ACTIONS view, [4-214](#)

authenticating users, [2-266](#)

AUTOTASK\_MAX\_ACTIVE\_PDBS initialization parameter, [2-48](#)

AWR\_PDB\_\* Views, [3-2](#)

AWR\_PDB\_AUTOFLUSH\_ENABLED initialization parameter, [2-49](#)

AWR\_PDB\_MAX\_PARALLEL\_SLAVES initialization parameter, [2-50](#)

AWR\_ROOT\_\* Views, [3-2](#)

AWR\_SNAPSHOT\_TIME\_OFFSET initialization parameter, [2-50](#)

## B

BACKGROUND\_CORE\_DUMP initialization parameter, [2-51](#)

BACKGROUND\_DUMP\_DEST initialization parameter, [2-52](#)

BACKUP\_TAPE\_IO\_SLAVES initialization parameter, [2-53](#)

BITMAP\_MERGE\_AREA\_SIZE initialization parameter, [2-53](#)

BLANK\_TRIMMING initialization parameter, [2-54](#)

BLOCKCHAIN\_TABLE\_MAX\_NO\_DROP initialization parameter, [2-55](#)

BLOCKCHAIN\_TABLE\_RETENTION\_THRESHOLD initialization parameter, [2-56](#)

blocks  
  redo log, [2-205](#)  
  size, [2-83](#), [2-88](#), [2-102](#)

buffer cache management, [D-1](#)

## C

cache  
  dictionary, [9-176–9-178](#)  
  statistics, [2-205](#)

CAT synonym for USER\_CATALOG view, [4-216](#)

CATALOG view, [4-216](#)

CATALOG.SQL script, [B-2](#)  
  creating V\$ views, [8-1](#)

CATBLOCK.SQL script, [B-2](#)

CATCLUST.SQL script, [B-2](#)

CATHS.SQL script, [B-3](#)

CATIO.SQL script, [B-3](#)

CATJAVA.SQL script, [B-6](#)

CATNOCLUST.SQL script, [B-5](#)

CATNOJAV.SQL script, [B-5](#)

CATNOPRT.SQL script, [B-5](#)

CATNOSVM.SQL script, [B-5](#)

CATNSNMP.SQL script, [B-5](#)

CATPCAT.SQL script, [B-2](#)

CATPROC.SQL script, [B-2](#)

CATQUEUE.SQL script, [B-3](#)

CATREP.SQL script, [B-3](#)

CATWRR.SQL script, [B-3](#)

CATWRRWITB.SQL script, [B-3](#)

CDB\_\* views, [3-3](#)

CDBs, [2-43](#)

CHAINED\_ROWS table, [4-216](#)

characters  
  numeric group separators, [2-241](#)

checkpoints  
  checkpoint interval, [2-205](#)  
  statistics, [2-205](#)

CIRCUITS initialization parameter, [2-56](#)

classifications  
  analytic view, [3-22](#), [3-23](#)  
  analytic view attribute, [3-17](#), [3-18](#)  
  analytic view attribute dimension, [3-29](#), [3-30](#)  
  analytic view hierarchy, [3-36](#), [3-37](#)  
  analytic view level, [3-41](#), [3-44](#)  
  analytic view measure, [3-47](#), [3-48](#)  
  attribute dimension, [3-76](#), [3-77](#)  
  attribute dimension attribute, [3-73](#), [3-74](#)  
  attribute dimension level, [3-85](#), [3-86](#)  
  hierarchy, [3-178](#), [3-179](#)  
  hierarchy hierarchical attribute, [3-182](#), [3-183](#)

CLIENT\_RESULT\_CACHE\_LAG initialization parameter, [2-57](#)

CLIENT\_RESULT\_CACHE\_SIZE initialization parameter, [2-57](#)

CLIENT\_RESULT\_CACHE\_STATS\$ view, [4-216](#)

CLIENT\_STATISTICS\_LEVEL initialization parameter, [2-58](#)  
 CLONEDB initialization parameter, [2-59](#)  
 CLONEDB\_DIR initialization parameter, [2-60](#)  
 CLU synonym for USER\_CLUSTERS view, [4-217](#)  
 CLUSTER\_DATABASE initialization parameter, [2-60](#)  
 CLUSTER\_INTERCONNECTS initialization parameter, [2-61](#)  
 COL view, [4-217](#)  
 COLS synonym for USER\_TAB\_COLUMNS view, [4-217](#)  
 commit wait/noswait performed, [E-5](#)  
 COMMIT\_LOGGING initialization parameter, [2-62](#)  
 COMMIT\_POINT\_STRENGTH initialization parameter, [2-62](#)  
 COMMIT\_WAIT initialization parameter, [2-63](#)  
 COMMIT\_WRITE initialization parameter, [2-63](#)  
 COMMON\_USER\_PREFIX initialization parameter, [2-64](#)  
 COMPATIBLE initialization parameter, [2-66](#)  
 CONNECTION\_BROKERS initialization parameter, [2-67](#)  
 CONTAINER\_DATA initialization parameter, [2-69](#)  
 CONTAINERS\_PARALLEL\_DEGREE initialization parameter, [2-70](#)  
 contention  
     block-level, [10-172](#)  
 control files  
     names, [2-72](#)  
     specifying, [2-72](#)  
 CONTROL\_FILE\_RECORD\_KEEP\_TIME initialization parameter, [2-70](#)  
 CONTROL\_FILES initialization parameter, [2-71](#)  
 CONTROL\_MANAGEMENT\_PACK\_ACCESS initialization parameter, [2-72](#)  
 controlfile transaction, [D-1](#)  
 CORE\_DUMP\_DEST initialization parameter, [2-73](#)  
 cost-based optimization, [2-262](#)  
     favoring IN-list iterators, [2-260](#)  
 CPU\_COUNT initialization parameter, [2-73](#)  
 CPU\_MIN\_COUNT initialization parameter, [2-74](#)  
 CREATE TABLE statement  
     FREELIST GROUPS clause, [2-173](#)  
 CREATE\_BITMAP\_AREA\_SIZE initialization parameter, [2-75](#)  
 CREATE\_STORED\_OUTLINES initialization parameter, [2-76](#)  
 creating  
     a database  
         setting block size, [2-83](#), [2-88](#), [2-102](#)  
 currency, [2-233](#), [2-235](#)  
     international currency symbol, [2-238](#)  
 CURSOR\_BIND\_CAPTURE\_DESTINATION initialization parameter, [2-77](#)

CURSOR\_INVALIDATION initialization parameter, [2-78](#)  
 CURSOR\_SHARING initialization parameter, [2-78](#)  
 CURSOR\_SPACE\_FOR\_TIME initialization parameter, [2-79](#)  
 cursors  
     OPEN\_CURSORS initialization parameter, [2-250](#)  
     shared pool, [2-342](#)

## D

data blocks  
     reading multiple, [2-94](#)  
     size of, [2-83](#), [2-88](#), [2-102](#)  
 data dictionary, [3-1](#)  
     cache, [9-176–9-178](#)  
     scripts, [B-2](#)  
     SQL scripts, [B-1](#)  
     tables, [3-1](#)  
     views  
         overview, [3-1](#)  
         user views, [3-1](#)  
 DATA\_GUARD\_MAX\_IO\_TIME initialization parameter, [2-80](#)  
 DATA\_GUARD\_MAX\_LONGIO\_TIME initialization parameter, [2-81](#)  
 DATA\_GUARD\_SYNC\_LATENCY initialization parameter, [2-81](#)  
 DATA\_TRANSFER\_CACHE\_SIZE initialization parameter, [2-82](#)  
 database writer process (DBWR)  
     checkpoint, [2-205](#)  
 DATABASE\_EXPORT\_OBJECTS view, [4-218](#)  
 DATABASE\_PROPERTIES view, [4-218](#)  
 databases  
     database limits, [A-1](#)  
     default language, [2-239](#)  
     resource limits, [2-314](#), [2-318](#)  
 datafiles  
     maximum number, [2-96](#)  
     parameter, [2-96](#)  
 dates  
     language used for, [2-236](#), [2-244](#), [2-245](#)  
     setting SYSDATE, [2-142](#)  
     TO\_CHAR function, [2-235](#)  
     TO\_DATE function, [2-235](#)  
 DB\_BIG\_TABLE\_CACHE\_PERCENT\_TARGET initialization parameter, [2-83](#)  
 DB\_BLOCK\_BUFFERS initialization parameter, [2-85](#)  
 DB\_BLOCK\_CHECKING initialization parameter, [2-86](#)  
 DB\_BLOCK\_CHECKSUM initialization parameter, [2-87](#)

- 
- DB\_BLOCK\_SIZE initialization parameter, [2-88](#)
  - DB\_CACHE\_ADVICE initialization parameter, [2-89](#)
  - DB\_CACHE\_SIZE initialization parameter, [2-90](#)
  - DB\_CREATE\_FILE\_DEST initialization parameter, [2-91](#)
  - DB\_CREATE\_ONLINE\_LOG\_DEST\_n initialization parameter, [2-92](#)
  - DB\_DOMAIN initialization parameter, [2-93](#)
  - DB\_FILE\_MULTIBLOCK\_READ\_COUNT initialization parameter, [2-94](#)
  - DB\_FILE\_NAME\_CONVERT initialization parameter, [2-95](#)
  - DB\_FILES initialization parameter, [2-96](#)
  - DB\_FLASH\_CACHE\_FILE initialization parameter, [2-96](#)
  - DB\_FLASH\_CACHE\_SIZE initialization parameter, [2-97](#)
  - DB\_FLASHBACK\_LOG\_DEST initialization parameter, [2-98](#)
  - DB\_FLASHBACK\_LOG\_DEST\_SIZE initialization parameter, [2-99](#)
  - DB\_FLASHBACK\_RETENTION\_TARGET initialization parameter, [2-100](#)
  - DB\_INDEX\_COMPRESSION\_INHERITANCE initialization parameter, [2-100](#)
  - DB\_KEEP\_CACHE\_SIZE initialization parameter, [2-102](#)
  - DB\_LOST\_WRITE\_PROTECT initialization parameter, [2-102](#)
  - DB\_NAME initialization parameter, [2-103](#)
  - DB\_nK\_CACHE\_SIZE initialization parameter, [2-82](#)
  - DB\_PERFORMANCE\_PROFILE initialization parameter, [2-104](#)
  - DB\_RECOVERY\_AUTO\_REKEY initialization parameter, [2-105](#)
  - DB\_RECOVERY\_FILE\_DEST initialization parameter, [2-105](#)
  - DB\_RECOVERY\_FILE\_DEST\_SIZE initialization parameter, [2-106](#)
  - DB\_RECYCLE\_CACHE\_SIZE initialization parameter, [2-107](#)
  - DB\_SECUREFILE initialization parameter, [2-107](#)
  - DB\_ULTRA\_SAFE initialization parameter, [2-109](#)
  - DB\_UNIQUE\_NAME initialization parameter, [2-110](#)
  - DB\_UNRECOVERABLE\_SCN\_TRACKING initialization parameter, [2-111](#)
  - DB\_WRITER\_PROCESSES initialization parameter, [2-111](#)
  - DBA\_2PC\_NEIGHBORS view, [5-1](#)
  - DBA\_2PC\_PENDING view, [5-1](#)
  - DBA\_ACCHK\_EVENTS view, [5-2](#)
  - DBA\_ACCHK\_EVENTS\_SUMMARY view, [5-3](#)
  - DBA\_ACCHK\_STATISTICS view, [5-5](#)
  - DBA\_ACCHK\_STATISTICS\_SUMMARY view, [5-6](#)
  - DBA\_ACL\_NAME\_MAP view, [5-7](#)
  - DBA\_ACTIVITY\_CONFIG view, [5-8](#)
  - DBA\_ACTIVITY\_MVIEW view, [5-8](#)
  - DBA\_ACTIVITY\_SNAPSHOT\_META view, [5-10](#)
  - DBA\_ACTIVITY\_TABLE view, [5-10](#)
  - DBA\_ADDM\_FDG\_BREAKDOWN view, [5-12](#)
  - DBA\_ADDM\_FINDINGS view, [5-12](#)
  - DBA\_ADDM\_INSTANCES view, [5-14](#)
  - DBA\_ADDM\_PENDING\_AUTOTASKS view, [5-15](#)
  - DBA\_ADDM\_SCHEDULED\_AUTOTASKS view, [5-16](#)
  - DBA\_ADDM\_SYSTEM\_DIRECTIVES view, [5-16](#)
  - DBA\_ADDM\_TASK\_DIRECTIVES view, [5-17](#)
  - DBA\_ADDM\_TASKS view, [5-17](#)
  - DBA\_ADVISOR\_ACTIONS view, [5-20](#)
  - DBA\_ADVISOR\_COMMANDS view, [5-22](#)
  - DBA\_ADVISOR\_DEF\_PARAMETERS view, [5-22](#)
  - DBA\_ADVISOR\_DEFINITIONS view, [5-23](#)
  - DBA\_ADVISOR\_DIR\_DEFINITIONS view, [5-24](#)
  - DBA\_ADVISOR\_DIR\_INSTANCES view, [5-25](#)
  - DBA\_ADVISOR\_DIR\_TASK\_INST view, [5-25](#)
  - DBA\_ADVISOR\_EXEC\_PARAMETERS view, [5-26](#)
  - DBA\_ADVISOR\_EXECUTION\_TYPES view, [5-26](#)
  - DBA\_ADVISOR\_EXECUTIONS view, [5-27](#)
  - DBA\_ADVISOR\_FDG\_BREAKDOWN view, [5-28](#)
  - DBA\_ADVISOR\_FINDING\_NAMES view, [5-29](#)
  - DBA\_ADVISOR\_FINDINGS view, [5-29](#)
  - DBA\_ADVISOR\_JOURNAL view, [5-30](#)
  - DBA\_ADVISOR\_LOG view, [5-31](#)
  - DBA\_ADVISOR\_OBJECT\_TYPES view, [5-32](#)
  - DBA\_ADVISOR\_OBJECTS view, [5-32](#)
  - DBA\_ADVISOR\_PARAMETERS view, [5-34](#)
  - DBA\_ADVISOR\_RATIONALE view, [5-35](#)
  - DBA\_ADVISOR\_RECOMMENDATIONS view, [5-36](#)
  - DBA\_ADVISOR\_SQLA\_REC\_SUM view, [5-38](#)
  - DBA\_ADVISOR\_SQLA\_TABLES view, [5-38](#)
  - DBA\_ADVISOR\_SQLA\_WK\_MAP view, [5-39](#)
  - DBA\_ADVISOR\_SQLA\_WK\_STMTS view, [5-40](#)
  - DBA\_ADVISOR\_SQLPLANS view, [5-41](#)
  - DBA\_ADVISOR\_SQLSTATS view, [5-44](#)
  - DBA\_ADVISOR\_SQLW\_JOURNAL view, [5-46](#)
  - DBA\_ADVISOR\_SQLW\_PARAMETERS view, [5-47](#)
  - DBA\_ADVISOR\_SQLW\_STMTS view, [5-48](#)
  - DBA\_ADVISOR\_SQLW\_SUM view, [5-49](#)
  - DBA\_ADVISOR\_SQLW\_TABLES view, [5-50](#)
  - DBA\_ADVISOR\_SQLW\_TEMPLATES view, [5-50](#)
  - DBA\_ADVISOR\_TASKS view, [5-51](#)
  - DBA\_ADVISOR\_TEMPLATES view, [5-52](#)
  - DBA\_ADVISOR\_USAGE view, [5-53](#)
  - DBA\_AIM\_PERF\_FEATURES view, [5-53](#)
  - DBA\_ALERT\_HISTORY view, [5-54](#)
  - DBA\_ALERT\_HISTORY\_DETAIL view, [5-55](#)
-



DBA\_ALL\_TABLES view, [5-56](#)  
 DBA\_ANALYTIC\_VIEW\_AGGR\_DIMS view, [5-56](#)  
 DBA\_ANALYTIC\_VIEW\_AGGR\_FNS view, [5-57](#)  
 DBA\_ANALYTIC\_VIEW\_AGGR\_FNS\_AE view, [5-57](#)  
 DBA\_ANALYTIC\_VIEW\_AGR\_DIMS view, [5-57](#)  
 DBA\_ANALYTIC\_VIEW\_AGR\_DIMS\_AE view, [5-57](#)  
 DBA\_ANALYTIC\_VIEW\_ATTR\_CLASS view, [5-58](#)  
 DBA\_ANALYTIC\_VIEW\_ATTR\_CLS view, [5-58](#)  
 DBA\_ANALYTIC\_VIEW\_ATTR\_CLS\_AE view, [5-58](#)  
 DBA\_ANALYTIC\_VIEW\_BAS\_MEAS view, [5-58](#)  
 DBA\_ANALYTIC\_VIEW\_BAS\_MEAS\_AE view, [5-59](#)  
 DBA\_ANALYTIC\_VIEW\_BASE\_MEAS view, [5-59](#)  
 DBA\_ANALYTIC\_VIEW\_CALC\_MEAS view, [5-59](#)  
 DBA\_ANALYTIC\_VIEW\_CLASS view, [5-59](#)  
 DBA\_ANALYTIC\_VIEW\_CLASS\_AE view, [5-60](#)  
 DBA\_ANALYTIC\_VIEW\_CLC\_MEAS view, [5-60](#)  
 DBA\_ANALYTIC\_VIEW\_CLC\_MEAS\_AE view, [5-60](#)  
 DBA\_ANALYTIC\_VIEW\_COLUMNS view, [5-60](#)  
 DBA\_ANALYTIC\_VIEW\_COLUMNS\_AE view, [5-61](#)  
 DBA\_ANALYTIC\_VIEW\_DIM\_ATTRS view, [5-61](#)  
 DBA\_ANALYTIC\_VIEW\_DIM\_ATTRS\_AE view, [5-61](#)  
 DBA\_ANALYTIC\_VIEW\_DIM\_ATTRS view, [5-61](#)  
 DBA\_ANALYTIC\_VIEW\_DIM\_CLASS view, [5-62](#)  
 DBA\_ANALYTIC\_VIEW\_DIM\_CLS view, [5-62](#)  
 DBA\_ANALYTIC\_VIEW\_DIM\_CLS\_AE view, [5-62](#)  
 DBA\_ANALYTIC\_VIEW\_DIMENSIONS view, [5-62](#)  
 DBA\_ANALYTIC\_VIEW\_DIMS view, [5-63](#)  
 DBA\_ANALYTIC\_VIEW\_DIMS\_AE view, [5-63](#)  
 DBA\_ANALYTIC\_VIEW\_FACT\_COLS view, [5-63](#)  
 DBA\_ANALYTIC\_VIEW\_FCT\_COLS view, [5-63](#)  
 DBA\_ANALYTIC\_VIEW\_FCT\_COLS\_AE view, [5-64](#)  
 DBA\_ANALYTIC\_VIEW\_HIER\_CLASS view, [5-64](#)  
 DBA\_ANALYTIC\_VIEW\_HIER\_CLS view, [5-64](#)  
 DBA\_ANALYTIC\_VIEW\_HIER\_CLS\_AE view, [5-64](#)  
 DBA\_ANALYTIC\_VIEW\_HIERS view, [5-65](#)  
 DBA\_ANALYTIC\_VIEW\_HIERS\_AE view, [5-65](#)  
 DBA\_ANALYTIC\_VIEW\_KEYS view, [5-65](#)  
 DBA\_ANALYTIC\_VIEW\_KEYS\_AE view, [5-65](#)  
 DBA\_ANALYTIC\_VIEW\_LEVEL\_CLASS view, [5-66](#)  
 DBA\_ANALYTIC\_VIEW\_LEVELS view, [5-66](#)  
 DBA\_ANALYTIC\_VIEW\_LEVELS\_AE view, [5-66](#)  
 DBA\_ANALYTIC\_VIEW\_LVL\_CLS view, [5-66](#)  
 DBA\_ANALYTIC\_VIEW\_LVL\_CLS\_AE view, [5-67](#)  
 DBA\_ANALYTIC\_VIEW\_LVLGRPS view, [5-67](#)  
 DBA\_ANALYTIC\_VIEW\_LVLGRPS\_AE view, [5-67](#)  
 DBA\_ANALYTIC\_VIEW\_MEAS\_CLASS view, [5-67](#)  
 DBA\_ANALYTIC\_VIEW\_MEAS\_CLS view, [5-68](#)  
 DBA\_ANALYTIC\_VIEW\_MEAS\_CLS\_AE view, [5-68](#)  
 DBA\_ANALYTIC\_VIEWS view, [5-68](#)  
 DBA\_ANALYTIC\_VIEWS\_AE view, [5-68](#)  
 DBA\_ANNOTATION\_VALUES view, [5-69](#)  
 DBA\_ANNOTATIONS view, [5-69](#)  
 DBA\_ANNOTATIONS\_USAGE view, [5-69](#)  
 DBA\_APP\_ERRORS view, [5-70](#)  
 DBA\_APP\_ERRORS\_HISTORY view, [5-70](#)  
 DBA\_APP\_PATCHES view, [5-70](#)  
 DBA\_APP\_PDB\_STATUS view, [5-71](#)  
 DBA\_APP\_STATEMENTS view, [5-71](#)  
 DBA\_APP\_VERSIONS view, [5-72](#)  
 DBA\_APPLICATION\_ROLES view, [5-72](#)  
 DBA\_APPLICATIONS view, [5-73](#)  
 DBA\_APPLY view, [5-73](#)  
 DBA\_APPLY\_CHANGE\_HANDLERS view, [5-73](#)  
 DBA\_APPLY\_CONFLICT\_COLUMNS view, [5-74](#)  
 DBA\_APPLY\_DML\_CONF\_HANDLERS view, [5-74](#)  
 DBA\_APPLY\_DML\_HANDLERS view, [5-74](#)  
 DBA\_APPLY\_ENQUEUE view, [5-74](#)  
 DBA\_APPLY\_ERROR view, [5-75](#)  
 DBA\_APPLY\_ERROR\_MESSAGES view, [5-75](#)  
 DBA\_APPLY\_EXECUTE view, [5-75](#)  
 DBA\_APPLY\_HANDLE\_COLLISIONS view, [5-76](#)  
 DBA\_APPLY\_INSTANTIATED\_GLOBAL view, [5-76](#)  
 DBA\_APPLY\_INSTANTIATED\_OBJECTS view, [5-76](#)  
 DBA\_APPLY\_INSTANTIATED\_SCHEMAS view, [5-76](#)  
 DBA\_APPLY\_KEY\_COLUMNS view, [5-77](#)  
 DBA\_APPLY\_OBJECT\_DEPENDENCIES view, [5-77](#)  
 DBA\_APPLY\_PARAMETERS view, [5-77](#)  
 DBA\_APPLY\_PROGRESS view, [5-77](#)  
 DBA\_APPLY\_REPERERROR\_HANDLERS view, [5-78](#)  
 DBA\_APPLY\_SPILL\_TXN view, [5-78](#)  
 DBA\_APPLY\_TABLE\_COLUMNS view, [5-78](#)  
 DBA\_APPLY\_VALUE\_DEPENDENCIES view, [5-79](#)  
 DBA\_AQ\_AGENT\_PRIVS view, [5-79](#)  
 DBA\_AQ\_AGENTS view, [5-79](#)  
 DBA\_ARGUMENTS view, [5-80](#)  
 DBA\_ASSEMBLIES view, [5-80](#)  
 DBA\_ASSOCIATIONS view, [5-80](#)  
 DBA\_ATTRIBUTE\_DIM\_ATTR\_CLASS view, [5-80](#)  
 DBA\_ATTRIBUTE\_DIM\_ATTR\_CLS view, [5-81](#)

DBA\_ATTRIBUTE\_DIM\_ATTR\_CLS\_AE view, [5-81](#)  
 DBA\_ATTRIBUTE\_DIM\_ATTRS view, [5-81](#)  
 DBA\_ATTRIBUTE\_DIM\_ATTRS\_AE view, [5-81](#)  
 DBA\_ATTRIBUTE\_DIM\_CLASS view, [5-82](#)  
 DBA\_ATTRIBUTE\_DIM\_CLASS\_AE view, [5-82](#)  
 DBA\_ATTRIBUTE\_DIM\_JN\_PTHS view, [5-82](#)  
 DBA\_ATTRIBUTE\_DIM\_JN\_PTHS\_AE view, [5-82](#)  
 DBA\_ATTRIBUTE\_DIM\_JOIN\_PATHS view, [5-83](#)  
 DBA\_ATTRIBUTE\_DIM\_KEYS view, [5-83](#)  
 DBA\_ATTRIBUTE\_DIM\_KEYS\_AE view, [5-83](#)  
 DBA\_ATTRIBUTE\_DIM\_LEVEL\_ATTRS view, [5-83](#)  
 DBA\_ATTRIBUTE\_DIM\_LEVELS view, [5-84](#)  
 DBA\_ATTRIBUTE\_DIM\_LEVELS\_AE view, [5-84](#)  
 DBA\_ATTRIBUTE\_DIM\_LVL\_ATTRS view, [5-84](#)  
 DBA\_ATTRIBUTE\_DIM\_LVL\_ATTRS\_AE view, [5-84](#)  
 DBA\_ATTRIBUTE\_DIM\_LVL\_CLASS view, [5-85](#)  
 DBA\_ATTRIBUTE\_DIM\_LVL\_CLS view, [5-85](#)  
 DBA\_ATTRIBUTE\_DIM\_LVL\_CLS\_AE view, [5-85](#)  
 DBA\_ATTRIBUTE\_DIM\_ORD\_ATTRS view, [5-85](#)  
 DBA\_ATTRIBUTE\_DIM\_ORD\_ATTRS\_AE view, [5-86](#)  
 DBA\_ATTRIBUTE\_DIM\_ORDER\_ATTRS view, [5-86](#)  
 DBA\_ATTRIBUTE\_DIM\_TABLES view, [5-86](#)  
 DBA\_ATTRIBUTE\_DIM\_TABLES\_AE view, [5-86](#)  
 DBA\_ATTRIBUTE\_DIMENSIONS view, [5-87](#)  
 DBA\_ATTRIBUTE\_DIMENSIONS\_AE view, [5-87](#)  
 DBA\_ATTRIBUTE\_TRANSFORMATIONS view, [5-87](#)  
 DBA\_AUDIT\_EXISTS view, [5-87](#)  
 DBA\_AUDIT\_MGMT\_CLEAN\_EVENTS view, [5-91](#)  
 DBA\_AUDIT\_MGMT\_CLEANUP\_JOBS view, [5-92](#)  
 DBA\_AUDIT\_MGMT\_CONFIG\_PARAMS view, [5-93](#)  
 DBA\_AUDIT\_MGMT\_LAST\_ARCH\_TS view, [5-94](#)  
 DBA\_AUDIT\_OBJECT view, [5-95](#)  
 DBA\_AUDIT\_POLICIES view, [5-97](#)  
 DBA\_AUDIT\_POLICY\_COLUMNS view, [5-98](#)  
 DBA\_AUDIT\_SESSION view, [5-98](#)  
 DBA\_AUDIT\_STATEMENT view, [5-100](#)  
 DBA\_AUDIT\_TRAIL view, [5-103](#)  
 DBA\_AUTO\_CLUSTERING\_CONFIG view, [5-107](#)  
 DBA\_AUTO\_CLUSTERING\_RECOMMENDATION view, [5-107](#)  
 DBA\_AUTO\_INDEX\_CONFIG view, [5-108](#)  
 DBA\_AUTO\_MV\_ANALYSIS\_ACTIONS view, [5-109](#)  
 DBA\_AUTO\_MV\_ANALYSIS\_EXECUTIONS view, [5-110](#)

DBA\_AUTO\_MV\_ANALYSIS\_RECOMMENDATIONS view, [5-111](#)  
 DBA\_AUTO\_MV\_ANALYSIS\_REPORT view, [5-111](#)  
 DBA\_AUTO\_MV\_ANALYSIS\_TASK view, [5-112](#)  
 DBA\_AUTO\_MV\_CONFIG view, [5-113](#)  
 DBA\_AUTO\_MV\_MAINT\_REPORT view, [5-114](#)  
 DBA\_AUTO\_MV\_REFRESH\_HISTORY view, [5-114](#)  
 DBA\_AUTO\_MV\_VERIFICATION\_REPORT view, [5-114](#)  
 DBA\_AUTO\_MV\_VERIFICATION\_STATUS view, [5-115](#)  
 DBA\_AUTO\_SEGADV\_CTL view, [5-115](#)  
 DBA\_AUTO\_SEGADV\_SUMMARY view, [5-116](#)  
 DBA\_AUTO\_STAT\_EXECUTIONS view, [5-116](#)  
 DBA\_AUTO\_ZONEMAP\_CONFIG view, [5-117](#)  
 DBA\_AUTOTASK\_CLIENT view, [5-117](#)  
 DBA\_AUTOTASK\_CLIENT\_HISTORY view, [5-119](#)  
 DBA\_AUTOTASK\_CLIENT\_JOB view, [5-119](#)  
 DBA\_AUTOTASK\_JOB\_HISTORY view, [5-120](#)  
 DBA\_AUTOTASK\_OPERATION view, [5-120](#)  
 DBA\_AUTOTASK\_SCHEDULE view, [5-121](#)  
 DBA\_AUTOTASK\_SCHEDULE\_CONTROL view, [5-121](#)  
 DBA\_AUTOTASK\_SETTINGS view, [5-122](#)  
 DBA\_AUTOTASK\_STATUS view, [5-122](#)  
 DBA\_AUTOTASK\_TASK view, [5-123](#)  
 DBA\_AUTOTASK\_WINDOW\_CLIENTS view, [5-125](#)  
 DBA\_AUTOTASK\_WINDOW\_HISTORY view, [5-126](#)  
 DBA\_AW\_PS view, [5-126](#)  
 DBA\_AWS view, [5-127](#)  
 DBA\_BASE\_TABLE\_MVIEWS view, [5-127](#)  
 DBA\_BLOCKCHAIN\_ROW\_VERSION\_COLS view, [5-127](#)  
 DBA\_BLOCKCHAIN\_ROW\_VERSION\_HISTORY view, [5-128](#)  
 DBA\_BLOCKCHAIN\_TABLE\_CHAINS view, [5-128](#)  
 DBA\_BLOCKCHAIN\_TABLE\_EPOCHS view, [5-128](#)  
 DBA\_BLOCKCHAIN\_TABLE\_HASH\_COL\_ORDER view, [5-129](#)  
 DBA\_BLOCKCHAIN\_TABLES view, [5-129](#)  
 DBA\_BLOCKER\_RESOLVER\_PARAMETERS view, [5-129](#)  
 DBA\_BLOCKERS view, [5-130](#)  
 DBA\_CAPTURE view, [5-130](#)  
 DBA\_CAPTURE\_EXTRA\_ATTRIBUTES view, [5-130](#)  
 DBA\_CAPTURE\_PARAMETERS view, [5-131](#)  
 DBA\_CAPTURE\_PREPARED\_DATABASE view, [5-131](#)

DBA\_CAPTURE\_PREPARED\_SCHEMAS view, [5-131](#)  
DBA\_CAPTURE\_PREPARED\_TABLES view, [5-131](#)  
DBA\_CATALOG view, [5-132](#)  
DBA\_CDB\_RSRC\_PLAN\_DIRECTIVES view, [5-132](#)  
DBA\_CDB\_RSRC\_PLANS view, [5-133](#)  
DBA\_CERTIFICATES view, [5-133](#)  
DBA\_CHANGE\_NOTIFICATION\_REGS view, [5-134](#)  
DBA\_CHECKED\_ROLES view, [5-134](#)  
DBA\_CHECKED\_ROLES\_PATH view, [5-135](#)  
DBA\_CLU\_COLUMNS view, [5-135](#)  
DBA\_CLUSTER\_HASH\_EXPRESSIONS view, [5-136](#)  
DBA\_CLUSTERING\_DIMENSIONS view, [5-136](#)  
DBA\_CLUSTERING\_JOINS view, [5-136](#)  
DBA\_CLUSTERING\_KEYS view, [5-137](#)  
DBA\_CLUSTERING\_TABLES view, [5-137](#)  
DBA\_CLUSTERS view, [5-137](#)  
DBA\_CODE\_ROLE\_PRIVS view, [5-137](#)  
DBA\_COL\_COMMENTS view, [5-138](#)  
DBA\_COL\_PENDING\_STATS view, [5-138](#)  
DBA\_COL\_PRIVS view, [5-138](#)  
DBA\_COLL\_TYPES view, [5-139](#)  
DBA\_COMMON\_AUDIT\_TRAIL view, [5-139](#)  
DBA\_COMPARISON view, [5-143](#)  
DBA\_COMPARISON\_COLUMNS view, [5-144](#)  
DBA\_COMPARISON\_ROW\_DIF view, [5-144](#)  
DBA\_COMPARISON\_SCAN view, [5-145](#)  
DBA\_COMPARISON\_SCAN\_VALUES view, [5-146](#)  
DBA\_CONNECT\_ROLE\_GRANTEES view, [5-146](#)  
DBA\_CONNECTION\_TESTS view, [5-146](#)  
DBA\_CONS\_COLUMNS view, [5-148](#)  
DBA\_CONS\_OBJ\_COLUMNS view, [5-148](#)  
DBA\_CONSTRAINTS view, [5-148](#)  
DBA\_CONTAINER\_DATA view, [5-148](#)  
DBA\_CONTEXT view, [5-149](#)  
DBA\_CPOOL\_INFO view, [5-150](#)  
DBA\_CPU\_USAGE\_STATISTICS view, [5-151](#)  
DBA\_CQ\_NOTIFICATION\_QUERIES view, [5-152](#)  
DBA\_CREDENTIALS view, [5-152](#)  
DBA\_CUBE\_ATTR\_VISIBILITY view, [5-152](#)  
DBA\_CUBE\_ATTRIBUTES view, [5-153](#)  
DBA\_CUBE\_BUILD\_PROCESSES view, [5-153](#)  
DBA\_CUBE\_CALCULATED\_MEMBERS view, [5-153](#)  
DBA\_CUBE\_DIM\_LEVELS view, [5-153](#)  
DBA\_CUBE\_DIM\_MODELS view, [5-154](#)  
DBA\_CUBE\_DIM\_VIEW\_COLUMNS view, [5-154](#)  
DBA\_CUBE\_DIM\_VIEWS view, [5-154](#)  
DBA\_CUBE\_DIMENSIONALITY view, [5-154](#)  
DBA\_CUBE\_DIMENSIONS view, [5-155](#)

DBA\_CUBE\_HIER\_LEVELS view, [5-155](#)  
DBA\_CUBE\_HIER\_VIEW\_COLUMNS view, [5-155](#)  
DBA\_CUBE\_HIER\_VIEWS view, [5-155](#)  
DBA\_CUBE\_HIERARCHIES view, [5-156](#)  
DBA\_CUBE\_MEASURES view, [5-156](#)  
DBA\_CUBE\_NAMED\_BUILD\_SPECS view, [5-156](#)  
DBA\_CUBE\_SUB\_PARTITION\_LEVELS view, [5-156](#)  
DBA\_CUBE\_VIEW\_COLUMNS view, [5-157](#)  
DBA\_CUBE\_VIEWS view, [5-157](#)  
DBA\_CUBES view, [5-157](#)  
DBA\_DATA\_FILES view, [5-157](#)  
DBA\_DATAPUMP\_JOBS view, [5-159](#)  
DBA\_DATAPUMP\_SESSIONS view, [5-159](#)  
DBA\_DB\_LINK\_SOURCES view, [5-160](#)  
DBA\_DB\_LINKS view, [5-161](#)  
DBA\_DBFS\_HS view, [5-162](#)  
DBA\_DBFS\_HS\_COMMANDS view, [5-162](#)  
DBA\_DBFS\_HS\_FIXED\_PROPERTIES view, [5-163](#)  
DBA\_DBFS\_HS\_PROPERTIES view, [5-163](#)  
DBA\_DDL\_LOCKS view, [5-164](#)  
DBA\_DDL\_REGS view, [5-164](#)  
DBA\_DEPENDENCIES view, [5-165](#)  
DBA\_DIGEST\_VERIFIERS view, [5-165](#)  
DBA\_DIM\_ATTRIBUTES view, [5-166](#)  
DBA\_DIM\_CHILD\_OF view, [5-166](#)  
DBA\_DIM\_HIERARCHIES view, [5-166](#)  
DBA\_DIM\_JOIN\_KEY view, [5-167](#)  
DBA\_DIM\_LEVEL\_KEY view, [5-167](#)  
DBA\_DIM\_LEVELS view, [5-167](#)  
DBA\_DIMENSIONS view, [5-167](#)  
DBA\_DIRECTORIES view, [5-168](#)  
DBA\_DISCOVERY\_SOURCE view, [5-168](#)  
DBA\_DML\_LOCKS view, [5-168](#)  
DBA\_DMT\_FREE\_SPACE view, [5-169](#)  
DBA\_DMT\_USED\_EXTENTS view, [5-169](#)  
DBA\_DOMAIN\_COLS view, [5-170](#)  
DBA\_DOMAIN\_CONSTRAINTS view, [5-170](#)  
DBA\_DOMAINS view, [5-171](#)  
DBA\_EDITION\_COMMENTS view, [5-171](#)  
DBA\_EDITIONED\_TYPES view, [5-171](#)  
DBA\_EDITIONING\_VIEW\_COLS view, [5-172](#)  
DBA\_EDITIONING\_VIEW\_COLS\_AE view, [5-172](#)  
DBA\_EDITIONING\_VIEWS view, [5-172](#)  
DBA\_EDITIONING\_VIEWS\_AE view, [5-172](#)  
DBA\_EDITIONS view, [5-173](#)  
DBA\_ENABLED\_AGGREGATIONS view, [5-173](#)  
DBA\_ENABLED\_TRACES view, [5-173](#)  
DBA\_ENCRYPTED\_COLUMNS view, [5-174](#)  
DBA\_EPG\_DAD\_AUTHORIZATION view, [5-174](#)  
DBA\_ERROR\_TRANSLATIONS view, [5-175](#)  
DBA\_ERRORS view, [5-175](#)  
DBA\_ERRORS\_AE view, [5-175](#)



DBA\_EVALUATION\_CONTEXT\_TABLES view, [5-175](#)  
 DBA\_EVALUATION\_CONTEXT\_VARS view, [5-176](#)  
 DBA\_EVALUATION\_CONTEXTS view, [5-176](#)  
 DBA\_EXP\_FILES view, [5-176](#)  
 DBA\_EXP\_OBJECTS view, [5-176](#)  
 DBA\_EXP\_VERSION view, [5-177](#)  
 DBA\_EXPRESSION\_STATISTICS view, [5-177](#)  
 DBA\_EXTENTS view, [5-177](#)  
 DBA\_EXTERNAL\_LOCATIONS view, [5-178](#)  
 DBA\_EXTERNAL\_SCN\_ACTIVITY view, [5-178](#)  
 DBA\_EXTERNAL\_TABLES view, [5-180](#)  
 DBA\_FEATURE\_USAGE\_STATISTICS view, [5-180](#)  
 DBA\_FGA\_AUDIT\_TRAIL view, [5-181](#)  
 DBA\_FLASHBACK\_ARCHIVE view, [5-183](#)  
 DBA\_FLASHBACK\_ARCHIVE\_TABLES view, [5-183](#)  
 DBA\_FLASHBACK\_ARCHIVE\_TS view, [5-184](#)  
 DBA\_FLASHBACK\_TXN\_REPORT view, [5-184](#)  
 DBA\_FLASHBACK\_TXN\_STATE view, [5-185](#)  
 DBA\_FREE\_SPACE view, [5-185](#)  
 DBA\_FREE\_SPACE\_COALESCED view, [5-186](#)  
 DBA\_GG\_AUTO\_CDR\_COLUMN\_GROUPS view, [5-186](#)  
 DBA\_GG\_AUTO\_CDR\_COLUMNS view, [5-187](#)  
 DBA\_GG\_AUTO\_CDR\_TABLES view, [5-187](#)  
 DBA\_GG\_INBOUND\_PROGRESS view, [5-187](#)  
 DBA\_GG\_PROC\_OBJECT\_EXCLUSION view, [5-187](#)  
 DBA\_GG\_PROCEDURE\_ANNOTATION view, [5-188](#)  
 DBA\_GG\_SUPPORTED\_PACKAGES view, [5-188](#)  
 DBA\_GG\_SUPPORTED\_PROCEDURES view, [5-189](#)  
 DBA\_GLOBAL\_CONTEXT view, [5-189](#)  
 DBA\_GOLDENGATE\_INBOUND view, [5-190](#)  
 DBA\_GOLDENGATE\_NOT\_UNIQUE view, [5-190](#)  
 DBA\_GOLDENGATE\_PRIVILEGES view, [5-190](#)  
 DBA\_GOLDENGATE\_RULES view, [5-191](#)  
 DBA\_GOLDENGATE\_SUPPORT\_MODE view, [5-191](#)  
 DBA\_HANG\_MANAGER\_PARAMETERS view, [5-192](#)  
 DBA\_HEAT\_MAP\_SEG\_HISTOGRAM view, [5-192](#)  
 DBA\_HEAT\_MAP\_SEGMENT view, [5-192](#)  
 DBA\_HEATMAP\_TOP\_OBJECTS view, [5-193](#)  
 DBA\_HEATMAP\_TOP\_TABLESPACES view, [5-193](#)  
 DBA\_HIER\_CLASS view, [5-194](#)  
 DBA\_HIER\_CLASS\_AE view, [5-194](#)  
 DBA\_HIER\_COLUMNS view, [5-194](#)  
 DBA\_HIER\_COLUMNS\_AE view, [5-195](#)

DBA\_HIER\_HIER\_ATTR\_CLASS view, [5-195](#)  
 DBA\_HIER\_HIER\_ATTR\_CLASS\_AE view, [5-195](#)  
 DBA\_HIER\_HIER\_ATTRIBUTES view, [5-195](#)  
 DBA\_HIER\_HIER\_ATTRIBUTES\_AE view, [5-196](#)  
 DBA\_HIER\_JOIN\_PATHS view, [5-196](#)  
 DBA\_HIER\_JOIN\_PATHS\_AE view, [5-196](#)  
 DBA\_HIER\_LEVEL\_ID\_ATTRS view, [5-196](#)  
 DBA\_HIER\_LEVEL\_ID\_ATTRS\_AE view, [5-197](#)  
 DBA\_HIER\_LEVELS view, [5-197](#)  
 DBA\_HIER\_LEVELS\_AE view, [5-197](#)  
 DBA\_HIERARCHIES view, [5-197](#)  
 DBA\_HIERARCHIES\_AE view, [5-198](#)  
 DBA\_HIGH\_WATER\_MARK\_STATISTICS view, [5-198](#)  
 DBA\_HIST\_ACTIVE\_SESS\_HISTORY view, [5-199](#)  
 DBA\_HIST\_APPLY\_SUMMARY view, [5-204](#)  
 DBA\_HIST\_ASH\_SNAPSHOT view, [5-206](#)  
 DBA\_HIST\_BASELINE view, [5-207](#)  
 DBA\_HIST\_BASELINE\_DETAILS view, [5-208](#)  
 DBA\_HIST\_BASELINE\_METADATA view, [5-209](#)  
 DBA\_HIST\_BASELINE\_TEMPLATE view, [5-210](#)  
 DBA\_HIST\_BG\_EVENT\_SUMMARY view, [5-211](#)  
 DBA\_HIST\_BUFFER\_POOL\_STAT view, [5-212](#)  
 DBA\_HIST\_BUFFERED\_QUEUES view, [5-213](#)  
 DBA\_HIST\_BUFFERED\_SUBSCRIBERS view, [5-214](#)  
 DBA\_HIST\_CAPTURE view, [5-216](#)  
 DBA\_HIST\_CHANNEL\_WAITS view, [5-217](#)  
 DBA\_HIST\_CLUSTER\_INTERCON view, [5-217](#)  
 DBA\_HIST\_COLORED\_SQL view, [5-218](#)  
 DBA\_HIST\_COMP\_IOSTAT view, [5-219](#)  
 DBA\_HIST\_CON\_SYS\_TIME\_MODEL view, [5-219](#)  
 DBA\_HIST\_CON\_SYSMETRIC\_HIST view, [5-220](#)  
 DBA\_HIST\_CON\_SYSMETRIC\_SUMM view, [5-221](#)  
 DBA\_HIST\_CON\_SYSSTAT view, [5-222](#)  
 DBA\_HIST\_CON\_SYSTEM\_EVENT view, [5-223](#)  
 DBA\_HIST\_CR\_BLOCK\_SERVER view, [5-224](#)  
 DBA\_HIST\_CURRENT\_BLOCK\_SERVER view, [5-225](#)  
 DBA\_HIST\_DATABASE\_INSTANCE view, [5-226](#)  
 DBA\_HIST\_DATAFILE view, [5-227](#)  
 DBA\_HIST\_DB\_CACHE\_ADVICE view, [5-228](#)  
 DBA\_HIST\_DISPATCHER view, [5-229](#)  
 DBA\_HIST\_DLM\_MISC view, [5-230](#)  
 DBA\_HIST\_DYN\_REMASTER\_STATS view, [5-231](#)  
 DBA\_HIST\_ENQUEUE\_STAT view, [5-232](#)  
 DBA\_HIST\_EVENT\_HISTOGRAM view, [5-233](#)  
 DBA\_HIST\_EVENT\_NAME view, [5-234](#)  
 DBA\_HIST\_FILEMETRIC\_HISTORY view, [5-234](#)  
 DBA\_HIST\_FILESTATXS view, [5-235](#)  
 DBA\_HIST\_IC\_CLIENT\_STATS view, [5-236](#)

- 
- DBA\_HIST\_IC\_DEVICE\_STATS view, [5-237](#)
  - DBA\_HIST\_IM\_SEG\_STAT view, [5-238](#)
  - DBA\_HIST\_IM\_SEG\_STAT\_OBJ view, [5-239](#)
  - DBA\_HIST\_INST\_CACHE\_TRANSFER view, [5-240](#)
  - DBA\_HIST\_INSTANCE\_RECOVERY view, [5-241](#)
  - DBA\_HIST\_INTERCONNECT\_PINGS view, [5-243](#)
  - DBA\_HIST\_IOSTAT\_DETAIL view, [5-244](#)
  - DBA\_HIST\_IOSTAT\_FILETYPE view, [5-245](#)
  - DBA\_HIST\_IOSTAT\_FILETYPE\_NAME view, [5-247](#)
  - DBA\_HIST\_IOSTAT\_FUNCTION view, [5-247](#)
  - DBA\_HIST\_IOSTAT\_FUNCTION\_NAME view, [5-248](#)
  - DBA\_HIST\_JAVA\_POOL\_ADVICE view, [5-249](#)
  - DBA\_HIST\_LATCH view, [6-1](#)
  - DBA\_HIST\_LATCH\_CHILDREN view, [6-2](#)
  - DBA\_HIST\_LATCH\_MISSES\_SUMMARY view, [6-3](#)
  - DBA\_HIST\_LATCH\_NAME view, [6-4](#)
  - DBA\_HIST\_LATCH\_PARENT view, [6-5](#)
  - DBA\_HIST\_LIBRARYCACHE view, [6-6](#)
  - DBA\_HIST\_LOG view, [6-7](#)
  - DBA\_HIST\_MEM\_DYNAMIC\_COMP view, [6-8](#)
  - DBA\_HIST\_MEMORY\_RESIZE\_OPS view, [6-9](#)
  - DBA\_HIST\_MEMORY\_TARGET\_ADVICE view, [6-10](#)
  - DBA\_HIST\_METRIC\_NAME view, [6-11](#)
  - DBA\_HIST\_MTTT\_TARGET\_ADVICE view, [6-12](#)
  - DBA\_HIST\_MUTEX\_SLEEP view, [6-13](#)
  - DBA\_HIST\_OPTIMIZER\_ENV view, [6-13](#)
  - DBA\_HIST\_OPTIMIZER\_ENV\_DETAILS view, [6-14](#)
  - DBA\_HIST\_OSSTAT view, [6-15](#)
  - DBA\_HIST\_OSSTAT\_NAME view, [6-15](#)
  - DBA\_HIST\_PARAMETER view, [6-16](#)
  - DBA\_HIST\_PARAMETER\_NAME view, [6-17](#)
  - DBA\_HIST\_PDB\_IN\_SNAP view, [6-18](#)
  - DBA\_HIST\_PDB\_INSTANCE view, [6-18](#)
  - DBA\_HIST\_PERSISTENT\_QMN\_CACHE view, [6-19](#)
  - DBA\_HIST\_PERSISTENT\_QUEUES view, [6-20](#)
  - DBA\_HIST\_PERSISTENT\_SUBS view, [6-22](#)
  - DBA\_HIST\_PGA\_TARGET\_ADVICE view, [6-23](#)
  - DBA\_HIST\_PGASTAT view, [6-24](#)
  - DBA\_HIST\_PLAN\_OPERATION\_NAME view, [6-25](#)
  - DBA\_HIST\_PLAN\_OPTION\_NAME view, [6-26](#)
  - DBA\_HIST\_PROCESS\_MEM\_SUMMARY view, [6-26](#)
  - DBA\_HIST\_PROCESS\_WAITTIME view, [6-27](#)
  - DBA\_HIST\_RECOVERY\_PROGRESS view, [6-28](#)
  - DBA\_HIST\_REPLICATION\_TBL\_STATS view, [6-29](#)
  - DBA\_HIST\_REPLICATION\_TXN\_STATS view, [6-30](#)
  - DBA\_HIST\_REPORTS view, [6-30](#)
  - DBA\_HIST\_REPORTS\_CONTROL view, [6-32](#)
  - DBA\_HIST\_REPORTS\_DETAILS view, [6-32](#)
  - DBA\_HIST\_REPORTS\_TIMEBANDS view, [6-33](#)
  - DBA\_HIST\_RESOURCE\_LIMIT view, [6-34](#)
  - DBA\_HIST\_ROWCACHE\_SUMMARY view, [6-35](#)
  - DBA\_HIST\_RSRC\_CONSUMER\_GROUP view, [6-36](#)
  - DBA\_HIST\_RSRC\_METRIC view, [6-38](#)
  - DBA\_HIST\_RSRC\_PDB\_METRIC view, [6-40](#)
  - DBA\_HIST\_RSRC\_PLAN view, [6-42](#)
  - DBA\_HIST\_RULE\_SET view, [6-43](#)
  - DBA\_HIST\_SAGAS view, [6-44](#)
  - DBA\_HIST\_SEG\_STAT view, [6-45](#)
  - DBA\_HIST\_SEG\_STAT\_OBJ view, [6-47](#)
  - DBA\_HIST\_SERVICE\_NAME view, [6-48](#)
  - DBA\_HIST\_SERVICE\_STAT view, [6-49](#)
  - DBA\_HIST\_SERVICE\_WAIT\_CLASS view, [6-49](#)
  - DBA\_HIST\_SESS\_SGA\_STATS view, [6-50](#)
  - DBA\_HIST\_SESS\_TIME\_STATS view, [6-51](#)
  - DBA\_HIST\_SESSMETRIC\_HISTORY view, [6-52](#)
  - DBA\_HIST\_SGA view, [6-53](#)
  - DBA\_HIST\_SGA\_TARGET\_ADVICE view, [6-53](#)
  - DBA\_HIST\_SGASTAT view, [6-54](#)
  - DBA\_HIST\_SHARED\_POOL\_ADVICE view, [6-55](#)
  - DBA\_HIST\_SHARED\_SERVER\_SUMMARY view, [6-56](#)
  - DBA\_HIST\_SNAP\_ERROR view, [6-58](#)
  - DBA\_HIST\_SNAPSHOT view, [6-58](#)
  - DBA\_HIST\_SQL\_BIND\_METADATA view, [6-59](#)
  - DBA\_HIST\_SQL\_PLAN view, [6-60](#)
  - DBA\_HIST\_SQL\_SUMMARY view, [6-63](#)
  - DBA\_HIST\_SQL\_WORKAREA\_HSTGRM view, [6-63](#)
  - DBA\_HIST\_SQLBIND view, [6-64](#)
  - DBA\_HIST\_SQLCOMMAND\_NAME view, [6-65](#)
  - DBA\_HIST\_SQLSTAT view, [6-66](#)
  - DBA\_HIST\_SQLTEXT view, [6-70](#)
  - DBA\_HIST\_STAT\_NAME view, [6-71](#)
  - DBA\_HIST\_STREAMS\_APPLY\_SUM view, [6-72](#)
  - DBA\_HIST\_STREAMS\_CAPTURE view, [6-73](#)
  - DBA\_HIST\_STREAMS\_POOL\_ADVICE view, [6-74](#)
  - DBA\_HIST\_SYS\_TIME\_MODEL view, [6-74](#)
  - DBA\_HIST\_SYSMETRIC\_HISTORY view, [6-75](#)
  - DBA\_HIST\_SYSMETRIC\_SUMMARY view, [6-76](#)
  - DBA\_HIST\_SYSSTAT view, [6-77](#)
  - DBA\_HIST\_SYSTEM\_EVENT view, [6-78](#)
  - DBA\_HIST\_TABLESPACE view, [6-79](#)
  - DBA\_HIST\_TABLESPACE\_STAT view, [6-79](#)
  - DBA\_HIST\_TBSPC\_SPACE\_USAGE view, [6-80](#)
  - DBA\_HIST\_TEMPFILE view, [6-81](#)
  - DBA\_HIST\_TEMPSTATXS view, [6-81](#)
  - DBA\_HIST\_THREAD view, [6-83](#)
-

- DBA\_HIST\_TOPLEVELCALL\_NAME view, [6-83](#)  
 DBA\_HIST\_UNDOSTAT view, [6-84](#)  
 DBA\_HIST\_WAITCLASSMET\_HISTORY view, [6-85](#)  
 DBA\_HIST\_WAITSTAT view, [6-86](#)  
 DBA\_HIST\_WR\_CONTROL view, [6-87](#)  
 DBA\_HIST\_WR\_SETTINGS view, [6-88](#)  
 DBA\_HISTOGRAMS synonym for DBA\_TAB\_HISTOGRAMS, [6-88](#)  
 DBA\_HIVE\_COLUMNS view, [6-88](#)  
 DBA\_HIVE\_DATABASES view, [6-89](#)  
 DBA\_HIVE\_PART\_KEY\_COLUMNS view, [6-89](#)  
 DBA\_HIVE\_TAB\_PARTITIONS view, [6-89](#)  
 DBA\_HIVE\_TABLES view, [6-89](#)  
 DBA\_HOST\_ACES view, [6-90](#)  
 DBA\_HOST\_ACLS view, [6-90](#)  
 DBA\_IDENTIFIERS view, [6-91](#)  
 DBA\_ILMDATAMOVEMENTPOLICIES view, [6-91](#)  
 DBA\_ILMEVALUATIONDETAILS view, [6-92](#)  
 DBA\_ILMOBJECTS view, [6-93](#)  
 DBA\_ILMPARAMETERS view, [6-95](#)  
 DBA\_ILMPOLICIES view, [6-95](#)  
 DBA\_ILMRESULTS view, [6-96](#)  
 DBA\_ILMTASKS view, [6-97](#)  
 DBA\_IM\_EXPRESSIONS view, [6-98](#)  
 DBA\_IMMUTABLE\_ROW\_VERSION\_COLS view, [6-99](#)  
 DBA\_IMMUTABLE\_ROW\_VERSION\_HISTORY view, [6-99](#)  
 DBA\_IMMUTABLE\_TABLE\_COLUMNS view, [6-99](#)  
 DBA\_IMMUTABLE\_TABLE\_EPOCHS view, [6-100](#)  
 DBA\_IMMUTABLE\_TABLES view, [6-100](#)  
 DBA\_INCOMPLETE\_SAGAS view, [6-100](#)  
 DBA\_IND\_COLUMNS view, [6-101](#)  
 DBA\_IND\_EXPRESSIONS view, [6-101](#)  
 DBA\_IND\_PARTITIONS view, [6-101](#)  
 DBA\_IND\_PENDING\_STATS view, [6-102](#)  
 DBA\_IND\_STATISTICS view, [6-102](#)  
 DBA\_IND\_SUBPARTITIONS view, [6-102](#)  
 DBA\_INDEX\_USAGE view, [6-102](#)  
 DBA\_INDEXES view, [6-103](#)  
     collecting statistics for, [6-102](#)  
 DBA\_INDEXTYPE\_ARRAYTYPES view, [6-104](#)  
 DBA\_INDEXTYPE\_COMMENTS view, [6-104](#)  
 DBA\_INDEXTYPE\_OPERATORS view, [6-104](#)  
 DBA\_INDEXTYPES view, [6-104](#)  
 DBA\_INMEMORY\_ADVISOR\_RECOMMENDATIONS view, [6-105](#)  
 DBA\_INMEMORY\_AIMTASKDETAILS view, [6-105](#)  
 DBA\_INMEMORY\_AIMTASKS view, [6-106](#)  
 DBA\_INTERNAL\_TRIGGERS view, [6-106](#)  
 DBA\_INVALID\_OBJECTS view, [6-106](#)  
 DBA\_JAVA\_ARGUMENTS view, [6-108](#)  
 DBA\_JAVA\_CLASSES view, [6-108](#)  
 DBA\_JAVA\_COMPILER\_OPTIONS view, [6-109](#)  
 DBA\_JAVA\_DERIVATIONS view, [6-109](#)  
 DBA\_JAVA\_FIELDS view, [6-109](#)  
 DBA\_JAVA\_IMPLEMENTEDS view, [6-109](#)  
 DBA\_JAVA\_INNERS view, [6-110](#)  
 DBA\_JAVA\_LAYOUTS view, [6-110](#)  
 DBA\_JAVA\_METHODS view, [6-110](#)  
 DBA\_JAVA\_NCOMPS view, [6-110](#)  
 DBA\_JAVA\_POLICY view, [6-111](#)  
 DBA\_JAVA\_RESOLVERS view, [6-111](#)  
 DBA\_JAVA\_THROWS view, [6-112](#)  
 DBA\_JOBS view, [6-112](#)  
 DBA\_JOBS\_RUNNING view, [6-113](#)  
 DBA\_JOIN\_IND\_COLUMNS view, [6-113](#)  
 DBA\_JOININGROUPS view, [6-114](#)  
 DBA\_JSON\_COLLECTION\_TABLES view, [6-115](#)  
 DBA\_JSON\_COLLECTION\_VIEWS view, [6-115](#)  
 DBA\_JSON\_COLLECTIONS view, [6-116](#)  
 DBA\_JSON\_COLUMNS view, [6-116](#)  
 DBA\_JSON\_DATAGUIDE\_FIELDS view, [6-116](#)  
 DBA\_JSON\_DATAGUIDES view, [6-117](#)  
 DBA\_JSON\_DOMAIN\_SCHEMA\_COLUMNS view, [6-117](#)  
 DBA\_JSON\_DUALITY\_VIEW\_LINKS view, [6-117](#)  
 DBA\_JSON\_DUALITY\_VIEW\_TAB\_COLS view, [6-118](#)  
 DBA\_JSON\_DUALITY\_VIEW\_TABS view, [6-118](#)  
 DBA\_JSON\_DUALITY\_VIEWS view, [6-118](#)  
 DBA\_JSON\_INDEXES view, [6-119](#)  
 DBA\_JSON\_SCHEMA\_COLUMNS view, [6-119](#)  
 DBA\_KAFKA\_APPLICATIONS view, [6-119](#)  
 DBA\_KAFKA\_CLUSTERS view, [6-121](#)  
 DBA\_KAFKA\_LOAD\_METRICS view, [6-122](#)  
 DBA\_KAFKA\_OPS view, [6-123](#)  
 DBA\_KAFKA\_OPS\_RESULTS view, [6-124](#)  
 DBA\_KAFKA\_PARTITIONS view, [6-124](#)  
 DBA\_KGLLOCK view, [6-125](#)  
 DBA\_LIBRARIES view, [6-126](#)  
 DBA\_LMT\_FREE\_SPACE view, [6-126](#)  
 DBA\_LMT\_USED\_EXTENTS view, [6-126](#)  
 DBA\_LOB\_PARTITIONS view, [6-127](#)  
 DBA\_LOB\_SUBPARTITIONS view, [6-127](#)  
 DBA\_LOB\_TEMPLATES view, [6-127](#)  
 DBA\_LOBS view, [6-127](#)  
 DBA\_LOCK view, [6-128](#)  
     DBA\_LOCKS synonym, [6-130](#)  
 DBA\_LOCK\_INTERNAL view, [6-128](#)  
 DBA\_LOCKDOWN\_PROFILES view, [6-129](#)  
 DBA\_LOCKS synonym for DBA\_LOCK view, [6-130](#)  
 DBA\_LOG\_GROUP\_COLUMNS view, [6-130](#)  
 DBA\_LOG\_GROUPS view, [6-130](#)  
 DBA\_LOGMNR\_DICTIONARY\_BUILDLOG view, [6-131](#)  
 DBA\_LOGMNR\_LOG view, [6-131](#)  
 DBA\_LOGMNR\_PURGED\_LOG view, [6-132](#)

- 
- DBA\_LOGMNR\_SESSION view, [6-132](#)
  - DBA\_LOGSTDBY\_EVENTS view, [6-133](#)
  - DBA\_LOGSTDBY\_HISTORY view, [6-134](#)
  - DBA\_LOGSTDBY\_LOG view, [6-136](#)
  - DBA\_LOGSTDBY\_NOT\_UNIQUE view, [6-137](#)
  - DBA\_LOGSTDBY\_PARAMETERS view, [6-138](#)
  - DBA\_LOGSTDBY\_PLSQL\_MAP view, [6-140](#)
  - DBA\_LOGSTDBY\_PLSQL\_SUPPORT view, [6-140](#)
  - DBA\_LOGSTDBY\_PROGRESS view, [6-141](#)
  - DBA\_LOGSTDBY\_SKIP view, [6-141](#)
  - DBA\_LOGSTDBY\_SKIP\_TRANSACTION view, [6-142](#)
  - DBA\_LOGSTDBY\_SUPPORT\_MODE view, [6-142](#)
  - DBA\_LOGSTDBY\_UNSUPPORTED view, [6-143](#)
  - DBA\_LOGSTDBY\_UNSUPPORTED\_TABLE view, [6-144](#)
  - LOGSTDBY\_UNSUPPORTED\_TABLES synonym, [7-135](#)
  - DBA\_MEASURE\_FOLDER\_CONTENTS view, [6-145](#)
  - DBA\_MEASURE\_FOLDER\_SUBFOLDERS view, [6-145](#)
  - DBA\_MEASURE\_FOLDERS view, [6-145](#)
  - DBA\_METADATA\_PROPERTIES view, [6-145](#)
  - DBA\_METHOD\_PARAMS view, [6-146](#)
  - DBA\_METHOD\_RESULTS view, [6-146](#)
  - DBA\_MINING\_MODEL\_ATTRIBUTES view, [6-146](#)
  - DBA\_MINING\_MODEL\_PARTITIONS view, [6-146](#)
  - DBA\_MINING\_MODEL\_SETTINGS view, [6-147](#)
  - DBA\_MINING\_MODEL\_TABLES view, [6-147](#)
  - DBA\_MINING\_MODEL\_VIEWS view, [6-147](#)
  - DBA\_MINING\_MODEL\_XFORMS view, [6-148](#)
  - DBA\_MINING\_MODELS view, [6-148](#)
  - DBA\_MLE\_ENV\_IMPORTS view, [6-148](#)
  - DBA\_MLE\_ENVS view, [6-149](#)
  - DBA\_MLE\_MODULES view, [6-149](#)
  - DBA\_MLE\_PROCEDURES view, [6-149](#)
  - DBA\_MVIEW\_AGGREGATES view, [6-150](#)
  - DBA\_MVIEW\_ANALYSIS view, [6-150](#)
  - DBA\_MVIEW\_COMMENTS view, [6-150](#)
  - DBA\_MVIEW\_DETAIL\_LOGICAL\_PARTITION view, [6-151](#)
  - DBA\_MVIEW\_DETAIL\_PARTITION view, [6-151](#)
  - DBA\_MVIEW\_DETAIL\_RELATIONS view, [6-151](#)
  - DBA\_MVIEW\_DETAIL\_SUBPARTITION view, [6-151](#)
  - DBA\_MVIEW\_JOINS view, [6-152](#)
  - DBA\_MVIEW\_KEYS view, [6-152](#)
  - DBA\_MVIEW\_LOG\_FILTER\_COLS view, [6-152](#)
  - DBA\_MVIEW\_LOGS view, [6-152](#)
  - DBA\_MVIEW\_REFRESH\_TIMES view, [6-153](#)
  - DBA\_MVIEWS view, [6-153](#)
  - DBA\_MVREF\_CHANGE\_STATS view, [6-153](#)
  - DBA\_MVREF\_RUN\_STATS view, [6-154](#)
  - DBA\_MVREF\_STATS view, [6-155](#)
  - DBA\_MVREF\_STATS\_PARAMS view, [6-156](#)
  - DBA\_MVREF\_STATS\_SYS\_DEFAULTS view, [6-157](#)
  - DBA\_MVREF\_STMT\_STATS view, [6-157](#)
  - DBA\_NESTED\_TABLE\_COLS view, [6-158](#)
  - DBA\_NESTED\_TABLES view, [6-158](#)
  - DBA\_NETWORK\_ACL\_PRIVILEGES view, [6-159](#)
  - DBA\_NETWORK\_ACLS view, [6-159](#)
  - DBA\_OBJ\_AUDIT\_OPTS view, [6-160](#)
  - DBA\_OBJ\_COLATTRS view, [6-161](#)
  - DBA\_OBJECT\_SIZE view, [6-161](#)
  - DBA\_OBJECT\_TABLES view, [6-162](#)
  - DBA\_OBJECT\_USAGE view, [6-162](#)
  - DBA\_OBJECTS view, [6-163](#)
  - DBA\_OBJECTS\_AE view, [6-163](#)
  - DBA\_OGG\_AUTO\_CAPTURED\_TABLES view, [6-164](#)
  - DBA\_OPANCILLARY view, [6-164](#)
  - DBA\_OPARGUMENTS view, [6-164](#)
  - DBA\_OPBINDINGS view, [6-165](#)
  - DBA\_OPERATOR\_COMMENTS view, [6-165](#)
  - DBA\_OPERATORS view, [6-165](#)
  - DBA\_OPTSTAT\_OPERATION\_TASKS view, [6-165](#)
  - DBA\_OPTSTAT\_OPERATIONS view, [6-167](#)
  - DBA\_ORPHAN\_KEY\_TABLE view, [6-167](#)
  - DBA\_OUTLINE\_HINTS view, [6-168](#)
  - DBA\_OUTLINES view, [6-169](#)
  - DBA\_OUTSTANDING\_ALERTS view, [6-169](#)
  - DBA\_PARALLEL\_EXECUTE\_CHUNKS view, [6-171](#)
  - DBA\_PARALLEL\_EXECUTE\_TASKS view, [6-171](#)
  - DBA\_PART\_COL\_STATISTICS view, [6-173](#)
  - DBA\_PART\_HISTOGRAMS view, [6-173](#)
  - DBA\_PART\_INDEXES view, [6-173](#)
  - DBA\_PART\_KEY\_COLUMNS view, [6-173](#)
  - DBA\_PART\_LOBS view, [6-174](#)
  - DBA\_PART\_TABLES view, [6-174](#)
  - DBA\_PARTIAL\_DROP\_TABS view, [6-174](#)
  - DBA\_PDB\_HISTORY view, [6-174](#)
  - DBA\_PDB\_SAVED\_STATES view, [6-175](#)
  - DBA\_PDB\_SNAPSHOTFILE view, [6-176](#)
  - DBA\_PDB\_SNAPSHOTS view, [6-176](#)
  - DBA\_PDBS view, [6-177](#)
  - DBA\_PENDING\_CONV\_TABLES view, [6-180](#)
  - DBA\_PENDING\_TRANSACTIONS view, [6-180](#)
  - DBA\_PG\_EDGE\_RELATIONSHIPS view, [6-180](#)
  - DBA\_PG\_ELEMENT\_LABELS view, [6-180](#)
  - DBA\_PG\_ELEMENTS view, [6-181](#)
  - DBA\_PG\_KEYS view, [6-181](#)
  - DBA\_PG\_LABEL\_PROPERTIES view, [6-181](#)
  - DBA\_PG\_LABELS view, [6-182](#)
  - DBA\_PG\_PROP\_DEFINITIONS view, [6-182](#)
  - DBA\_PLSQL\_COLL\_TYPES view, [6-183](#)
-



DBA\_PLSQL\_OBJECT\_SETTINGS view, [6-183](#)  
DBA\_PLSQL\_TYPE\_ATTRS view, [6-183](#)  
DBA\_PLSQL\_TYPES view, [6-183](#)  
DBA\_POLICIES view, [6-184](#)  
DBA\_POLICY\_ATTRIBUTES view, [6-184](#)  
DBA\_POLICY\_CONTEXTS view, [6-184](#)  
DBA\_POLICY\_GROUPS view, [6-184](#)  
DBA\_PRIV\_AUDIT\_OPTS view, [6-185](#)  
DBA\_PRIV\_CAPTURES view, [6-185](#)  
DBA\_PRIVATE\_TEMP\_TABLES view, [6-186](#)  
DBA\_PROCEDURES view, [6-187](#)  
DBA\_PROFILES view, [6-187](#)  
DBA\_PROPAGATION view, [6-188](#)  
DBA\_PROPERTY\_GRAPHS view, [6-188](#)  
DBA\_PROXIES view, [6-188](#)  
DBA\_QUARANTINED\_TRANSACTIONS view,  
[6-189](#)  
DBA\_QUEUE\_EVENT\_STREAMS view, [6-190](#)  
DBA\_QUEUE\_SCHEDULES view, [6-190](#)  
DBA\_QUEUE\_SUBSCRIBERS view, [6-190](#)  
DBA\_QUEUE\_TABLES view, [6-191](#)  
DBA\_QUEUES view, [6-191](#)  
DBA\_RAT\_CAPTURE\_SCHEMA\_INFO view,  
[6-191](#)  
DBA\_RCHILD view, [6-192](#)  
DBA\_RECOVERABLE\_SCRIPT view, [6-192](#)  
DBA\_RECOVERABLE\_SCRIPT\_BLOCKS view,  
[6-193](#)  
DBA\_RECOVERABLE\_SCRIPT\_ERRORS view,  
[6-193](#)  
DBA\_RECOVERABLE\_SCRIPT\_HIST view,  
[6-193](#)  
DBA\_RECOVERABLE\_SCRIPT\_PARAMS view,  
[6-194](#)  
DBA\_RECYCLEBIN view, [6-194](#)  
DBA\_REDEFINITION\_ERRORS view, [6-195](#)  
DBA\_REDEFINITION\_OBJECTS view, [6-196](#)  
DBA\_REDEFINITION\_STATUS view, [6-197](#)  
DBA\_REFRESH view, [6-198](#)  
DBA\_REFRESH\_CHILDREN view, [6-198](#)  
DBA\_REFS view, [6-198](#)  
DBA\_REGISTERED\_ARCHIVED\_LOG view,  
[6-198](#)  
DBA\_REGISTERED\_MVIEWS view, [6-199](#)  
DBA\_REGISTRY view, [6-199](#)  
DBA\_REGISTRY\_BACKPORTS view, [6-200](#)  
DBA\_REGISTRY\_HIERARCHY view, [6-201](#)  
DBA\_REGISTRY\_HISTORY view, [6-201](#)  
DBA\_REGISTRY\_LOG view, [6-202](#)  
DBA\_REGISTRY\_SCHEMAS view, [6-202](#)  
DBA\_REGISTRY\_SQLPATCH view, [6-202](#)  
DBA\_REPAIR\_TABLE view, [6-204](#)  
DBA\_REPL\_DBNAME\_MAPPING view, [6-205](#)  
DBA\_REPLICATION\_PROCESS\_EVENTS view,  
[6-205](#)  
DBA\_RESOURCE\_INCARNATIONS view, [6-205](#)

DBA\_RESUMABLE view, [6-206](#)  
DBA\_REWRITE\_EQUIVALENCES view, [6-207](#)  
DBA\_RGROUP view, [6-207](#)  
DBA\_ROLE\_PRIVS view, [6-208](#)  
DBA\_ROLES view, [6-208](#)  
DBA\_ROLLBACK\_SEGS view, [6-209](#)  
DBA\_ROLLING\_DATABASES view, [6-210](#)  
DBA\_ROLLING\_EVENTS view, [6-211](#)  
DBA\_ROLLING\_PARAMETERS view, [6-211](#)  
DBA\_ROLLING\_PLAN view, [6-212](#)  
DBA\_ROLLING\_STATISTICS view, [6-213](#)  
DBA\_ROLLING\_STATUS view, [6-213](#)  
DBA\_ROLLING\_SUPPORT\_MODE view, [6-214](#)  
DBA\_ROLLING\_UNSUPPORTED view, [6-215](#)  
DBA\_RSRC\_CATEGORIES view, [6-216](#)  
DBA\_RSRC\_CONSUMER\_GROUP\_PRIVS view,  
[6-216](#)  
DBA\_RSRC\_CONSUMER\_GROUPS view, [6-217](#)  
DBA\_RSRC\_GROUP\_MAPPINGS view, [6-217](#)  
DBA\_RSRC\_IO\_CALIBRATE view, [6-217](#)  
DBA\_RSRC\_MANAGER\_SYSTEM\_PRIVS view,  
[6-218](#)  
DBA\_RSRC\_MAPPING\_PRIORITY view, [6-218](#)  
DBA\_RSRC\_PLAN\_DIRECTIVES view, [6-219](#)  
DBA\_RSRC\_PLANS view, [6-222](#)  
DBA\_RULE\_SET\_RULES view, [6-223](#)  
DBA\_RULE\_SETS view, [6-223](#)  
DBA\_RULES view, [6-223](#)  
DBA\_SAGA\_BROKERS view, [6-224](#)  
DBA\_SAGA\_DETAILS view, [6-224](#)  
DBA\_SAGA\_ERRORS view, [6-224](#)  
DBA\_SAGA\_FINALIZATION view, [6-225](#)  
DBA\_SAGA\_PARTICIPANT\_SET view, [6-225](#)  
DBA\_SAGA\_PARTICIPANTS view, [6-225](#)  
DBA\_SAGA\_PENDING view, [6-226](#)  
DBA\_SAGAS view, [6-226](#)  
DBA\_SCHEDULER\_CHAIN\_RULES view, [6-227](#)  
DBA\_SCHEDULER\_CHAIN\_STEPS view, [6-227](#)  
DBA\_SCHEDULER\_CHAINS view, [6-227](#)  
DBA\_SCHEDULER\_CREDENTIALS view, [6-228](#)  
DBA\_SCHEDULER\_DB\_DESTS view, [6-228](#)  
DBA\_SCHEDULER\_DESTS view, [6-228](#)  
DBA\_SCHEDULER\_EXTERNAL\_DESTS view,  
[6-229](#)  
DBA\_SCHEDULER\_FILE\_WATCHERS view,  
[6-229](#)  
DBA\_SCHEDULER\_GLOBAL\_ATTRIBUTE view,  
[6-229](#)  
DBA\_SCHEDULER\_GROUP\_MEMBERS view,  
[6-229](#)  
DBA\_SCHEDULER\_GROUPS view, [6-230](#)  
DBA\_SCHEDULER\_IN\_MEMORY\_TRACE view,  
[6-230](#)  
DBA\_SCHEDULER\_INCOMPAT\_MEMBER view,  
[6-230](#)  
DBA\_SCHEDULER\_INCOMPATS view, [6-231](#)

DBA\_SCHEDULER\_JOB\_ARGS view, [6-231](#)  
DBA\_SCHEDULER\_JOB\_CLASSES view, [6-231](#)  
DBA\_SCHEDULER\_JOB\_DESTS view, [6-231](#)  
DBA\_SCHEDULER\_JOB\_LOG view, [6-232](#)  
DBA\_SCHEDULER\_JOB\_ROLES view, [6-232](#)  
DBA\_SCHEDULER\_JOB\_RUN\_DETAILS view,  
[6-233](#)  
DBA\_SCHEDULER\_JOBS view, [6-233](#)  
DBA\_SCHEDULER\_NOTIFICATIONS view,  
[6-234](#)  
DBA\_SCHEDULER\_PROGRAM\_ARGS view,  
[6-234](#)  
DBA\_SCHEDULER\_PROGRAMS view, [6-234](#)  
DBA\_SCHEDULER\_REMOTE\_DATABASES  
view, [6-234](#)  
DBA\_SCHEDULER\_REMOTE\_JOBSTATE view,  
[6-235](#)  
DBA\_SCHEDULER\_RESOURCES view, [6-235](#)  
DBA\_SCHEDULER\_RSC\_CONSTRAINTS view,  
[6-235](#)  
DBA\_SCHEDULER\_RUNNING\_CHAINS view,  
[6-235](#)  
DBA\_SCHEDULER\_RUNNING\_JOBS view,  
[6-236](#)  
DBA\_SCHEDULER\_SCHEDULES view, [6-236](#)  
DBA\_SCHEDULER\_WINDOW\_DETAILS view,  
[6-236](#)  
DBA\_SCHEDULER\_WINDOW\_GROUPS view,  
[6-236](#)  
DBA\_SCHEDULER\_WINDOW\_LOG view, [6-237](#)  
DBA\_SCHEDULER\_WINDOWS view, [6-237](#)  
DBA\_SCHEDULER\_WINGROUP\_MEMBERS  
view, [6-237](#)  
DBA\_SCHEMA\_PRIVS view, [6-237](#)  
DBA\_SEC\_RELEVANT\_COLS view, [6-238](#)  
DBA\_SECONDARY\_OBJECTS view, [6-238](#)  
DBA\_SEGMENTS view, [6-238](#)  
DBA\_SEGMENTS\_OLD view, [6-241](#)  
DBA\_SENSITIVE\_COLUMN\_TYPES view, [6-242](#)  
DBA\_SENSITIVE\_DATA view, [6-242](#)  
DBA\_SEQUENCES view, [6-243](#)  
DBA\_SERVER\_REGISTRY view, [6-243](#)  
DBA\_SERVICES view, [6-244](#)  
DBA\_SODA\_COLLECTIONS view, [6-244](#)  
DBA\_SOURCE view, [6-245](#)  
DBA\_SOURCE\_AE view, [6-245](#)  
DBA\_SQL\_ERROR\_MITIGATIONS view, [6-245](#)  
DBA\_SQL\_FIREWALL\_ALLOW\_LISTS view,  
[6-246](#)  
DBA\_SQL\_FIREWALL\_ALLOWED\_IP\_ADDR  
view, [6-247](#)  
DBA\_SQL\_FIREWALL\_ALLOWED\_OS\_PROG  
view, [6-247](#)  
DBA\_SQL\_FIREWALL\_ALLOWED\_OS\_USER  
view, [6-247](#)

DBA\_SQL\_FIREWALL\_ALLOWED\_SQL view,  
[6-248](#)  
DBA\_SQL\_FIREWALL\_CAPTURE\_LOGS view,  
[6-248](#)  
DBA\_SQL\_FIREWALL\_CAPTURES view, [6-249](#)  
DBA\_SQL\_FIREWALL\_SESSION\_LOGS view,  
[6-250](#)  
DBA\_SQL\_FIREWALL\_SQL\_LOGS view, [6-250](#)  
DBA\_SQL\_FIREWALL\_STATUS view, [6-251](#)  
DBA\_SQL\_FIREWALL\_VIOLATIONS view, [6-251](#)  
DBA\_SQL\_MANAGEMENT\_CONFIG view, [6-252](#)  
DBA\_SQL\_PATCHES view, [6-253](#)  
DBA\_SQL\_PLAN\_BASELINES view, [6-254](#)  
DBA\_SQL\_PLAN\_DIR\_OBJECTS view, [6-256](#)  
DBA\_SQL\_PLAN\_DIRECTIVES view, [6-257](#)  
DBA\_SQL\_PROFILES view, [6-258](#)  
DBA\_SQL\_QUARANTINE view, [6-252](#)  
DBA\_SQL\_TRANSLATION\_PROFILES view,  
[6-259](#)  
DBA\_SQL\_TRANSLATIONS view, [6-259](#)  
DBA\_SQLJ\_TYPE\_ATTRS view, [6-259](#)  
DBA\_SQLJ\_TYPE\_METHODS view, [6-259](#)  
DBA\_SQLJ\_TYPES view, [6-260](#)  
DBA\_SQLSET view, [6-260](#)  
DBA\_SQLSET\_BINDS view, [6-260](#)  
DBA\_SQLSET\_PLANS view, [6-260](#)  
DBA\_SQLSET\_REFERENCES view, [6-261](#)  
DBA\_SQLSET\_STATEMENTS view, [6-261](#)  
DBA\_SQLTUNE\_BINDS view, [6-263](#)  
DBA\_SQLTUNE\_PLANS view, [6-263](#)  
DBA\_SQLTUNE\_RATIONALE\_PLAN view, [6-266](#)  
DBA\_SQLTUNE\_STATISTICS view, [6-267](#)  
DBA\_SR\_GRP\_STATUS view, [6-268](#)  
DBA\_SR\_GRP\_STATUS\_ALL view, [6-269](#)  
DBA\_SR\_OBJ view, [6-271](#)  
DBA\_SR\_OBJ\_ALL view, [6-271](#)  
DBA\_SR\_OBJ\_STATUS view, [6-272](#)  
DBA\_SR\_OBJ\_STATUS\_ALL view, [6-273](#)  
DBA\_SR\_PARTN\_OPS view, [6-274](#)  
DBA\_SR\_STLOG\_EXCEPTIONS view, [6-275](#)  
DBA\_SR\_STLOG\_STATS view, [6-275](#)  
DBA\_SSCR\_CAPTURE view, [6-276](#)  
DBA\_SSCR\_RESTORE view, [6-277](#)  
DBA\_STAT\_EXTENSIONS view, [6-277](#)  
DBA\_STATEMENTS view, [6-278](#)  
DBA\_STMT\_AUDIT\_OPTS view, [6-278](#)  
DBA\_STORED\_SETTINGS view, [6-278](#)  
DBA\_STREAMS\_ADD\_COLUMN view, [7-1](#)  
DBA\_STREAMS\_DELETE\_COLUMN view, [7-1](#)  
DBA\_STREAMS\_GLOBAL\_RULES view, [7-2](#)  
DBA\_STREAMS\_KEEP\_COLUMNS view, [7-2](#)  
DBA\_STREAMS\_MESSAGE\_CONSUMERS  
view, [7-3](#)  
DBA\_STREAMS\_NEWLY\_SUPPORTED view,  
[7-3](#)  
DBA\_STREAMS\_RENAME\_COLUMN view, [7-3](#)

DBA\_STREAMS\_RENAME\_SCHEMA view, [7-3](#)  
DBA\_STREAMS\_RENAME\_TABLE view, [7-4](#)  
DBA\_STREAMS\_SCHEMA\_RULES view, [7-4](#)  
DBA\_STREAMS\_TABLE\_RULES view, [7-5](#)  
DBA\_STREAMS\_TP\_COMPONENT view, [7-5](#)  
DBA\_STREAMS\_TP\_COMPONENT\_LINK view, [7-5](#)  
DBA\_STREAMS\_TP\_COMPONENT\_STAT view, [7-6](#)  
DBA\_STREAMS\_TP\_DATABASE view, [7-7](#)  
DBA\_STREAMS\_TP\_PATH\_BOTTLENECK view, [7-7](#)  
DBA\_STREAMS\_TP\_PATH\_STAT view, [7-8](#)  
DBA\_STREAMS\_TRANSFORM\_FUNCTION view, [7-8](#)  
DBA\_SUBPART\_COL\_STATISTICS view, [7-9](#)  
DBA\_SUBPART\_HISTOGRAMS view, [7-9](#)  
DBA\_SUBPART\_KEY\_COLUMNS view, [7-9](#)  
DBA\_SUBPARTITION\_TEMPLATES view, [7-9](#)  
DBA\_SUBSCR\_REGISTRATIONS view, [7-10](#)  
DBA\_SUPPLEMENTAL\_LOGGING view, [7-11](#)  
DBA\_SYNC\_CAPTURE view, [7-12](#)  
DBA\_SYNC\_CAPTURE\_PREPARED\_TABS view, [7-12](#)  
DBA\_SYNC\_CAPTURE\_TABLES view, [7-12](#)  
DBA\_SYNONYMS view, [7-13](#)  
DBA\_SYS\_PRIVS view, [7-13](#)  
DBA\_SYS\_PRIVS\_ALL view, [7-13](#)  
DBA\_TAB\_COL\_STAT\_MODELS view, [7-14](#)  
DBA\_TAB\_COL\_STATISTICS view, [7-14](#)  
DBA\_TAB\_COLS view, [7-15](#)  
DBA\_TAB\_COLUMNS view, [7-18](#)  
DBA\_TAB\_COMMENTS view, [7-21](#)  
DBA\_TAB\_HISTGRM\_PENDING\_STATS view, [7-22](#)  
DBA\_TAB\_HISTOGRAMS view, [7-22](#)  
    DBA\_HISTOGRAMS synonym, [6-88](#)  
DBA\_TAB\_IDENTITY\_COLS view, [7-22](#)  
DBA\_TAB\_MODIFICATIONS view, [7-22](#)  
DBA\_TAB\_PARTITIONS view, [7-23](#)  
DBA\_TAB\_PENDING\_STATS view, [7-23](#)  
DBA\_TAB\_PRIVS view, [7-23](#)  
DBA\_TAB\_STAT\_PREFS view, [7-24](#)  
DBA\_TAB\_STATISTICS view, [7-24](#)  
DBA\_TAB\_STATS\_HISTORY view, [7-24](#)  
DBA\_TAB\_SUBPARTITIONS view, [7-24](#)  
DBA\_TABLE\_ACCESS\_STATS view, [7-25](#)  
DBA\_TABLE\_VIRTUAL\_COLUMNS view, [7-25](#)  
DBA\_TABLES view, [7-25](#)  
DBA\_TABLESPACE\_GROUPS view, [7-25](#)  
DBA\_TABLESPACE\_THRESHOLDS view, [7-26](#)  
DBA\_TABLESPACE\_USAGE\_METRICS view, [7-26](#)  
DBA\_TABLESPACES view, [7-27](#)  
DBA\_TEMP\_FILES view, [7-31](#)  
DBA\_TEMP\_FREE\_SPACE view, [7-32](#)  
DBA\_THRESHOLDS view, [7-32](#)  
DBA\_TRANSFORMATIONS view, [7-33](#)  
DBA\_TRIGGER\_COLS view, [7-34](#)  
DBA\_TRIGGER\_ORDERING view, [7-34](#)  
DBA\_TRIGGERS view, [7-34](#)  
DBA\_TRIGGERS\_AE view, [7-35](#)  
DBA\_TS\_QUOTAS view, [7-35](#)  
DBA\_TSDP\_IMPORT\_ERRORS view, [7-35](#)  
DBA\_TSDP\_POLICY\_CONDITION view, [7-36](#)  
DBA\_TSDP\_POLICY\_FEATURE view, [7-36](#)  
DBA\_TSDP\_POLICY\_PARAMETER view, [7-37](#)  
DBA\_TSDP\_POLICY\_PROTECTION view, [7-37](#)  
DBA\_TSDP\_POLICY\_TYPE view, [7-38](#)  
DBA\_TSM\_DESTINATION view, [7-38](#)  
DBA\_TSM\_SOURCE view, [7-39](#)  
DBA\_TSTZ\_TAB\_COLS view, [7-39](#)  
DBA\_TSTZ\_TABLES view, [7-40](#)  
DBA\_TUNE\_MVIEW view, [7-40](#)  
DBA\_TXEVENTQ\_MIGRATION\_STATUS view, [7-41](#)  
DBA\_TYPE\_ATTRS view, [7-41](#)  
DBA\_TYPE\_METHODS view, [7-42](#)  
DBA\_TYPE\_VERSIONS view, [7-42](#)  
DBA\_TYPES view, [7-42](#)  
DBA\_UMF\_LINK view, [7-42](#)  
DBA\_UMF\_REGISTRATION view, [7-43](#)  
DBA\_UMF\_SERVICE view, [7-43](#)  
DBA\_UMF\_TOPOLOGY view, [7-44](#)  
DBA\_UNDO\_EXTENTS view, [7-45](#)  
DBA\_UNUSED\_COL\_TABS view, [7-46](#)  
DBA\_UNUSED\_GRANTS view, [7-46](#)  
DBA\_UNUSED\_OBJPRIVS view, [7-47](#)  
DBA\_UNUSED\_OBJPRIVS\_PATH view, [7-47](#)  
DBA\_UNUSED\_PRIVS view, [7-48](#)  
DBA\_UNUSED\_SCHEMA\_PRIVS view, [7-49](#)  
DBA\_UNUSED\_SCHEMA\_PRIVS\_PATH view, [7-50](#)  
DBA\_UNUSED\_SYSPRIVS view, [7-51](#)  
DBA\_UNUSED\_SYSPRIVS\_PATH view, [7-52](#)  
DBA\_UNUSED\_USERPRIVS view, [7-53](#)  
DBA\_UNUSED\_USERPRIVS\_PATH view, [7-54](#)  
DBA\_UPDATABLE\_COLUMNS view, [7-54](#)  
DBA\_USED\_OBJPRIVS view, [7-55](#)  
DBA\_USED\_OBJPRIVS\_PATH view, [7-55](#)  
DBA\_USED\_PRIVS view, [7-56](#)  
DBA\_USED\_PUBPRIVS view, [7-57](#)  
DBA\_USED\_SCHEMA\_PRIVS view, [7-58](#)  
DBA\_USED\_SCHEMA\_PRIVS\_PATH view, [7-59](#)  
DBA\_USED\_SYSPRIVS view, [7-60](#)  
DBA\_USED\_SYSPRIVS\_PATH view, [7-61](#)  
DBA\_USED\_USERPRIVS view, [7-62](#)  
DBA\_USED\_USERPRIVS\_PATH view, [7-63](#)  
DBA\_USERS view, [7-63](#)  
DBA\_USERS\_WITH\_DEFPWD view, [7-69](#)  
DBA\_USTATS view, [7-70](#)  
DBA\_VARRAYS view, [7-70](#)

DBA\_VIEWS view, [7-70](#)  
 DBA\_VIEWS\_AE view, [7-71](#)  
 DBA\_WAITERS view, [7-71](#)  
 DBA\_WALLET\_ACES view, [7-71](#)  
 DBA\_WALLET\_ACLS view, [7-72](#)  
 DBA\_WARNING\_SETTINGS view, [7-72](#)  
 DBA\_WI\_CAPTURE\_FILES view, [7-72](#)  
 DBA\_WI\_JOBS view, [7-73](#)  
 DBA\_WI\_OBJECTS view, [7-73](#)  
 DBA\_WI\_PATTERN\_ITEMS view, [7-73](#)  
 DBA\_WI\_PATTERNS view, [7-74](#)  
 DBA\_WI\_STATEMENTS view, [7-74](#)  
 DBA\_WI\_TEMPLATE\_EXECUTIONS view, [7-75](#)  
 DBA\_WI\_TEMPLATES view, [7-75](#)  
 DBA\_WORKLOAD\_ACTIVE\_USER\_MAP view, [7-76](#)  
 DBA\_WORKLOAD\_CAPTURE\_SQLTEXT view, [7-76](#)  
 DBA\_WORKLOAD\_CAPTURES view, [7-77](#)  
 DBA\_WORKLOAD\_CONNECTION\_MAP view, [7-80](#)  
 DBA\_WORKLOAD\_DIV\_SUMMARY view, [7-80](#)  
 DBA\_WORKLOAD\_FILTERS view, [7-82](#)  
 DBA\_WORKLOAD\_GROUP\_ASSIGNMENTS view, [7-82](#)  
 DBA\_WORKLOAD\_LONG\_SQLTEXT view, [7-83](#)  
 DBA\_WORKLOAD\_REPLAY\_CLIENTS view, [7-83](#)  
 DBA\_WORKLOAD\_REPLAY\_DIVERGENCE view, [7-83](#)  
 DBA\_WORKLOAD\_REPLAY\_SCHEDULES view, [7-85](#)  
 DBA\_WORKLOAD\_REPLAYS view, [7-86](#)  
 DBA\_WORKLOAD\_SCHEDULE\_CAPTURES view, [7-90](#)  
 DBA\_WORKLOAD\_SCHEDULE\_ORDERING view, [7-91](#)  
 DBA\_WORKLOAD\_SQL\_MAP view, [7-92](#)  
 DBA\_WORKLOAD\_TRACKED\_COMMITS view, [7-92](#)  
 DBA\_WORKLOAD\_USER\_MAP view, [7-93](#)  
 DBA\_XML\_INDEXES view, [7-94](#)  
 DBA\_XML\_NESTED\_TABLES view, [7-94](#)  
 DBA\_XML\_OUT\_OF\_LINE\_TABLES view, [7-94](#)  
 DBA\_XML\_SCHEMA\_ATTRIBUTES view, [7-94](#)  
 DBA\_XML\_SCHEMA\_COMPLEX\_TYPES view, [7-95](#)  
 DBA\_XML\_SCHEMA\_ELEMENTS view, [7-95](#)  
 DBA\_XML\_SCHEMA\_NAMESPACES view, [7-95](#)  
 DBA\_XML\_SCHEMA\_SIMPLE\_TYPES view, [7-95](#)  
 DBA\_XML\_SCHEMA\_SUBSTGRP\_HEAD view, [7-96](#)  
 DBA\_XML\_SCHEMA\_SUBSTGRP\_MBRS view, [7-96](#)  
 DBA\_XML\_SCHEMAS view, [7-96](#)  
 DBA\_XML\_TAB\_COLS view, [7-96](#)  
 DBA\_XML\_TABLES view, [7-97](#)  
 DBA\_XML\_VIEW\_COLS view, [7-97](#)  
 DBA\_XML\_VIEWS view, [7-97](#)  
 DBA\_XS\_AUDIT\_POLICY\_OPTIONS view, [7-97](#)  
 DBA\_XS\_AUDIT\_TRAIL view, [7-98](#)  
 DBA\_XS\_ENABLED\_AUDIT\_POLICIES view, [7-99](#)  
 DBA\_XS\_ENB\_AUDIT\_POLICIES view, [7-100](#)  
 DBA\_XSTREAM\_ADMINISTRATOR view, [7-100](#)  
 DBA\_XSTREAM\_INBOUND view, [7-101](#)  
 DBA\_XSTREAM\_INBOUND\_PROGRESS view, [7-101](#)  
 DBA\_XSTREAM\_OUT\_SUPPORT\_MODE view, [7-101](#)  
 DBA\_XSTREAM\_OUTBOUND view, [7-101](#)  
 DBA\_XSTREAM\_OUTBOUND\_PROGRESS view, [7-102](#)  
 DBA\_XSTREAM\_RULES view, [7-102](#)  
 DBA\_XSTREAM\_SPLIT\_MERGE view, [7-102](#)  
 DBA\_XSTREAM\_SPLIT\_MERGE\_HIST view, [7-104](#)  
 DBA\_XSTREAM\_STMT\_HANDLERS view, [7-106](#)  
 DBA\_XSTREAM\_STMTS view, [7-106](#)  
 DBA\_XSTREAM\_TRANSFORMATIONS view, [7-106](#)  
 DBA\_XTERNAL\_LOC\_PARTITIONS view, [7-106](#)  
 DBA\_XTERNAL\_LOC\_SUBPARTITIONS view, [7-107](#)  
 DBA\_XTERNAL\_PART\_TABLES view, [7-107](#)  
 DBA\_XTERNAL\_TAB\_PARTITIONS view, [7-107](#)  
 DBA\_XTERNAL\_TAB\_SUBPARTITIONS view, [7-107](#)  
 DBA\_ZONEMAP\_AUTO\_ACTIONS view, [7-108](#)  
 DBA\_ZONEMAP\_AUTO\_FINDINGS view, [7-108](#)  
 DBA\_ZONEMAP\_MEASURES view, [7-109](#)  
 DBA\_ZONEMAPS view, [7-109](#)  
 DBFIPS\_140 initialization parameter, [2-112](#)  
 DBFS\_CONTENT view, [7-110](#)  
 DBFS\_CONTENT\_PROPERTIES view, [7-112](#)  
 DBMS\_ALERT\_INFO view, [7-112](#)  
 DBMS\_KAFKA\_APPLICATIONS table, [7-112](#)  
 DBMS\_KAFKA\_CLUSTERS table, [7-113](#)  
 DBMS\_KAFKA\_LOAD\_METRICS table, [7-115](#)  
 DBMS\_KAFKA\_MESSAGES table, [7-115](#)  
 DBMS\_KAFKA\_OPS table, [7-116](#)  
 DBMS\_KAFKA\_OPS\_RESULTS table, [7-117](#)  
 DBMS\_KAFKA\_PARTITIONS table, [7-118](#)  
 DBMS\_KAFKA\_SEC\_ALLOWED\_PROPERTIES table, [7-119](#)  
 DBMS\_LOCK\_ALLOCATED view, [7-120](#)  
 DBMS\_METADATA\_PARSE\_ITEMS view, [7-121](#)  
 DBMS\_METADATA\_TRANSFORM\_PARAMS view, [7-121](#)  
 DBMS\_METADATA\_TRANSFORMS view, [7-122](#)



DBMS\_STATS package, [3-214](#), [3-284](#), [4-124](#),  
[4-128](#), [4-154](#), [6-102](#), [6-158](#), [7-15](#), [7-18](#),  
[7-25](#), [7-269](#), [7-311](#), [7-312](#), [7-316](#)

DBMSIOTC.SQL script, [B-3](#)

DBMSPOOL.SQL script, [B-3](#)

DBNEST\_ENABLE initialization parameter, [2-113](#)

DBNEST\_PDB\_FS\_CONF initialization  
parameter, [2-113](#)

DBWR\_IO\_SLAVES initialization parameter,  
[2-114](#)

DDL\_LOCK\_TIMEOUT initialization parameter,  
[2-115](#)

DEFAULT\_SHARING initialization parameter,  
[2-115](#)

DEFERRED\_SEGMENT\_CREATION initialization  
parameter, [2-116](#)

DEPTREE view, [7-122](#)

destination  
archiving redo log files, [2-191](#)  
overriding default, [2-192](#)  
USER\_DUMP\_DEST, [2-388](#)

DG\_BROKER\_CONFIG\_FILEn initialization  
parameter, [2-116](#)

DG\_BROKER\_START initialization parameter,  
[2-117](#)

DIAGNOSTIC\_DEST initialization parameter,  
[2-118](#)

DIAGNOSTICS\_CONTROL initialization  
parameter, [2-119](#)

DICT synonym for DICTIONARY, [7-123](#)

DICT\_COLUMNS view, [7-123](#)

DICTIONARY view, [7-123](#)  
DICT synonym, [7-123](#)

DICTIONARY\_CREDENTIALS\_ENCRYPT view,  
[7-123](#)

disk drives  
archiving destination, [2-191](#)

DISK\_ASYNC\_IO initialization parameter, [2-120](#)

dispatcher processes  
maximum number, [2-213](#)

DISPATCHERS initialization parameter, [2-120](#)

distinguished name, [2-306](#)

DISTRIBUTED\_LOCK\_TIMEOUT initialization  
parameter, [2-123](#)

DM\_USER\_MODELS view, [7-124](#)

DML\_LOCKS initialization parameter, [2-123](#)

DNFS\_BATCH\_SIZE initialization parameter,  
[2-124](#)

DOCUMENT\_LINKS view, [7-125](#)

DRCP\_CONNECTION\_LIMIT initialization  
parameter, [2-125](#)

DRCP\_DEDICATED\_OPT initialization parameter,  
[2-125](#)

DST\_UPGRADE\_INSERT\_CONV initialization  
parameter, [2-126](#)

dump files, [2-214](#)

dynamic performance tables  
CATALOG.SQL script, [8-1](#)  
public synonyms (V\$), [8-2](#)  
views (V\_\$), [8-2](#)

## E

embedded initialization parameter files, [2-153](#)

ENABLE\_AUTOMATIC\_MAINTENANCE\_PDB  
initialization parameter, [2-127](#)

ENABLE\_DDL\_LOGGING initialization  
parameter, [2-128](#)

ENABLE\_DNFS\_DISPATCHER initialization  
parameter, [2-129](#)

ENABLE\_GOLDENGATE\_REPLICATION  
initialization parameter, [2-130](#)

ENABLE\_IMC\_WITH\_MIRA initialization  
parameter, [2-131](#)

ENABLE\_PER\_PDB\_DRCP initialization  
parameter, [2-131](#)

ENABLE\_PLUGGABLE\_DATABASE initialization  
parameter, [2-132](#)

ENABLED\_PDBS\_ON\_STANDBY initialization  
parameter, [2-133](#)

ENCRYPT\_NEW\_TABLESPACES initialization  
parameter, [2-134](#)

enqueues, [D-1](#)  
AJV snapshot refresh, [D-2](#)  
ALTER SYSTEM SET PARAMETER =  
VALUE, [D-2](#)  
backup/restore, [D-1](#)  
being written redo log, [D-3](#)  
bind, [D-1](#)  
cross-instance call invocation, [D-1](#)  
database mount, [D-1](#)  
datafile, [D-1](#)  
direct loader index creation, [D-1](#)  
disabling, [2-124](#)  
distributed recovery process, [D-1](#)  
distributed transaction, [D-1](#)  
DML, [D-2](#)  
exclusive lock when moving audit table, [D-3](#)  
extend table, [D-2](#)  
file set, [D-1](#)  
high-water lock, [D-1](#)  
instance attribute lock, [D-3](#)  
instance number, [D-1](#)  
instance recovery, [D-1](#)  
instance registration lock, [D-3](#)  
instance state, [D-1](#)  
job queue, [D-2](#)  
library cache invalidation, [D-2](#)  
library cache lock, [D-2](#)  
library cache pin, [D-2](#)  
log start or switch, [D-2](#)  
media recovery, [D-2](#)

enqueues (*continued*)

- mount definition, [D-2](#)
- object reuse, [D-2](#)
- parallel slave synchronization, [D-2](#)
- parallel slaves, [D-2](#)
- password file, [D-2](#)
- process startup, [D-2](#)
- redo log "kick", [D-2](#)
- redo thread, [D-2](#)
- row cache, [D-2](#)
- row wait, [D-2](#)
- sequence number, [D-2](#)
- sequence number value, [D-2](#)
- SMON, [D-2](#)
- sort segment, [D-2](#)
- space management transaction, [D-2](#)
- synchronized replication, [D-2](#)
- system commit number, [D-2](#)
- temporary segment, [D-2](#)
- temporary table, [D-2](#)
- temporary table object, [D-2](#)
- thread checkpoint, [D-2](#)
- transaction, [D-2](#)
- transaction recovery, [D-2](#)
- undo segment, serialization, [D-3](#)
- user name, [D-2](#)
- user-defined locks, [D-2](#)

enterprise roles, [2-306](#)

ERROR\_MESSAGE\_DETAILS initialization parameter, [2-135](#)

ERROR\_SIZE view, [7-126](#)

EVENT initialization parameter, [2-136](#)

EXCEPTIONS table, [7-126](#)

extent

- allocating to instance, [2-173](#)

EXTERNAL\_KEYSTORE\_CREDENTIAL\_LOCATION initialization parameter, [2-137](#)

## F

FAL\_CLIENT initialization parameter, [2-137](#)

FAL\_SERVER initialization parameter, [2-138](#)

FAST\_START\_MTTR\_TARGET initialization parameter, [2-138](#)

FAST\_START\_PARALLEL\_ROLLBACK initialization parameter, [2-139](#)

FILE\_MAPPING initialization parameter, [2-140](#)

FILEIO\_NETWORK\_ADAPTERS initialization parameter, [2-140](#)

filenames

- case significance, [2-5](#)

FILESYSTEMIO\_OPTIONS initialization parameter, [2-141](#)

FIXED\_DATE initialization parameter, [2-141](#)

FLASHBACK\_TRANSACTION\_QUERY view, [7-126](#)

FORWARD\_LISTENER initialization parameter, [2-142](#)

free space list

- locating space, [2-173](#)

FREELIST GROUPS clause, [2-173](#)

## G

GCS\_SERVER\_PROCESSES initialization parameter, [2-143](#)

GLOBAL\_CONTEXT view, [7-127](#)

GLOBAL\_NAME view, [7-128](#)

GLOBAL\_NAMES initialization parameter, [2-144](#)

GLOBAL\_TXN\_PROCESSES initialization parameter, [2-144](#)

GROUP\_BY\_POSITION\_ENABLED initialization parameter, [2-145](#)

GV\$ views

- for Real Application Clusters, [8-2](#)

## H

HASH\_AREA\_SIZE initialization parameter, [2-146](#)

HEARTBEAT\_BATCH\_SIZE initialization parameter, [2-147](#)

HEAT\_MAP initialization parameter, [2-147](#)

Heterogeneous Services

- agents, [2-148](#)

HI\_SHARED\_MEMORY\_ADDRESS initialization parameter, [2-148](#)

hierarchies

- analytic view, [3-38](#), [3-189](#), [3-190](#)
- classifications, [3-178](#), [3-179](#)
- columns, [3-179](#), [3-181](#)
- hierarchical attribute classifications, [3-182](#), [3-183](#)
- hierarchical attributes, [3-184](#)
- join paths, [3-185](#), [3-186](#)
- level ID attributes, [3-187](#)
- levels, [3-188](#), [3-189](#)

hints

- precedence over initialization parameter settings, [2-346](#)

HS\_ALL\_CAPS view, [7-128](#)

HS\_ALL\_DD view, [7-128](#)

HS\_ALL\_INITS view, [7-128](#)

HS\_AUTOREGISTER initialization parameter, [2-148](#)

HS\_BASE\_CAPS view, [7-129](#)

HS\_BASE\_DD view, [7-129](#)

HS\_CLASS\_CAPS view, [7-129](#)

HS\_CLASS\_DD view, [7-130](#)

HS\_CLASS\_INIT view, [7-130](#)

HS\_FDS\_CLASS view, [7-130](#)

HS\_FDS\_INST view, [7-131](#)

HS\_INST\_CAPS view, [7-131](#)

HS\_INST\_DD view, [7-131](#)  
 HS\_INST\_INIT view, [7-132](#)  
 HYBRID\_READ\_ONLY initialization parameter,  
[2-149](#)

## I

I/O  
     reading multiple blocks, [2-94](#)  
     redo log files, [2-205](#)  
 IDENTITY\_PROVIDER\_CONFIG initialization  
     parameter, [2-150](#)  
 IDENTITY\_PROVIDER\_TYPE initialization  
     parameter, [2-151](#)  
 IDEPTREE view, [7-132](#)  
 IFILE initialization parameter, [2-6](#), [2-152](#)  
 IGNORE\_SESSION\_SET\_PARAM\_ERRORS  
     initialization parameter, [2-153](#)  
 IM column store. See In-Memory Column Store,  
[2-156](#)  
 IM scan EUs memcompress for capacity high,  
[E-21](#)  
 IN-list iterators  
     optimizer use of, [2-260](#)  
 In-Memory Column Store, [2-156](#), [2-162](#), [2-166](#),  
[2-167](#)  
 IND synonym for USER\_INDEXES view, [7-132](#)  
 INDEX\_HISTOGRAM view, [7-133](#)  
 INDEX\_STATS view, [7-133](#)  
 INIT.ORA file  
     See initialization parameter file  
 initialization parameter file,  
     character set to use in, [2-4](#)  
     common file, [2-153](#)  
     embedded, [2-153](#)  
     INITDW.ORA, [2-4](#)  
     line continuation character, [2-5](#)  
     overview, [2-3](#)  
 initialization parameters  
     ACTIVE\_INSTANCE\_COUNT, [2-30](#)  
     ADG\_ACCOUNT\_INFO\_TRACKING, [2-31](#)  
     ADG\_REDIRECT\_DML, [2-31](#)  
     ALLOW\_GLOBAL\_DBLINKS, [2-32](#)  
     ALLOW\_GROUP\_ACCESS\_TO\_SGA, [2-32](#)  
     ALLOW\_LEGACY\_RECO\_PROTOCOL, [2-33](#)  
     ALLOW\_ROWID\_COLUMN\_TYPE, [2-34](#)  
     altering, [2-9](#)  
     APPROX\_FOR\_AGGREGATION, [2-35](#)  
     APPROX\_FOR\_COUNT\_DISTINCT, [2-35](#)  
     APPROX\_FOR\_PERCENTILE, [2-36](#)  
     AQ\_TM\_PROCESSES, [2-37](#)  
     ARCHIVE\_LAG\_TARGET, [2-38](#)  
     ASM\_DISKGROUPS, [2-38](#)  
     ASM\_DISKSTRING, [2-39](#)  
     ASM\_IO\_PROCESSES, [2-40](#)  
     ASM\_POWER\_LIMIT, [2-41](#)

initialization parameters (*continued*)  
     ASM\_PREFERRED\_READ\_FAILURE\_GROUPS,  
         [2-42](#)  
     AUDIT\_FILE\_DEST, [2-43](#)  
     AUDIT\_SYS\_OPERATIONS, [2-44](#)  
     AUDIT\_SYSLOG\_LEVEL, [2-45](#)  
     AUDIT\_TRAIL, [2-46](#)  
     AUTOTASK\_MAX\_ACTIVE\_PDBS, [2-48](#)  
     AWR\_PDB\_AUTOFLUSH\_ENABLED, [2-49](#)  
     AWR\_PDB\_MAX\_PARALLEL\_SLAVES, [2-50](#)  
     AWR\_SNAPSHOT\_TIME\_OFFSET, [2-50](#)  
     BACKGROUND\_CORE\_DUMP, [2-51](#)  
     BACKGROUND\_DUMP\_DEST, [2-52](#)  
     BACKUP\_TAPE\_IO\_SLAVES, [2-53](#)  
     basic, [2-3](#)  
     BITMAP\_MERGE\_AREA\_SIZE, [2-53](#)  
     BLANK\_TRIMMING, [2-54](#)  
     BLOCKCHAIN\_TABLE\_MAX\_NO\_DROP, [2-55](#)  
     BLOCKCHAIN\_TABLE\_RETENTION\_THRESHOLD,  
         [2-56](#)  
     case significance in filenames, [2-5](#)  
     CDB\_COMPATIBLE, [2-246](#)  
     CIRCUITS, [2-56](#)  
     CLIENT\_RESULT\_CACHE\_LAG, [2-57](#)  
     CLIENT\_RESULT\_CACHE\_SIZE, [2-57](#)  
     CLIENT\_STATISTICS\_LEVEL, [2-58](#)  
     CLONEDB, [2-59](#)  
     CLONEDB\_DIR, [2-60](#)  
     CLUSTER\_DATABASE, [2-60](#)  
     CLUSTER\_INTERCONNECTS, [2-61](#)  
     COMMIT\_LOGGING, [2-62](#)  
     COMMIT\_POINT\_STRENGTH, [2-62](#)  
     COMMIT\_WAIT, [2-63](#)  
     COMMIT\_WRITE, [2-63](#)  
     COMMON\_USER\_PREFIX, [2-64](#)  
     COMPATIBLE, [2-66](#)  
     CONNECTION\_BROKERS, [2-67](#)  
     CONTAINER\_DATA, [2-69](#)  
     CONTAINERS\_PARALLEL\_DEGREE, [2-70](#)  
     CONTROL\_FILE\_RECORD\_KEEP\_TIME, [2-70](#)  
     CONTROL\_FILES, [2-71](#)  
     CONTROL\_MANAGEMENT\_PACK\_ACCESS, [2-72](#)  
     CORE\_DUMP\_DEST, [2-73](#)  
     CPU\_COUNT, [2-73](#)  
     CPU\_MIN\_COUNT, [2-74](#)  
     CREATE\_BITMAP\_AREA\_SIZE, [2-75](#)  
     CREATE\_STORED\_OUTLINES, [2-76](#)  
     CURSOR\_BIND\_CAPTURE\_DESTINATION, [2-77](#)  
     CURSOR\_INVALIDATION, [2-78](#)  
     CURSOR\_SHARING, [2-78](#)  
     CURSOR\_SPACE\_FOR\_TIME, [2-79](#)  
     DATA\_GUARD\_MAX\_IO\_TIME, [2-80](#)  
     DATA\_GUARD\_MAX\_LONGIO\_TIME, [2-81](#)  
     DATA\_GUARD\_SYNC\_LATENCY, [2-81](#)  
     DATA\_TRANSFER\_CACHE\_SIZE, [2-82](#)

initialization parameters (*continued*)

DB\_BIG\_TABLE\_CACHE\_PERCENT\_TARGET, [2-83](#)  
 DB\_BLOCK\_BUFFERS, [2-85](#)  
 DB\_BLOCK\_CHECKING, [2-86](#)  
 DB\_BLOCK\_CHECKSUM, [2-87](#)  
 DB\_BLOCK\_SIZE, [2-88](#)  
 DB\_CACHE\_ADVICE, [2-89](#)  
 DB\_CACHE\_SIZE, [2-90](#)  
 DB\_CREATE\_FILE\_DEST, [2-91](#)  
 DB\_CREATE\_ONLINE\_LOG\_DEST\_n, [2-92](#)  
 DB\_DOMAIN, [2-93](#)  
 DB\_FILE\_MULTIBLOCK\_READ\_COUNT, [2-94](#)  
 DB\_FILE\_NAME\_CONVERT, [2-95](#)  
 DB\_FILES, [2-96](#)  
 DB\_FLASH\_CACHE\_FILE, [2-96](#)  
 DB\_FLASH\_CACHE\_SIZE, [2-97](#)  
 DB\_FLASHBACK\_LOG\_DEST, [2-98](#)  
 DB\_FLASHBACK\_LOG\_DEST\_SIZE, [2-99](#)  
 DB\_FLASHBACK\_RETENTION\_TARGET, [2-100](#)  
 DB\_INDEX\_COMPRESSION\_INHERITANCE, [2-100](#)  
 DB\_KEEP\_CACHE\_SIZE, [2-102](#)  
 DB\_LOST\_WRITE\_PROTECT, [2-102](#)  
 DB\_NAME, [2-103](#)  
 DB\_nK\_CACHE\_SIZE, [2-82](#)  
 DB\_PERFORMANCE\_PROFILE, [2-104](#)  
 DB\_RECOVERY\_AUTO\_REKEY, [2-105](#)  
 DB\_RECOVERY\_FILE\_DEST, [2-105](#)  
 DB\_RECOVERY\_FILE\_DEST\_SIZE, [2-106](#)  
 DB\_RECYCLE\_CACHE\_SIZE, [2-107](#)  
 DB\_SECUREFILE, [2-107](#)  
 DB\_ULTRA\_SAFE, [2-109](#)  
 DB\_UNIQUE\_NAME, [2-110](#)  
 DB\_UNRECOVERABLE\_SCN\_TRACKING, [2-111](#)  
 DB\_WRITER\_PROCESSES, [2-111](#)  
 DBFIPS\_140, [2-112](#)  
 DBNEST\_ENABLE, [2-113](#)  
 DBNEST\_PDB\_FS\_CONF, [2-113](#)  
 DBWR\_IO\_SLAVES, [2-114](#)  
 DDL\_LOCK\_TIMEOUT, [2-115](#)  
 DEFAULT\_SHARING, [2-115](#)  
 DEFERRED\_SEGMENT\_CREATION, [2-116](#)  
 derived, [2-2](#)  
 DG\_BROKER\_CONFIG\_FILEn, [2-116](#)  
 DG\_BROKER\_START, [2-117](#)  
 DIAGNOSTIC\_DEST, [2-118](#)  
 DIAGNOSTICS\_CONTROL, [2-119](#)  
 DISK\_ASYNC\_IO, [2-120](#)  
 DISPATCHERS, [2-120](#)  
 display current settings, [2-27](#)  
 DISTRIBUTED\_LOCK\_TIMEOUT, [2-123](#)  
 DML\_LOCKS, [2-123](#)  
 DNFS\_BATCH\_SIZE, [2-124](#)  
 DRCP\_CONNECTION\_LIMIT, [2-125](#)  
 DRCP\_DEDICATED\_OPT, [2-125](#)  
 DST\_UPGRADE\_INSERT\_CONV, [2-126](#)

initialization parameters (*continued*)

embedded initialization parameter files, [2-6](#)  
 ENABLE\_AUTOMATIC\_MAINTENANCE\_PDB, [2-127](#)  
 ENABLE\_DDL\_LOGGING, [2-128](#)  
 ENABLE\_DNFS\_DISPATCHER, [2-129](#)  
 ENABLE\_GOLDENGATE\_REPLICATION, [2-130](#)  
 ENABLE\_IMC\_WITH\_MIRA, [2-131](#)  
 ENABLE\_PER\_PDB\_DRCP, [2-131](#)  
 ENABLE\_PLUGGABLE\_DATABASE, [2-132](#)  
 ENABLED\_PDBS\_ON\_STANDBY, [2-133](#)  
 ENCRYPT\_NEW\_TABLESPACES, [2-134](#)  
 ERROR\_MESSAGE\_DETAILS, [2-135](#)  
 EVENT, [2-136](#)  
 EXTERNAL\_KEYSTORE\_CREDENTIAL\_LOCATION, [2-137](#)  
 FAL\_CLIENT, [2-137](#)  
 FAL\_SERVER, [2-138](#)  
 FAST\_START\_MTTR\_TARGET, [2-138](#)  
 FAST\_START\_PARALLEL\_ROLLBACK, [2-139](#)  
 FILE\_MAPPING, [2-140](#)  
 FILEIO\_NETWORK\_ADAPTERS, [2-140](#)  
 FILESYSTEMIO\_OPTIONS, [2-141](#)  
 FIXED\_DATE, [2-141](#)  
 FORWARD\_LISTENER, [2-142](#)  
 functional category, [2-9](#)  
 GCS\_SERVER\_PROCESSES, [2-143](#)  
 GLOBAL\_NAMES, [2-144](#)  
 GLOBAL\_TXN\_PROCESSES, [2-144](#)  
 GROUP\_BY\_POSITION\_ENABLED, [2-145](#)  
 HASH\_AREA\_SIZE, [2-146](#)  
 HEARTBEAT\_BATCH\_SIZE, [2-147](#)  
 HEAT\_MAP, [2-147](#)  
 HI\_SHARED\_MEMORY\_ADDRESS, [2-148](#)  
 HS\_AUTOREGISTER, [2-148](#)  
 HYBRID\_READ\_ONLY, [2-149](#)  
 IDENTITY\_PROVIDER\_CONFIG, [2-150](#)  
 IDENTITY\_PROVIDER\_TYPE, [2-151](#)  
 IFILE, [2-6](#), [2-152](#)  
 IGNORE\_SESSION\_SET\_PARAM\_ERRORS, [2-153](#)  
 INMEMORY\_ADG\_ENABLED, [2-154](#)  
 INMEMORY\_AUTOMATIC\_LEVEL, [2-155](#)  
 INMEMORY\_CLAUSE\_DEFAULT, [2-156](#)  
 INMEMORY\_DEEP\_VECTORIZATION, [2-160](#)  
 INMEMORY\_EXPRESSIONS\_USAGE, [2-161](#)  
 INMEMORY\_FORCE, [2-162](#)  
 INMEMORY\_MAX\_POPULATE\_SERVERS, [2-163](#)  
 INMEMORY\_OPTIMIZED\_ARITHMETIC, [2-165](#)  
 INMEMORY\_OPTIMIZED\_DATE, [2-165](#)  
 INMEMORY\_QUERY, [2-166](#)  
 INMEMORY\_SIZE, [2-167](#)  
 INMEMORY\_TRICKLE\_REPOPULATE\_SERVERS\_PERCENT, [2-168](#)  
 INMEMORY\_VIRTUAL\_COLUMNS, [2-169](#)  
 INSTANCE\_ABORT\_DELAY\_TIME, [2-170](#)  
 INSTANCE\_GROUPS, [2-171](#)

initialization parameters (*continued*)

INSTANCE\_MODE, [2-171](#)  
 INSTANCE\_NAME, [2-172](#)  
 INSTANCE\_NUMBER, [2-173](#)  
 INSTANCE\_TYPE, [2-173](#)  
 IORM\_LIMIT\_POLICY, [2-174](#)  
 JAVA\_JIT\_ENABLED, [2-175](#)  
 JAVA\_MAX\_SESSIONSPACE\_SIZE, [2-176](#)  
 JAVA\_POOL\_SIZE, [2-176](#)  
 JAVA\_SOFT\_SESSIONSPACE\_LIMIT, [2-177](#)  
 JOB\_QUEUE\_PROCESSES, [2-177](#)  
 JSON\_BEHAVIOR, [2-179](#)  
 JSON\_EXPRESSION\_CHECK, [2-181](#)  
 LARGE\_POOL\_SIZE, [2-181](#)  
 LDAP\_DIRECTORY\_ACCESS, [2-182](#)  
 LDAP\_DIRECTORY\_SYSAUTH, [2-184](#)  
 LICENSE\_MAX\_SESSIONS, [2-185](#)  
 LICENSE\_MAX\_USERS, [2-186](#)  
 LICENSE\_SESSIONS\_WARNING, [2-186](#)  
 LISTENER\_NETWORKS, [2-187](#)  
 LOB\_SIGNATURE\_ENABLE, [2-188](#)  
 LOCAL\_LISTENER, [2-188](#)  
 LOCK\_NAME\_SPACE, [2-189](#)  
 LOCK\_SGA, [2-190](#)  
 LOG\_ARCHIVE\_CONFIG, [2-190](#)  
 LOG\_ARCHIVE\_DEST, [2-191](#)  
 LOG\_ARCHIVE\_DEST\_n, [2-192](#)  
 LOG\_ARCHIVE\_DEST\_STATE\_n, [2-197](#)  
 LOG\_ARCHIVE\_DUPLEX\_DEST, [2-198](#)  
 LOG\_ARCHIVE\_FORMAT, [2-199](#)  
 LOG\_ARCHIVE\_MAX\_PROCESSES, [2-200](#)  
 LOG\_ARCHIVE\_MIN\_SUCCEED\_DEST, [2-201](#)  
 LOG\_ARCHIVE\_TRACE, [2-202](#)  
 LOG\_BUFFER, [2-204](#)  
 LOG\_CHECKPOINT\_INTERVAL, [2-205](#)  
 LOG\_CHECKPOINT\_TIMEOUT, [2-206](#)  
 LOG\_CHECKPOINTS\_TO\_ALERT, [2-207](#)  
 LOG\_FILE\_NAME\_CONVERT, [2-207](#)  
 LONG\_MODULE\_ACTION, [2-209](#)  
 MANDATORY\_USER\_PROFILE, [2-209](#)  
 MAX\_AUTH\_SERVERS, [2-210](#)  
 MAX\_COLUMNS, [2-211](#)  
 MAX\_DATAPUMP\_JOBS\_PER\_PDB, [2-212](#)  
 MAX\_DATAPUMP\_PARALLEL\_PER\_JOB, [2-212](#)  
 MAX\_DISPATCHERS, [2-213](#)  
 MAX\_DUMP\_FILE\_SIZE, [2-213](#)  
 MAX\_IDLE\_BLOCKER\_TIME, [2-215](#)  
 MAX\_IDLE\_TIME, [2-215](#)  
 MAX\_IOPS, [2-216](#)  
 MAX\_MBPS, [2-217](#)  
 MAX\_PDBS, [2-218](#)  
 MAX\_SAGA\_DURATION, [2-219](#)  
 MAX\_SHARED\_SERVERS, [2-219](#)  
 MAX\_STRING\_SIZE, [2-220](#)  
 MEMOPTIMIZE\_POOL\_SIZE, [2-225](#)  
 MEMOPTIMIZE\_WRITE\_AREA\_SIZE, [2-226](#)

initialization parameters (*continued*)

MEMOPTIMIZE\_WRITES, [2-226](#)  
 MEMORY\_MAX\_SIZE, [2-227](#)  
 MEMORY\_MAX\_TARGET, [2-227](#)  
 MEMORY\_SIZE, [2-228](#)  
 MEMORY\_TARGET, [2-229](#)  
 MIN\_AUTH\_SERVERS, [2-230](#)  
 MLE\_PROG\_LANGUAGES, [2-231](#)  
 modifiable, [2-18](#)  
 MULTISHARD\_QUERY\_DATA\_CONSISTENCY, [2-232](#)  
 NLS\_CALENDAR, [2-232](#)  
 NLS\_COMP, [2-233](#)  
 NLS\_CURRENCY, [2-235](#)  
 NLS\_DATE\_FORMAT, [2-235](#)  
 NLS\_DATE\_LANGUAGE, [2-236](#)  
 NLS\_DUAL\_CURRENCY, [2-237](#)  
 NLS\_ISO\_CURRENCY, [2-238](#)  
 NLS\_LANGUAGE, [2-239](#)  
 NLS\_LENGTH\_SEMANTICS, [2-240](#)  
 NLS\_NCHAR\_CONV\_EXCP, [2-241](#)  
 NLS\_NUMERIC\_CHARACTERS, [2-241](#)  
 NLS\_SORT, [2-242](#)  
 NLS\_TERRITORY, [2-244](#)  
 NLS\_TIMESTAMP\_FORMAT, [2-244](#)  
 NLS\_TIMESTAMP\_TZ\_FORMAT, [2-245](#)  
 OBJECT\_CACHE\_MAX\_SIZE\_PERCENT, [2-247](#)  
 OBJECT\_CACHE\_OPTIMAL\_SIZE, [2-248](#)  
 OFS\_THREADS, [2-248](#)  
 OLAP\_PAGE\_POOL\_SIZE, [2-249](#)  
 ONE\_STEP\_PLUGIN\_FOR\_PDB\_WITH\_TDE, [2-250](#)  
 OPEN\_CURSORS, [2-250](#)  
 OPEN\_LINKS, [2-251](#)  
 OPEN\_LINKS\_PER\_INSTANCE, [2-252](#)  
 operating system-dependent values, [2-2](#)  
 OPTIMIZER\_ADAPTIVE\_PLANS, [2-253](#)  
 OPTIMIZER\_ADAPTIVE\_REPORTING\_ONLY, [2-253](#)  
 OPTIMIZER\_ADAPTIVE\_STATISTICS, [2-254](#)  
 OPTIMIZER\_CAPTURE\_SQL\_PLAN\_BASELINES, [2-255](#)  
 OPTIMIZER\_CAPTURE\_SQL\_QUARANTINE, [2-255](#)  
 OPTIMIZER\_CROSS\_SHARD\_RESILIENCY, [2-256](#)  
 OPTIMIZER\_DYNAMIC\_SAMPLING, [2-256](#)  
 OPTIMIZER\_FEATURES\_ENABLE, [2-257](#)  
 OPTIMIZER\_IGNORE\_HINTS, [2-259](#)  
 OPTIMIZER\_IGNORE\_PARALLEL\_HINTS, [2-259](#)  
 OPTIMIZER\_INDEX\_CACHING, [2-260](#)  
 OPTIMIZER\_INDEX\_COST\_ADJ, [2-260](#)  
 OPTIMIZER\_INMEMORY\_AWARE, [2-261](#)  
 OPTIMIZER\_MODE, [2-262](#)  
 OPTIMIZER\_REAL\_TIME\_STATISTICS, [2-262](#)  
 OPTIMIZER\_SESSION\_TYPE, [2-263](#)  
 OPTIMIZER\_USE\_INVISIBLE\_INDEXES, [2-264](#)



initialization parameters (*continued*)

[OPTIMIZER\\_USE\\_PENDING\\_STATISTICS, 2-264](#)  
[OPTIMIZER\\_USE\\_SQL\\_PLAN\\_BASELINES, 2-265](#)  
[OPTIMIZER\\_USE\\_SQL\\_QUARANTINE, 2-265](#)  
[OS\\_AUTHENT\\_PREFIX, 2-266](#)  
[OS\\_ROLES, 2-267](#)  
[OUTBOUND\\_DBLINK\\_PROTOCOLS, 2-268](#)  
[PARALLEL\\_ADAPTIVE\\_MULTI\\_USER, 2-268](#)  
[PARALLEL\\_DEGREE\\_LIMIT, 2-269](#)  
[PARALLEL\\_DEGREE\\_POLICY, 2-270](#)  
[PARALLEL\\_EXECUTION\\_MESSAGE\\_SIZE, 2-271](#)  
[PARALLEL\\_FORCE\\_LOCAL, 2-272](#)  
[PARALLEL\\_INSTANCE\\_GROUP, 2-273](#)  
[PARALLEL\\_MAX\\_SERVERS, 2-273](#)  
[PARALLEL\\_MIN\\_DEGREE, 2-275](#)  
[PARALLEL\\_MIN\\_PERCENT, 2-275](#)  
[PARALLEL\\_MIN\\_SERVERS, 2-276](#)  
[PARALLEL\\_MIN\\_TIME\\_THRESHOLD, 2-277](#)  
[PARALLEL\\_SERVERS\\_TARGET, 2-278](#)  
[PARALLEL\\_THREADS\\_PER\\_CPU, 2-280](#)  
[parameter files, 2-3](#)  
[PDB\\_FILE\\_NAME\\_CONVERT, 2-280](#)  
[PDB\\_LOCKDOWN, 2-281](#)  
[PDB\\_OS\\_CREDENTIAL, 2-283](#)  
[performance tuning, 2-2](#)  
[PERMIT\\_92\\_WRAP\\_FORMAT, 2-284](#)  
[PGA\\_AGGREGATE\\_LIMIT, 2-285](#)  
[PGA\\_AGGREGATE\\_TARGET, 2-287](#)  
[PKCS11\\_LIBRARY\\_LOCATION, 2-288](#)  
[PLSCOPE\\_SETTINGS, 2-289](#)  
[PLSQL\\_CCFLAGS, 2-290](#)  
[PLSQL\\_CODE\\_TYPE, 2-291](#)  
[PLSQL\\_DEBUG, 2-292](#)  
[PLSQL\\_IMPLICIT\\_CONVERSION\\_BOOL, 2-293](#)  
[PLSQL\\_OPTIMIZE\\_LEVEL, 2-294](#)  
[PLSQL\\_V2\\_COMPATIBILITY, 2-295](#)  
[PLSQL\\_WARNINGS, 2-295](#)  
[PMEM\\_FILESTORE, 2-297](#)  
[PRE\\_PAGE\\_SGA, 2-297](#)  
[PRIORITY\\_TXNS\\_HIGH\\_WAIT\\_TARGET, 2-298](#)  
[PRIORITY\\_TXNS\\_MEDIUM\\_WAIT\\_TARGET, 2-299](#)  
[PRIORITY\\_TXNS\\_MODE, 2-300](#)  
[PRIVATE\\_TEMP\\_TABLE\\_PREFIX, 2-301](#)  
[PROCESSES, 2-302](#)  
[PROCESSOR\\_GROUP\\_NAME, 2-303](#)  
[QUERY\\_REWRITE\\_ENABLED, 2-304](#)  
[QUERY\\_REWRITE\\_INTEGRITY, 2-305](#)  
[RDBMS\\_SERVER\\_DN, 2-306](#)  
[READ\\_ONLY, 2-307](#)  
[READ\\_ONLY\\_OPEN\\_DELAYED, 2-307](#)  
[RECOVERY\\_PARALLELISM, 2-308](#)  
[RECYCLEBIN, 2-309](#)  
[REDO\\_TRANSPORT\\_USER, 2-309](#)  
[REMOTE\\_DEPENDENCIES\\_MODE, 2-310](#)  
[REMOTE\\_LISTENER, 2-310](#)  
[REMOTE\\_LOGIN\\_PASSWORDFILE, 2-311](#)

initialization parameters (*continued*)

[REMOTE\\_OS\\_ROLES, 2-312](#)  
[REMOTE\\_RECOVERY\\_FILE\\_DEST, 2-313](#)  
[REPLICATION\\_DEPENDENCY\\_TRACKING, 2-313](#)  
[RESOURCE\\_LIMIT, 2-314](#)  
[RESOURCE\\_MANAGE\\_GOLDENGATE, 2-314](#)  
[RESOURCE\\_MANAGER\\_CPU\\_ALLOCATION, 2-315](#)  
[RESOURCE\\_MANAGER\\_CPU\\_SCOPE, 2-316](#)  
[RESOURCE\\_MANAGER\\_PLAN, 2-317](#)  
[RESULT\\_CACHE\\_AUTO\\_BLOCKLIST, 2-319](#)  
[RESULT\\_CACHE\\_EXECUTION\\_THRESHOLD, 2-319](#)  
[RESULT\\_CACHE\\_INTEGRITY, 2-320](#)  
[RESULT\\_CACHE\\_MAX\\_RESULT, 2-321](#)  
[RESULT\\_CACHE\\_MAX\\_SIZE, 2-321](#)  
[RESULT\\_CACHE\\_MAX\\_TEMP\\_RESULT, 2-322](#)  
[RESULT\\_CACHE\\_MAX\\_TEMP\\_SIZE, 2-322](#)  
[RESULT\\_CACHE\\_MODE, 2-323](#)  
[RESULT\\_CACHE\\_REMOTE\\_EXPIRATION, 2-324](#)  
[RESUMABLE\\_TIMEOUT, 2-324](#)  
[ROLLBACK\\_SEGMENTS, 2-325](#)  
[SAGA\\_HIST\\_RETENTION, 2-326](#)  
[SEC\\_MAX\\_FAILED\\_LOGIN\\_ATTEMPTS, 2-326](#)  
[SEC\\_PROTOCOL\\_ERROR\\_FURTHER\\_ACTION, 2-327](#)  
[SEC\\_PROTOCOL\\_ERROR\\_TRACE\\_ACTION, 2-328](#)  
[SEC\\_RETURN\\_SERVER\\_RELEASE\\_BANNER, 2-328](#)  
[SERIAL\\_REUSE, 2-329](#)  
[SERVICE\\_NAMES, 2-330](#)  
[SESSION\\_CACHED\\_CURSORS, 2-331](#)  
[SESSION\\_EXIT\\_ON\\_PACKAGE\\_STATE\\_ERROR, 2-332](#)  
[SESSION\\_MAX\\_OPEN\\_FILES, 2-333](#)  
[SESSIONS, 2-333](#)  
[SGA\\_MAX\\_SIZE, 2-334](#)  
[SGA\\_MIN\\_SIZE, 2-335](#)  
[SGA\\_TARGET, 2-336](#)  
[SHADOW\\_CORE\\_DUMP, 2-339](#)  
[SHARD\\_ENABLE\\_RAFT\\_FOLLOWER\\_READ, 2-340](#)  
[SHARD\\_RAFT\\_LOGFILE\\_SIZE, 2-340](#)  
[SHARED\\_MEMORY\\_ADDRESS, 2-341](#)  
[SHARED\\_POOL\\_RESERVED\\_SIZE, 2-341](#)  
[SHARED\\_POOL\\_SIZE, 2-342](#)  
[SHARED\\_SERVER\\_SESSIONS, 2-344](#)  
[SHARED\\_SERVERS, 2-344](#)  
[SHRD\\_DUPL\\_TABLE\\_REFRESH\\_RATE, 2-345](#)  
[SKIP\\_UNUSABLE\\_INDEXES, 2-346](#)  
[SMTP\\_OUT\\_SERVER, 2-347](#)  
[SORT\\_AREA\\_RETAINED\\_SIZE, 2-347](#)  
[SORT\\_AREA\\_SIZE, 2-348](#)  
[SPATIAL\\_VECTOR\\_ACCELERATION, 2-349](#)  
[specifying in initialization parameter files, 2-5](#)

initialization parameters (*continued*)

- SPFILE, [2-350](#)
- SQL\_ERROR\_MITIGATION, [2-351](#)
- SQL\_HISTORY\_ENABLED, [2-351](#)
- SQL\_TRACE, [2-352](#)
- SQL\_TRANSPIER, [2-353](#)
- SQL92\_SECURITY, [2-353](#)
- SQLTUNE\_CATEGORY, [2-354](#)
- STANDBY\_DB\_PRESERVE\_STATES, [2-354](#)
- STANDBY\_FILE\_MANAGEMENT, [2-356](#)
- STANDBY\_PDB\_SOURCE\_FILE\_DBLINK, [2-356](#)
- STANDBY\_PDB\_SOURCE\_FILE\_DIRECTORY, [2-357](#)
- STAR\_TRANSFORMATION\_ENABLED, [2-358](#)
- STATISTICS\_LEVEL, [2-359](#)
- STREAMS\_POOL\_SIZE, [2-360](#)
- SYSDATE\_AT\_DBTIMEZONE, [2-361](#)
- TABSPACE\_ENCRYPTION, [2-362](#)
- TABSPACE\_ENCRYPTION\_DEFAULT\_ALGORITHM, [2-363](#)
- TAPE\_ASYNC\_IO, [2-364](#)
- TDE\_CONFIGURATION, [2-365](#)
- TDE\_KEY\_CACHE, [2-368](#)
- TEMP\_UNDO\_ENABLED, [2-368](#)
- THREAD, [2-369](#)
- THREADED\_EXECUTION, [2-370](#)
- TIME\_AT\_DBTIMEZONE, [2-372](#)
- TIMED\_OS\_STATISTICS, [2-373](#)
- TIMED\_STATISTICS, [2-373](#)
- TIMEZONE\_VERSION\_UPGRADE\_ONLINE, [2-374](#)
- TRACE\_ENABLED, [2-375](#)
- TRACEFILE\_IDENTIFIER, [2-375](#)
- TRANSACTION\_RECOVERY, [2-376](#)
- TRANSACTIONS, [2-377](#)
- TRANSACTIONS\_PER\_ROLLBACK\_SEGMENT, [2-378](#)
- TRUE\_CACHE, [2-378](#)
- TXN\_PRIORITY, [2-379](#)
- UNDO\_MANAGEMENT, [2-380](#)
- UNDO\_RETENTION, [2-381](#)
- UNDO\_TABLESPACE, [2-382](#)
- UNIFIED\_AUDIT\_COMMON\_SYSTEMLOG, [2-383](#)
- UNIFIED\_AUDIT\_SYSTEMLOG, [2-384](#)
- UNIFORM\_LOG\_TIMESTAMP\_FORMAT, [2-385](#)
- USE\_DEDICATED\_BROKER, [2-386](#)
- USE\_LARGE\_PAGES, [2-387](#)
- USER\_DUMP\_DEST, [2-388](#)
- variable, [2-2](#)
- WALLET\_ROOT, [2-389](#)
- WORKAREA\_SIZE\_POLICY, [2-392](#)
- XML\_DB\_EVENTS, [2-393](#)
- XML\_PARAMS, [2-394](#)
- INITJVM.SQL script, [B-6](#)
- INMEMORY\_ADG\_ENABLED initialization parameter, [2-154](#)
- INMEMORY\_AUTOMATIC\_LEVEL initialization parameter, [2-155](#)
- INMEMORY\_CLAUSE\_DEFAULT initialization parameter, [2-156](#)
- INMEMORY\_DEEP\_VECTORIZATION initialization parameter, [2-160](#)
- INMEMORY\_EXPRESSIONS\_USAGE initialization parameter, [2-161](#)
- INMEMORY\_FORCE initialization parameter, [2-162](#)
- INMEMORY\_MAX\_POPULATE\_SERVERS initialization parameter, [2-163](#)
- INMEMORY\_OPTIMIZED\_ARITHMETIC initialization parameter, [2-165](#)
- INMEMORY\_OPTIMIZED\_DATE initialization parameter, [2-165](#)
- INMEMORY\_QUERY initialization parameter, [2-166](#)
- INMEMORY\_SIZE initialization parameter, [2-167](#)
- INMEMORY\_TRICKLE\_REPOPULATE\_SERVERS\_PERCENT initialization parameter, [2-168](#)
- INMEMORY\_VIRTUAL\_COLUMNS initialization parameter, [2-169](#)
- inserts
  - locating free space, [2-173](#)
- INST\_ID column, [8-2](#)
- INSTANCE clause
  - of ALTER TABLE
    - allocating extents, [2-173](#)
- INSTANCE\_ABORT\_DELAY\_TIME initialization parameter, [2-170](#)
- INSTANCE\_GROUPS initialization parameter, [2-171](#)
- INSTANCE\_MODE initialization parameter, [2-171](#)
- INSTANCE\_NAME initialization parameter, [2-172](#)
- INSTANCE\_NUMBER initialization parameter, [2-173](#)
- INSTANCE\_TYPE initialization parameter, [2-173](#)
- instances
  - checkpoint, [2-205](#)
  - startup order, [2-173](#)
- IORM\_LIMIT\_POLICY initialization parameter, [2-174](#)

## J

## Java initialization parameters

- JAVA\_MAX\_SESSIONSPACE\_SIZE, [2-176](#)
- JAVA\_POOL\_SIZE, [2-176](#)
- JAVA\_SOFT\_SESSIONSPACE\_LIMIT, [2-177](#)
- Java scripts, [B-6](#)
- JAVA\_JIT\_ENABLED initialization parameter, [2-175](#)
- JAVA\_MAX\_SESSIONSPACE\_SIZE initialization parameter, [2-176](#)

JAVA\_POOL\_SIZE initialization parameter, [2-176](#)  
 JAVA\_SOFT\_SESSIONSPACE\_LIMIT  
   initialization parameter, [2-177](#)  
 JOB\_QUEUE\_PROCESSES initialization  
   parameter, [2-177](#)  
 JSON\_BEHAVIOR initialization parameter, [2-179](#)  
 JSON\_EXPRESSION\_CHECK initialization  
   parameter, [2-181](#)

## L

language  
   database default language, [2-239](#)  
 LARGE\_POOL\_SIZE initialization parameter,  
   [2-181](#)  
 LDAP\_DIRECTORY\_ACCESS initialization  
   parameter, [2-182](#)  
 LDAP\_DIRECTORY\_SYSAUTH initialization  
   parameter, [2-184](#)  
 LICENSE\_MAX\_SESSIONS initialization  
   parameter, [2-185](#)  
 LICENSE\_MAX\_USERS initialization parameter,  
   [2-186](#)  
 LICENSE\_SESSIONS\_WARNING initialization  
   parameter, [2-186](#)  
 licenses  
   maximum sessions, [2-185](#)  
   maximum users, [2-186](#)  
   warning for concurrent user sessions, [2-187](#)  
 limits on the database, [A-1](#)  
 linguistic sorts, [2-242](#)  
 LISTENER\_NETWORKS initialization parameter,  
   [2-187](#)  
 LOB\_SIGNATURE\_ENABLE initialization  
   parameter, [2-188](#)  
 local currency, [2-233](#), [2-235](#)  
 LOCAL\_LISTENER initialization parameter, [2-188](#)  
 LOCK\_NAME\_SPACE initialization parameter,  
   [2-189](#)  
 LOCK\_SGA initialization parameter, [2-190](#)  
 locks  
   names, [C-4](#)  
 LOG\_ARCHIVE\_CONFIG initialization parameter,  
   [2-190](#)  
 LOG\_ARCHIVE\_DEST initialization parameter,  
   [2-191](#)  
 LOG\_ARCHIVE\_DEST\_n initialization parameter,  
   [2-192](#)  
 LOG\_ARCHIVE\_DEST\_STATE\_n initialization  
   parameter, [2-197](#)  
 LOG\_ARCHIVE\_DUPLEX\_DEST initialization  
   parameter, [2-198](#)  
 LOG\_ARCHIVE\_FORMAT initialization  
   parameter, [2-199](#)  
 LOG\_ARCHIVE\_MAX\_PROCESSES initialization  
   parameter, [2-200](#)

LOG\_ARCHIVE\_MIN\_SUCCEED\_DEST  
   initialization parameter, [2-201](#)  
 LOG\_ARCHIVE\_TRACE initialization parameter,  
   [2-202](#)  
 LOG\_BUFFER initialization parameter, [2-204](#)  
 LOG\_CHECKPOINT\_INTERVAL initialization  
   parameter, [2-205](#)  
 LOG\_CHECKPOINT\_TIMEOUT initialization  
   parameter, [2-206](#)  
 LOG\_CHECKPOINTS\_TO\_ALERT initialization  
   parameter, [2-207](#)  
 LOG\_FILE\_NAME\_CONVERT initialization  
   parameter, [2-207](#)  
 LOGSTDBY\_UNSUPPORTED\_TABLES synonym  
   for  
     DBA\_LOGSTDBY\_UNSUPPORTED\_TA  
     BLE view, [7-135](#)  
 LONG\_MODULE\_ACTION initialization  
   parameter, [2-209](#)  
 lowercase significance, [2-5](#)

## M

MANDATORY\_USER\_PROFILE initialization  
   parameter, [2-209](#)  
 MAP\_OBJECT table, [7-135](#)  
 MAX\_AUTH\_SERVERS initialization parameter,  
   [2-210](#)  
 MAX\_COLUMNS initialization parameter, [2-211](#)  
 MAX\_DATAPUMP\_JOBS\_PER\_PDB initialization  
   parameter, [2-212](#)  
 MAX\_DATAPUMP\_PARALLEL\_PER\_JOB  
   initialization parameter, [2-212](#)  
 MAX\_DISPATCHERS initialization parameter,  
   [2-213](#)  
 MAX\_DUMP\_FILE\_SIZE initialization parameter,  
   [2-213](#)  
 MAX\_IDLE\_BLOCKER\_TIME initialization  
   parameter, [2-215](#)  
 MAX\_IDLE\_TIME initialization parameter, [2-215](#)  
 MAX\_IOPS initialization parameter, [2-216](#)  
 MAX\_MBPS initialization parameter, [2-217](#)  
 MAX\_PDBS initialization parameter, [2-218](#)  
 MAX\_SAGA\_DURATION initialization parameter,  
   [2-219](#)  
 MAX\_SHARED\_SERVERS initialization  
   parameter, [2-219](#)  
 MAX\_STRING\_SIZE initialization parameter,  
   [2-220](#)  
 MEMOPTIMIZE\_POOL\_SIZE initialization  
   parameter, [2-225](#)  
 MEMOPTIMIZE\_WRITE\_AREA\_SIZE  
   initialization parameter, [2-226](#)  
 MEMOPTIMIZE\_WRITES initialization parameter,  
   [2-226](#)



memory  
     amount used for sorting, [2-347](#)  
     virtual, [2-2](#)  
 MEMORY\_MAX\_SIZE initialization parameter, [2-227](#)  
 MEMORY\_MAX\_TARGET initialization parameter, [2-227](#)  
 MEMORY\_SIZE initialization parameter, [2-228](#)  
 MEMORY\_TARGET initialization parameter, [2-229](#)  
 MIN\_AUTH\_SERVERS initialization parameter, [2-230](#)  
 MLE\_PROG\_LANGUAGES initialization parameter, [2-231](#)  
 monitor  
     performance, [2-205](#)  
 multiple-process systems  
     number of processes, [2-302](#)  
 MULTISHARD\_QUERY\_DATA\_CONSISTENCY initialization parameter, [2-232](#)  
 multitenant container databases  
     See CDBs.

## N

NLS\_CALENDAR initialization parameter, [2-232](#)  
 NLS\_COMP initialization parameter, [2-233](#)  
 NLS\_CURRENCY initialization parameter, [2-235](#)  
     defined by NLS\_TERRITORY, [2-244](#)  
 NLS\_DATABASE\_PARAMETERS view, [7-135](#)  
 NLS\_DATE\_FORMAT initialization parameter, [2-235](#)  
     defined by NLS\_NUMERIC\_CHARACTERS, [2-241](#)  
     defined by NLS\_TERRITORY, [2-244](#)  
 NLS\_DATE\_LANGUAGE initialization parameter, [2-236](#)  
 NLS\_DUAL\_CURRENCY initialization parameter, [2-237](#)  
 NLS\_INSTANCE\_PARAMETERS view, [7-136](#)  
 NLS\_ISO\_CURRENCY initialization parameter, [2-238](#)  
     defined by NLS\_TERRITORY, [2-244](#)  
 NLS\_LANGUAGE initialization parameter, [2-239](#)  
 NLS\_LENGTH\_SEMANTICS initialization parameter, [2-240](#)  
 NLS\_NCHAR\_CONV\_EXCP initialization parameter, [2-241](#)  
 NLS\_NUMERIC\_CHARACTERS initialization parameter, [2-241](#)  
 NLS\_SESSION\_PARAMETERS view, [7-136](#)  
 NLS\_SORT initialization parameter, [2-242](#)  
 NLS\_TERRITORY initialization parameter, [2-244](#)  
 NLS\_TIME\_FORMAT, [9-85](#)  
 NLS\_TIME\_TZ\_FORMAT, [9-85](#)

NLS\_TIMESTAMP\_FORMAT initialization parameter, [2-244](#)  
 NLS\_TIMESTAMP\_TZ\_FORMAT initialization parameter, [2-245](#)  
 NONCDB\_COMPATIBLE initialization parameter, [2-246](#)  
 numeric group separators, [2-241](#)

## O

OBJ synonym for USER\_OBJECTS view, [7-136](#)  
 OBJECT\_CACHE\_MAX\_SIZE\_PERCENT initialization parameter, [2-247](#)  
 OBJECT\_CACHE\_OPTIMAL\_SIZE initialization parameter, [2-248](#)  
 objects  
     data dictionary, [3-1](#)  
 OFS\_THREADS initialization parameter, [2-248](#)  
 OLAP\_PAGE\_POOL\_SIZE initialization parameter, [2-249](#)  
 ONE\_STEP\_PLUGIN\_FOR\_PDB\_WITH\_TDE initialization parameter, [2-250](#)  
 online redo log  
     archiving mode, [2-191](#)  
     block, [2-205](#)  
     file size, [2-205](#)  
     setting checkpoint interval, [2-205](#)  
 OPEN\_CURSORS initialization parameter, [2-250](#)  
 OPEN\_LINKS initialization parameter, [2-251](#)  
 OPEN\_LINKS\_PER\_INSTANCE initialization parameter, [2-252](#)  
 operating system  
     authenticating users and passwords, [2-266](#)  
     dependent parameters, [2-2](#)  
     roles for remote clients, [2-312](#)  
 optimization  
     trading cursor space for time, [2-79](#)  
 OPTIMIZER\_ADAPTIVE\_PLANS initialization parameter, [2-253](#)  
 OPTIMIZER\_ADAPTIVE\_REPORTING\_ONLY initialization parameter, [2-253](#)  
 OPTIMIZER\_ADAPTIVE\_STATISTICS initialization parameter, [2-254](#)  
 OPTIMIZER\_CAPTURE\_SQL\_PLAN\_BASELINE S initialization parameter, [2-255](#)  
 OPTIMIZER\_CAPTURE\_SQL\_QUARANTINE initialization parameter, [2-255](#)  
 OPTIMIZER\_CROSS\_SHARD\_RESILIENCY initialization parameter, [2-256](#)  
 OPTIMIZER\_DYNAMIC\_SAMPLING initialization parameter, [2-256](#)  
 OPTIMIZER\_FEATURES\_ENABLE initialization parameter, [2-257](#)  
 OPTIMIZER\_IGNORE\_HINTS initialization parameter, [2-259](#)

OPTIMIZER\_IGNORE\_PARALLEL\_HINTS  
     initialization parameter, [2-259](#)  
 OPTIMIZER\_INDEX\_CACHING initialization  
     parameter, [2-260](#)  
 OPTIMIZER\_INDEX\_COST\_ADJ initialization  
     parameter, [2-260](#)  
 OPTIMIZER\_INMEMORY\_AWARE initialization  
     parameter, [2-261](#)  
 OPTIMIZER\_MODE initialization parameter,  
     [2-262](#)  
 OPTIMIZER\_REAL\_TIME\_STATISTICS  
     initialization parameter, [2-262](#)  
 OPTIMIZER\_SESSION\_TYPE initialization  
     parameter, [2-263](#)  
 OPTIMIZER\_USE\_INVISIBLE\_INDEXES  
     initialization parameter, [2-264](#)  
 OPTIMIZER\_USE\_PENDING\_STATISTICS  
     initialization parameter, [2-264](#)  
 OPTIMIZER\_USE\_SQL\_PLAN\_BASELINES  
     initialization parameter, [2-265](#)  
 OPTIMIZER\_USE\_SQL\_QUARANTINE  
     initialization parameter, [2-265](#)  
 Oracle Database Real Application Security views,  
     [3-4](#)  
 Oracle Database Vault views, [3-4](#)  
 Oracle Exadata Database Machine views, [8-3](#)  
 Oracle Label Security views, [3-5](#)  
 Oracle Workspace Manager views, [3-5](#)  
 ORPHAN\_KEY\_TABLE table  
     See DBA\_ORPHAN\_KEY\_TABLE view  
 OS\_AUTHENT\_PREFIX initialization parameter,  
     [2-266](#)  
 OS\_ROLES initialization parameter, [2-267](#)  
 OUTBOUND\_DBLINK\_PROTOCOLS initialization  
     parameter, [2-268](#)

## P

parallel query  
     maximum number of instances, [2-271](#)  
     maximum number of servers, [2-273](#)  
     minimum number of queries, [2-276](#)  
 PARALLEL\_ADAPTIVE\_MULTI\_USER  
     initialization parameter, [2-268](#)  
 PARALLEL\_DEGREE\_LIMIT initialization  
     parameter, [2-269](#)  
 PARALLEL\_DEGREE\_POLICY initialization  
     parameter, [2-270](#)  
 PARALLEL\_EXECUTION\_MESSAGE\_SIZE  
     initialization parameter, [2-271](#)  
 PARALLEL\_FORCE\_LOCAL initialization  
     parameter, [2-272](#)  
 PARALLEL\_INSTANCE\_GROUP initialization  
     parameter, [2-273](#)  
 PARALLEL\_MAX\_SERVERS initialization  
     parameter, [2-273](#)  
 PARALLEL\_MIN\_DEGREE initialization  
     parameter, [2-275](#)  
 PARALLEL\_MIN\_PERCENT initialization  
     parameter, [2-275](#)  
 PARALLEL\_MIN\_SERVERS initialization  
     parameter, [2-276](#)  
 PARALLEL\_MIN\_TIME\_THRESHOLD  
     initialization parameter, [2-277](#)  
 PARALLEL\_SERVERS\_TARGET initialization  
     parameter, [2-278](#)  
 PARALLEL\_THREADS\_PER\_CPU initialization  
     parameter, [2-280](#)  
 passwords  
     authenticating, [2-266](#)  
     REMOTE\_LOGIN\_PASSWORDFILE  
         initialization parameter, [2-311](#)  
 PATH\_VIEW view, [7-136](#)  
 PDB\_ALERTS view, [7-137](#)  
 PDB\_FILE\_NAME\_CONVERT initialization  
     parameter, [2-280](#)  
 PDB\_LOCKDOWN initialization parameter, [2-281](#)  
 PDB\_OS\_CREDENTIAL initialization parameter,  
     [2-283](#)  
 PDB\_PLUG\_IN\_VIOLATIONS view, [7-137](#)  
 PDBs, [2-43](#)  
 performance, [2-2](#)  
     shared pool, [2-342](#)  
 PERMIT\_92\_WRAP\_FORMAT initialization  
     parameter, [2-284](#)  
 PGA\_AGGREGATE\_LIMIT initialization  
     parameter, [2-285](#)  
 PGA\_AGGREGATE\_TARGET initialization  
     parameter, [2-287](#)  
 PKCS11\_LIBRARY\_LOCATION initialization  
     parameter, [2-288](#)  
 PLAN\_TABLE table, [7-138](#)  
 PLScope\_SETTINGS initialization parameter,  
     [2-289](#)  
 PLSQL\_CCFLAGS initialization parameter, [2-290](#)  
 PLSQL\_CODE\_TYPE initialization parameter,  
     [2-291](#)  
 PLSQL\_DEBUG initialization parameter, [2-292](#)  
 PLSQL\_IMPLICIT\_CONVERSION\_BOOL  
     initialization parameter, [2-293](#)  
 PLSQL\_OPTIMIZE\_LEVEL initialization  
     parameter, [2-294](#)  
 PLSQL\_V2\_COMPATIBILITY initialization  
     parameter, [2-295](#)  
 PLSQL\_WARNINGS initialization parameter,  
     [2-295](#)  
 pluggable databases  
     See PDBs.  
 PLUGGABLE\_SET\_CHECK view, [7-141](#)  
 PMEM\_FILESTORE initialization parameter,  
     [2-297](#)  
 PRE\_PAGE\_SGA initialization parameter, [2-297](#)

PRIORITY\_TXNS\_HIGH\_WAIT\_TARGET  
     initialization parameter, [2-298](#)  
 PRIORITY\_TXNS\_MEDIUM\_WAIT\_TARGET  
     initialization parameter, [2-299](#)  
 PRIORITY\_TXNS\_MODE initialization parameter,  
     [2-300](#)  
 PRIVATE\_TEMP\_TABLE\_PREFIX initialization  
     parameter, [2-301](#)  
 privileges  
     remote login, [2-311](#)  
     RESTRICTED\_SESSION privilege, [2-185](#),  
         [2-187](#)  
     table-level select privileges, [2-353](#)  
 procedures  
     shared pool, [2-342](#)  
 processes  
     dispatcher process maximum number, [2-213](#)  
     maximum shared server processes, [2-219](#)  
     number of server processes, [2-176](#), [2-177](#),  
         [2-344](#)  
     recovery, [2-308](#)  
     trace files, [2-388](#)  
     user processes, [2-302](#)  
 PROCESSES initialization parameter, [2-302](#)  
 PROCESSOR\_GROUP\_NAME initialization  
     parameter, [2-303](#)  
 PRODUCT\_COMPONENT\_VERSION view,  
     [7-142](#)  
 profiles  
     resource limits, [2-314](#), [2-318](#)  
 PROXY\_USERS view, [7-142](#)  
 PSTUBTBL table, [7-143](#)  
 PUBLIC clause  
     of ALTER DATABASE  
         thread of redo, [2-369](#)  
 PUBLIC\_DEPENDENCY view, [7-143](#)  
 PUBLICSYN view, [7-143](#)

## Q

queries  
     hints, [2-262](#)  
 QUERY\_REWRITE\_ENABLED initialization  
     parameter, [2-304](#)  
 QUERY\_REWRITE\_INTEGRITY initialization  
     parameter, [2-305](#)  
 QUEUE\_PRIVILEGES view, [7-143](#)

## R

RC\_ARCHIVED\_LOG view, [3-6](#)  
 RC\_BACKUP\_ARCHIVELOG\_DETAILS view, [3-6](#)  
 RC\_BACKUP\_ARCHIVELOG\_SUMMARY view,  
     [3-6](#)  
 RC\_BACKUP\_CONTROLFILE view, [3-6](#)

RC\_BACKUP\_CONTROLFILE\_DETAILS view,  
     [3-6](#)  
 RC\_BACKUP\_CONTROLFILE\_SUMMARY view,  
     [3-6](#)  
 RC\_BACKUP\_COPY\_DETAILS view, [3-6](#)  
 RC\_BACKUP\_COPY\_SUMMARY view, [3-6](#)  
 RC\_BACKUP\_CORRUPTION view, [3-6](#)  
 RC\_BACKUP\_DATAFILE view, [3-6](#)  
 RC\_BACKUP\_DATAFILE\_DETAILS view, [3-6](#)  
 RC\_BACKUP\_DATAFILE\_SUMMARY view, [3-6](#)  
 RC\_BACKUP\_FILES view, [3-6](#)  
 RC\_BACKUP\_PIECE view, [3-6](#)  
 RC\_BACKUP\_PIECE\_DETAILS view, [3-6](#)  
 RC\_BACKUP\_REDOLOG view, [3-6](#)  
 RC\_BACKUP\_SET view, [3-6](#)  
 RC\_BACKUP\_SET\_DETAILS view, [3-6](#)  
 RC\_BACKUP\_SET\_SUMMARY view, [3-6](#)  
 RC\_BACKUP\_SPFILE view, [3-6](#)  
 RC\_BACKUP\_SPFILE\_DETAILS view, [3-6](#)  
 RC\_BACKUP\_SPFILE\_SUMMARY view, [3-6](#)  
 RC\_CHECKPOINT view, [3-6](#)  
 RC\_CONTROLFILE\_COPY view, [3-6](#)  
 RC\_COPY\_CORRUPTION view, [3-6](#)  
 RC\_DATABASE view, [3-6](#)  
 RC\_DATABASE\_BLOCK\_CORRUPTION view,  
     [3-6](#)  
 RC\_DATABASE\_INCARNATION view, [3-6](#)  
 RC\_DATAFILE view, [3-6](#)  
 RC\_DATAFILE\_COPY view, [3-6](#)  
 RC\_LOG\_HISTORY view, [3-6](#)  
 RC\_OFFLINE\_RANGE view, [3-6](#)  
 RC\_PROXY\_ARCHIVEDLOG view, [3-7](#)  
 RC\_PROXY\_ARCHIVELOG\_DETAILS view, [3-7](#)  
 RC\_PROXY\_ARCHIVELOG\_SUMMARY view,  
     [3-7](#)  
 RC\_PROXY\_CONTROLFILE view, [3-7](#)  
 RC\_PROXY\_COPY\_DETAILS view, [3-7](#)  
 RC\_PROXY\_COPY\_SUMMARY view, [3-7](#)  
 RC\_PROXY\_DATAFILE view, [3-7](#)  
 RC\_REDO\_LOG view, [3-7](#)  
 RC\_REDO\_THREAD view, [3-7](#)  
 RC\_RESTORE\_POINT view, [3-7](#)  
 RC\_RESYNC view, [3-7](#)  
 RC\_RMAN\_BACKUP\_JOB\_DETAILS view, [3-7](#)  
 RC\_RMAN\_BACKUP\_SUBJOB\_DETAILS view,  
     [3-7](#)  
 RC\_RMAN\_BACKUP\_TYPE view, [3-7](#)  
 RC\_RMAN\_CONFIGURATION view, [3-7](#)  
 RC\_RMAN\_OUTPUT view, [3-7](#)  
 RC\_RMAN\_STATUS view, [3-7](#)  
 RC\_SITE view, [3-7](#)  
 RC\_STORED\_SCRIPT view, [3-7](#)  
 RC\_STORED\_SCRIPT\_LINE view, [3-7](#)  
 RC\_TABLESPACE view, [3-7](#)  
 RC\_TEMPFILE view, [3-7](#)

RC\_UNUSABLE\_BACKUPFILE\_DETAILS view, [3-7](#)

RDBMS\_SERVER\_DN initialization parameter, [2-306](#)

READ\_ONLY initialization parameter, [2-307](#)

READ\_ONLY\_OPEN\_DELAYED initialization parameter, [2-307](#)

Real Application Clusters

- dynamic performance views, [8-2](#)
- initialization parameters
  - CIRCUITS, [2-56](#)
  - CLUSTER\_DATABASE, [2-60](#)
  - CLUSTER\_INTERCONNECTS, [2-61](#)
  - DISPATCHERS, [2-120](#)
  - FAST\_START\_PARALLEL\_ROLLBACK, [2-139](#)
  - PARALLEL\_ADAPTIVE\_MULTI\_USER, [2-268](#)
  - PARALLEL\_EXECUTION\_MESSAGE\_SIZE, [2-271](#)
  - PARALLEL\_INSTANCE\_GROUP, [2-273](#)
  - PARALLEL\_MAX\_SERVERS, [2-273](#)
  - PARALLEL\_MIN\_PERCENT, [2-275](#)
  - PARALLEL\_MIN\_SERVERS, [2-276](#)
  - PARALLEL\_THREADS\_PER\_CPU, [2-280](#)

recovery

- number of required processes, [2-308](#)

Recovery Catalog views, [3-6](#)

RECOVERY\_PARALLELISM initialization parameter, [2-308](#)

RECYCLEBIN initialization parameter, [2-309](#)

RECYCLEBIN synonym for USER\_RECYCLEBIN view, [7-144](#)

REDACTION\_COLUMNS view, [7-144](#)

REDACTION\_EXPRESSIONS view, [7-145](#)

REDACTION\_POLICIES view, [7-145](#)

REDACTION\_VALUES\_FOR\_TYPE\_FULL view, [7-146](#)

redo logs

- buffer size, [2-205](#)

redo thread, [2-369](#)

REDO\_TRANSPORT\_USER initialization parameter, [2-309](#)

remote logins, [2-311](#)

REMOTE\_DEPENDENCIES\_MODE initialization parameter, [2-310](#)

REMOTE\_LISTENER initialization parameter, [2-310](#)

REMOTE\_LOGIN\_PASSWORDFILE initialization parameter, [2-311](#)

REMOTE\_OS\_ROLES initialization parameter, [2-312](#)

REMOTE\_RECOVERY\_FILE\_DEST initialization parameter, [2-313](#)

REPAIR\_TABLE table

- See DBA\_REPAIR\_TABLE view

REPLICATION\_DEPENDENCY\_TRACKING initialization parameter, [2-313](#)

REPORT\_COMPONENTS view, [7-147](#)

REPORT\_FILES view, [7-147](#)

REPORT\_FORMATS view, [7-148](#)

resource limits for profiles, [2-314](#), [2-318](#)

RESOURCE\_COST view, [7-148](#)

RESOURCE\_LIMIT initialization parameter, [2-314](#)

RESOURCE\_MANAGE\_GOLDENGATE initialization parameter, [2-314](#)

RESOURCE\_MANAGER\_CPU\_ALLOCATION initialization parameter, [2-315](#)

RESOURCE\_MANAGER\_CPU\_SCOPE initialization parameter, [2-316](#)

RESOURCE\_MANAGER\_PLAN initialization parameter, [2-317](#)

RESOURCE\_MAP table, [7-148](#)

RESOURCE\_VIEW view, [7-149](#)

RESULT\_CACHE\_AUTO\_BLOCKLIST initialization parameter, [2-319](#)

RESULT\_CACHE\_EXECUTION\_THRESHOLD initialization parameter, [2-319](#)

RESULT\_CACHE\_INTEGRITY initialization parameter, [2-320](#)

RESULT\_CACHE\_MAX\_RESULT initialization parameter, [2-321](#)

RESULT\_CACHE\_MAX\_SIZE initialization parameter, [2-321](#)

RESULT\_CACHE\_MAX\_TEMP\_SIZE initialization parameter, [2-322](#)

RESULT\_CACHE\_MODE initialization parameter, [2-323](#)

RESULT\_CACHE\_REMOTE\_EXPIRATION initialization parameter, [2-324](#)

RESUMABLE\_TIMEOUT initialization parameter, [2-324](#)

RMJVM.SQL script, [B-6](#)

ROLE\_ROLE\_PRIVS view, [7-149](#)

ROLE\_SCHEMA\_PRIVS view, [7-150](#)

ROLE\_SYS\_PRIVS view, [7-150](#)

ROLE\_SYS\_PRIVS\_ALL view, [7-151](#)

ROLE\_TAB\_PRIVS view, [7-151](#)

roles, [2-267](#)

- remote clients, [2-312](#)

ROLLBACK\_SEGMENTS initialization parameter, [2-325](#)

## S

SAGA\_HIST\_RETENTION initialization parameter, [2-326](#)

SCHEDULER\_BATCH\_ERRORS view, [7-152](#)

SCHEMA\_EXPORT\_OBJECTS view, [7-152](#)

scripts

- CATALOG.SQL, [B-2](#)
- CATBLOCK.SQL, [B-2](#)

scripts (*continued*)

- CATCLUST.SQL, [B-2](#)
- CATHS.SQL, [B-3](#)
- CATIO.SQL, [B-3](#)
- CATJAVA.SQL, [B-6](#)
- CATNOCLUST.SQL, [B-5](#)
- CATNOJAV.SQL, [B-5](#)
- CATNOPRT.SQL, [B-5](#)
- CATNOSVM.SQL, [B-5](#)
- CATNSNMP.SQL, [B-5](#)
- CATPCAT.SQL, [B-2](#)
- CATPROC.SQL, [B-2](#)
- CATQUEUE.SQL, [B-3](#)
- CATREP.SQL, [B-3](#)
- CATWRR.SQL, [B-3](#)
- CATWRRWITB.SQL, [B-3](#)
- data dictionary, [B-2](#)
- DBMSIOTC.SQL, [B-3](#)
- DBMSPOOL.SQL, [B-3](#)
- INITJVM.SQL, [B-6](#)
- Java, [B-6](#)
- RMJVM.SQL, [B-6](#)
- SQL scripts, [B-1](#)
- upgrading, [B-6](#)
- USERLOCK.SQL, [B-3](#)
- UTLBSTAT.SQL, [B-3](#)
- UTLCHN1.SQL, [B-3](#)
- UTLCONST.SQL, [B-3](#)
- UTLDTREE.SQL, [B-3](#)
- UTLESTAT.SQL, [B-3](#)
- UTLEXPT1.SQL, [B-3](#)
- UTLFIXDIRS.SQL, [B-4](#)
- UTLIP.SQL, [B-4](#)
- UTLIRP.SQL, [B-4](#)
- UTLLOCKT.SQL, [B-4](#)
- UTLPWDMG.SQL, [B-4](#)
- UTLRP.SQL, [B-4](#)
- UTLSAMPL.SQL, [B-4](#)
- UTLSCLN.SQL, [B-4](#)
- UTLTKPRF.SQL, [B-4](#)
- UTLVALID.SQL, [B-4](#)
- UTLXPLAN.SQL, [B-5](#)
- SEC\_MAX\_FAILED\_LOGIN\_ATTEMPTS
  - initialization parameter, [2-326](#)
- SEC\_PROTOCOL\_ERROR\_FURTHER\_ACTION
  - initialization parameter, [2-327](#)
- SEC\_PROTOCOL\_ERROR\_TRACE\_ACTION
  - initialization parameter, [2-328](#)
- SEC\_RETURN\_SERVER\_RELEASE\_BANNER
  - initialization parameter, [2-328](#)
- SEQ synonym for USER\_SEQUENCES view, [7-153](#)
- SERIAL\_REUSE initialization parameter, [2-329](#)
- server parameter file
  - overview, [2-3](#)

## server processes

- number, [2-176](#), [2-177](#), [2-344](#)
- SERVICE\_NAMES initialization parameter, [2-330](#)
- SESSION\_CACHED\_CURSORS initialization
  - parameter, [2-331](#)
- SESSION\_CONTEXT view, [7-153](#)
- SESSION\_EXIT\_ON\_PACKAGE\_STATE\_ERROR initialization parameter, [2-332](#)
- SESSION\_MAX\_OPEN\_FILES initialization
  - parameter, [2-333](#)
- SESSION\_PRIVS view, [7-153](#)
- SESSION\_PRIVS\_ALL view, [7-153](#)
- SESSION\_ROLES view, [7-154](#)
- SESSION\_SCHEMA\_PRIVS view, [7-154](#)
- SESSIONS initialization parameter, [2-333](#)
- SGA\_MAX\_SIZE initialization parameter, [2-334](#)
- SGA\_MIN\_SIZE initialization parameter, [2-335](#)
- SGA\_TARGET initialization parameter, [2-336](#)
- SHADOW\_CORE\_DUMP initialization parameter, [2-339](#)
- SHARD\_ENABLE\_RAFT\_FOLLOWER\_READ
  - initialization parameter, [2-340](#)
- SHARD\_RAFT\_LOGFILE\_SIZE initialization
  - parameter, [2-340](#)
- SHARD\_RAFT\_PARAMETERS view, [7-154](#)
- shared server
  - SESSIONS initialization parameter, [2-333](#)
- shared server processes
  - maximum number, [2-219](#)
- SHARED\_MEMORY\_ADDRESS initialization
  - parameter, [2-341](#)
- SHARED\_POOL\_RESERVED\_SIZE initialization
  - parameter, [2-341](#)
- SHARED\_POOL\_SIZE initialization parameter, [2-342](#)
- SHARED\_SERVER\_SESSIONS initialization
  - parameter, [2-344](#)
- SHARED\_SERVERS initialization parameter, [2-344](#)
- SHOW PARAMETERS statement, [2-27](#)
- SHRD\_DUPL\_TABLE\_REFRESH\_RATE
  - initialization parameter, [2-345](#)
- SKIP\_UNUSABLE\_INDEXES initialization
  - parameter, [2-346](#)
- SMTP\_OUT\_SERVER initialization parameter, [2-347](#)
- SORT\_AREA\_RETAINED\_SIZE initialization
  - parameter, [2-347](#)
- SORT\_AREA\_SIZE initialization parameter, [2-348](#)
- sorting
  - maximum memory, [2-347](#)
  - ORDER BY queries, [2-242](#)
- SOURCE\_SIZE view, [7-155](#)
- SPATIAL\_VECTOR\_ACCELERATION
  - initialization parameter, [2-349](#)
- SPFILE initialization parameter, [2-350](#)



- SQL scripts
  - creating the data dictionary, [B-1](#)
  - optional, [B-2](#)
  - required, [B-1](#)
- SQL\_ERROR\_MITIGATION initialization
  - parameter, [2-351](#)
- SQL\_HISTORY\_ENABLED initialization
  - parameter, [2-351](#)
- SQL\_TRACE initialization parameter, [2-352](#)
- SQL\_TRANSPILER initialization parameter, [2-353](#)
- SQL92\_SECURITY initialization parameter, [2-353](#)
- SQLTUNE\_CATEGORY initialization parameter, [2-354](#)
- STANDBY\_DB\_PRESERVE\_STATES
  - initialization parameter, [2-354](#)
- STANDBY\_FILE\_MANAGEMENT initialization
  - parameter, [2-356](#)
- STANDBY\_PDB\_SOURCE\_FILE\_DBLINK
  - initialization parameter, [2-356](#)
- STANDBY\_PDB\_SOURCE\_FILE\_DIRECTORY
  - initialization parameter, [2-357](#)
- STAR\_TRANSFORMATION\_ENABLED
  - initialization parameter, [2-358](#)
- starting up
  - instance number, [2-173](#)
  - startup order, [2-173](#)
- statistics
  - application wait time, [E-2](#)
  - background checkpoints completed, [E-2](#)
  - background checkpoints started, [E-2](#)
  - background timeouts, [E-2](#)
  - branch node splits, [E-2](#)
  - buffer is not pinned count, [E-2](#)
  - buffer is pinned count, [E-2](#)
  - bytes received via SQL\*Net from client, [E-2](#)
  - bytes received via SQL\*Net from dblink, [E-2](#)
  - bytes sent via SQL\*Net to client, [E-2](#)
  - bytes sent via SQL\*Net to dblink, [E-2](#)
  - Cached Commit SCN referenced, [E-2](#)
  - calls to get snapshot scn
    - kcmgss, [E-2](#)
  - calls to kcmgas, [E-2](#)
  - calls to kcmgcs, [E-2](#)
  - calls to kcmgrs, [E-2](#)
  - cell flash cache read hits, [E-2](#)
  - cell flash cache read hits for smart IO, [E-3](#)
  - cell flash cache read hits for temp IO, [E-3](#)
  - cell IO uncompressed bytes, [E-3](#)
  - cell num bytes in passthru due to quarantine, [E-3](#)
  - cell num bytes in passthru during predicate offload, [E-3](#)
  - cell overwrites in flash cache, [E-3](#)
  - cell partial writes in flash cache, [E-3](#)
  - cell physical IO bytes added to storage index, [E-3](#)
  - statistics (*continued*)
    - cell physical IO bytes eligible for predicate offload, [E-3](#)
    - cell physical IO bytes eligible for smart IOs, [E-3](#)
    - cell physical IO bytes processed for IM capacity, [E-3](#)
    - cell physical IO bytes processed for IM query, [E-3](#)
    - cell physical IO bytes processed for no memcompress, [E-3](#)
    - cell physical IO bytes saved by columnar cache, [E-3](#)
    - cell physical IO bytes saved by storage index, [E-3](#)
    - cell physical IO bytes saved during optimized file creation, [E-3](#)
    - cell physical IO bytes saved during optimized RMAN file restore, [E-4](#)
    - cell physical IO bytes sent directly to DB node to balance CPU, [E-4](#)
    - cell physical IO interconnect bytes, [E-4](#)
    - cell physical IO interconnect bytes returned by smart scan, [E-4](#)
    - cell pmem cache read hits, [E-4](#)
    - cell pmem cache writes, [E-4](#)
    - cell pmem log writes, [E-4](#)
    - cell ram cache read hits, [E-4](#)
    - cell RDMA reads, [E-4](#)
    - cell RDMA writes, [E-4](#)
    - cell writes to flash cache, [E-4](#)
    - cell writes to flash cache for temp IO, [E-4](#)
    - change write time, [E-4](#)
    - cleanouts and rollbacks - consistent read gets, [E-4](#)
    - cleanouts only - consistent read gets, [E-4](#)
    - cluster key scan block gets, [E-4](#)
    - cluster key scans, [E-4](#)
    - cluster wait time, [E-4](#)
    - cold recycle reads, [E-4](#)
    - commit cleanout failures
      - block lost, [E-4](#)
      - buffer being written, [E-4](#)
      - callback failure, [E-5](#)
      - cannot pin, [E-5](#)
      - hot backup in progress, [E-5](#)
      - pmem only, [E-5](#)
      - write disabled, [E-5](#)
    - commit cleanouts, [E-5](#)
    - commit cleanouts successfully completed, [E-5](#)
    - commit nowait performed, [E-5](#)
    - commit nowait requested, [E-5](#)
    - Commit SCN cached, [E-5](#)
    - commit wait performed, [E-5](#)
    - commit wait requested, [E-5](#)
    - commit wait/nowait requested, [E-5](#)

statistics (*continued*)

- concurrency wait time, [E-5](#)
- consistent changes, [E-5](#)
- consistent gets, [E-5](#)
- consistent gets direct, [E-6](#)
- consistent gets from cache, [E-6](#)
- consistent gets from pmem, [E-6](#)
- consistent gets pmem direct, [E-6](#)
- consistent gets pmem examination, [E-6](#)
- consistent gets pmem examination (fastpath), [E-6](#)
- consistent gets pmem pin, [E-6](#)
- consistent gets pmem pin (fastpath), [E-6](#)
- CPU used by this session, [E-6](#)
- CPU used when call started, [E-6](#)
- CR blocks created, [E-6](#)
- cumulative begin requests, [E-6](#)
- cumulative DB time in requests, [E-6](#)
- cumulative DB time protected in requests, [E-7](#)
- cumulative end requests, [E-7](#)
- cumulative time in requests, [E-7](#)
- cumulative user calls in requests, [E-7](#)
- cumulative user calls protected by Application Continuity, [E-7](#)
- current blocks converted for CR, [E-7](#)
- cursor authentications, [E-7](#)
- data blocks consistent reads - undo records applied, [E-7](#)
- data warehousing cooling action, [E-7](#)
- data warehousing evicted objects, [E-7](#)
- data warehousing evicted objects - cooling, [E-7](#)
- data warehousing evicted objects - replace, [E-7](#)
- data warehousing scanned blocks, [E-7](#)
- data warehousing scanned blocks - disk, [E-7](#)
- data warehousing scanned blocks - memory, [E-7](#)
- data warehousing scanned blocks - offload, [E-7](#)
- data warehousing scanned objects, [E-7](#)
- db block changes, [E-8](#)
- db block gets, [E-8](#)
- db block gets direct, [E-8](#)
- db block gets from cache, [E-8](#)
- db block gets from pmem, [E-8](#)
- db block gets from pmem (fastpath), [E-8](#)
- DBWR checkpoint buffers written, [E-8](#)
- DBWR checkpoints, [2-205](#), [E-8](#)
- DBWR lru scans, [E-8](#)
- DBWR revisited being-written buffer, [E-8](#)
- DBWR transaction table writes, [E-8](#)
- DBWR undo block writes, [E-8](#)
- DDL statements parallelized, [E-8](#)
- deferred (CURRENT) block cleanout applications, [E-8](#)

statistics (*continued*)

- DFO trees parallelized, [E-8](#)
- dirty buffers inspected, [E-9](#)
- DML statements parallelized, [E-9](#)
- DML statements retried, [E-9](#)
- enqueue conversions, [E-9](#)
- enqueue deadlocks, [E-9](#)
- enqueue releases, [E-9](#)
- enqueue requests, [E-9](#)
- enqueue timeouts, [E-9](#)
- enqueue waits, [E-9](#)
- exchange deadlocks, [E-9](#)
- execute count, [E-9](#)
- fdba woken up, [E-9](#)
- file io wait time, [E-9](#)
- flash cache eviction: aged out, [E-9](#)
- flash cache eviction: buffer pinned, [E-9](#)
- flash cache eviction: nvalidated, [E-9](#)
- flash cache insert skip: corrupt, [E-9](#)
- flash cache insert skip: DBWR overloaded, [E-10](#)
- flash cache insert skip: exists, [E-10](#)
- flash cache insert skip: modification, [E-10](#)
- flash cache insert skip: not current, [E-10](#)
- flash cache insert skip: not useful, [E-10](#)
- flash cache inserts, [E-10](#)
- flashback log write bytes, [E-10](#)
- flashback log writes, [E-10](#)
- foreground propagated tracked transactions, [E-10](#)
- free buffer inspected, [E-10](#)
- free buffer inspected for pmem, [E-10](#)
- free buffer requested, [E-10](#)
- free buffer requested for pmem, [E-10](#)
- gc read wait failure, [E-10](#)
- gc read wait timeouts, [E-10](#)
- gc read waits, [E-10](#)
- global enqueue CPU used by this session, [E-11](#)
- global enqueue get time, [E-11](#)
- global enqueue gets async, [E-11](#)
- global enqueue gets sync, [E-11](#)
- global enqueue releases, [E-11](#)
- HCC analyze table CUs, [E-11](#)
- HCC analyzer calls, [E-11](#)
- HCC block compressions attempted, [E-11](#)
- HCC block compressions completed, [E-11](#)
- HCC DML conventional, [E-11](#)
- HCC DML CUs, [E-11](#)
- HCC fetch by rowid CUs, [E-11](#)
- HCC load conventional bytes compressed, [E-11](#)
- HCC load conventional bytes uncompressed, [E-11](#)
- HCC load conventional CUs, [E-11](#)

statistics (*continued*)

HCC load conventional CUs archive high, [E-11](#)  
 HCC load conventional CUs archive low, [E-11](#)  
 HCC load conventional CUs query high, [E-11](#)  
 HCC load conventional CUs query low, [E-12](#)  
 HCC load conventional rows, [E-12](#)  
 HCC load conventional rows not compressed, [E-12](#)  
 HCC load direct bytes compressed, [E-12](#)  
 HCC load direct bytes uncompressed, [E-12](#)  
 HCC load direct CUs, [E-12](#)  
 HCC load direct CUs archive high, [E-12](#)  
 HCC load direct CUs archive low, [E-12](#)  
 HCC load direct CUs query high, [E-12](#)  
 HCC load direct CUs query low, [E-12](#)  
 HCC load direct rows, [E-12](#)  
 HCC load direct rows not compressed, [E-12](#)  
 HCC scan cell bytes compressed, [E-12](#)  
 HCC scan cell bytes decompressed, [E-12](#)  
 HCC scan cell CUs archive high, [E-12](#)  
 HCC scan cell CUs archive low, [E-12](#)  
 HCC scan cell CUs columns accessed, [E-12](#)  
 HCC scan cell CUs decompressed, [E-12](#)  
 HCC scan cell CUs decompression time, [E-13](#)  
 HCC scan cell CUs optimized read, [E-13](#)  
 HCC scan cell CUs pruned, [E-13](#)  
 HCC scan cell CUs query high, [E-13](#)  
 HCC scan cell CUs query low, [E-13](#)  
 HCC scan cell CUs sent compressed, [E-13](#)  
 HCC scan cell CUs sent head piece, [E-13](#)  
 HCC scan cell CUs sent uncompressed, [E-13](#)  
 HCC scan cell rows, [E-13](#)  
 HCC scan CUs pcode aggregation pushdown, [E-13](#)  
 HCC scan CUs pcode pred eval'd, [E-13](#)  
 HCC scan CUs pcode pred eval'd using rowsets, [E-13](#)  
 HCC scan CUs predicates applied, [E-13](#)  
 HCC scan CUs predicates optimized, [E-13](#)  
 HCC scan CUs predicates received, [E-13](#)  
 HCC scan rdbms bytes compressed, [E-13](#)  
 HCC scan rdbms bytes decompressed, [E-13](#)  
 HCC scan rdbms CUs archive high, [E-13](#)  
 HCC scan rdbms CUs archive low, [E-13](#)  
 HCC scan rdbms CUs columns accessed, [E-14](#)  
 HCC scan rdbms CUs decompressed, [E-14](#)  
 HCC scan rdbms CUs decompression time, [E-14](#)  
 HCC scan rdbms CUs normal, [E-14](#)  
 HCC scan rdbms CUs pruned, [E-14](#)  
 HCC scan rdbms CUs query high, [E-14](#)  
 HCC scan rdbms CUs query low, [E-14](#)  
 HCC scan rdbms CUs turbo, [E-14](#)  
 HCC scan rdbms rows, [E-14](#)

statistics (*continued*)

HCC scan rows pcode aggregated, [E-14](#)  
 HCC usage cloud, [E-14](#)  
 HCC usage pillar, [E-14](#)  
 HCC usage ZFS, [E-14](#)  
 hot buffers moved to head of LRU, [E-14](#)  
 hot buffers moved to head of LRU for pmem, [E-14](#)  
 hot pmem block exchange with dram attempts, [E-14](#)  
 hot pmem block exchange with dram successes, [E-15](#)  
 hot pmem block migration to dram attempts, [E-15](#)  
 hot pmem block migration to dram successes, [E-15](#)  
 IM (HPK4SQL) hash joins attempted, [E-15](#)  
 IM (HPK4SQL) hash joins completed, [E-15](#)  
 IM (hybrid) scan blocks on hybrid list, [E-15](#)  
 IM (hybrid) scan rows on hybrid list, [E-15](#)  
 IM default area resized, [E-15](#)  
 IM populate accumulated time (ms), [E-15](#)  
 IM populate bytes in-memory EU data, [E-15](#)  
 IM populate bytes uncompressed EU data, [E-15](#)  
 IM populate CUs, [E-15](#)  
 IM populate CUs memcompress for capacity high, [E-15](#)  
 IM populate CUs memcompress for capacity low, [E-15](#)  
 IM populate CUs memcompress for dml, [E-15](#)  
 IM populate CUs memcompress for query high, [E-15](#)  
 IM populate CUs memcompress for query low, [E-15](#)  
 IM populate CUs no memcompress, [E-15](#)  
 IM populate CUs requested, [E-15](#)  
 IM populate EUs, [E-15](#)  
 IM populate EUs accumulated time (ms), [E-16](#)  
 IM populate EUs columns, [E-16](#)  
 IM populate EUs memcompress for capacity high, [E-16](#)  
 IM populate EUs memcompress for capacity low, [E-16](#)  
 IM populate EUs memcompress for dml, [E-16](#)  
 IM populate EUs memcompress for query high, [E-16](#)  
 IM populate EUs memcompress for query low, [E-16](#)  
 IM populate EUs no memcompress, [E-16](#)  
 IM populate EUs requested, [E-16](#)  
 IM populate no contiguous inmemory space, [E-16](#)  
 IM populate segments, [E-16](#)  
 IM populate segments requested, [E-16](#)



statistics (*continued*)

IM populate segments wall clock time (ms), [E-16](#)

IM repopulate accumulated time (ms), [E-16](#)

IM repopulate bytes in-memory EU data, [E-16](#)

IM repopulate bytes uncompressed EU data, [E-16](#)

IM repopulate CUs, [E-16](#)

IM repopulate CUs memcompress for capacity high, [E-16](#)

IM repopulate CUs memcompress for capacity low, [E-16](#)

IM repopulate CUs memcompress for dml, [E-16](#)

IM repopulate CUs memcompress for query high, [E-16](#)

IM repopulate CUs memcompress for query low, [E-16](#)

IM repopulate CUs no memcompress, [E-16](#)

IM repopulate CUs requested, [E-17](#)

IM repopulate EUs, [E-17](#)

IM repopulate EUs accumulated time (ms), [E-17](#)

IM repopulate EUs columns, [E-17](#)

IM repopulate EUs memcompress for capacity high, [E-17](#)

IM repopulate EUs memcompress for capacity low, [E-17](#)

IM repopulate EUs memcompress for dml, [E-17](#)

IM repopulate EUs memcompress for query high, [E-17](#)

IM repopulate EUs memcompress for query low, [E-17](#)

IM repopulate EUs no memcompress, [E-17](#)

IM repopulate EUs requested, [E-17](#)

IM repopulate segments, [E-17](#)

IM repopulate segments requested, [E-17](#)

IM repopulate (doublebuffering) CUs, [E-18](#)

IM repopulate (doublebuffering) CUs requested, [E-18](#)

IM repopulate (incremental) CUs, [E-18](#)

IM repopulate (incremental) CUs requested, [E-18](#)

IM repopulate (incremental) EUs, [E-18](#)

IM repopulate (incremental) EUs requested, [E-18](#)

IM repopulate (scan) CUs, [E-18](#)

IM repopulate (scan) CUs requested, [E-18](#)

IM repopulate (scan) EUs, [E-19](#)

IM repopulate (scan) EUs requested, [E-19](#)

IM repopulate (trickle) accumulated time (ms), [E-19](#)

IM repopulate (trickle) bytes in-memory EU data, [E-19](#)

statistics (*continued*)

IM repopulate (trickle) bytes uncompressed EU data, [E-19](#)

IM repopulate (trickle) CUs, [E-19](#)

IM repopulate (trickle) CUs memcompress for capacity high, [E-19](#)

IM repopulate (trickle) CUs memcompress for capacity low, [E-19](#)

IM repopulate (trickle) CUs memcompress for dml, [E-19](#)

IM repopulate (trickle) CUs memcompress for query high, [E-19](#)

IM repopulate (trickle) CUs memcompress for query low, [E-19](#)

IM repopulate (trickle) CUs no memcompress, [E-19](#)

IM repopulate (trickle) CUs requested, [E-19](#)

IM repopulate (trickle) CUs resubmitted, [E-19](#)

IM repopulate (trickle) EUs, [E-19](#)

IM repopulate (trickle) EUs accumulated time (ms), [E-19](#)

IM repopulate (trickle) EUs columns, [E-19](#)

IM repopulate (trickle) EUs memcompress for capacity high, [E-19](#)

IM repopulate (trickle) EUs memcompress for capacity low, [E-19](#)

IM repopulate (trickle) EUs memcompress for dml, [E-19](#)

IM repopulate (trickle) EUs memcompress for query high, [E-20](#)

IM repopulate (trickle) EUs memcompress for query low, [E-20](#)

IM repopulate (trickle) EUs no memcompress, [E-20](#)

IM repopulate (trickle) EUs requested, [E-20](#)

IM repopulate accumulated time (ms), [E-17](#)

IM repopulate bytes in-memory EU data, [E-17](#)

IM repopulate CUs, [E-17](#)

IM repopulate CUs memcompress for capacity high, [E-17](#)

IM repopulate CUs memcompress for capacity low, [E-17](#)

IM repopulate CUs memcompress for dml, [E-17](#)

IM repopulate CUs memcompress for query high, [E-17](#)

IM repopulate CUs memcompress for query low, [E-17](#)

IM repopulate CUs no memcompress, [E-17](#)

IM repopulate CUs requested, [E-18](#)

IM repopulate EUs, [E-18](#)

IM repopulate EUs accumulated time (ms), [E-18](#)

IM repopulate EUs columns, [E-18](#)

IM repopulate EUs memcompress for capacity high, [E-18](#)

statistics (*continued*)

IM repopulate EUs memcompress for capacity low, [E-18](#)  
 IM repopulate EUs memcompress for dml, [E-18](#)  
 IM repopulate EUs memcompress for query high, [E-18](#)  
 IM repopulate EUs memcompress for query low, [E-18](#)  
 IM repopulate EUs no memcompress, [E-18](#)  
 IM repopulate EUs requested, [E-18](#)  
 IM repopulate no contiguous inmemory space, [E-18](#)  
 IM repopulate segments, [E-19](#)  
 IM repopulate segments requested, [E-19](#)  
 IM scan (dynamic) multi-threaded scans, [E-20](#)  
 IM scan (dynamic) rows, [E-20](#)  
 IM scan (dynamic) tasks processed by parent, [E-20](#)  
 IM scan (dynamic) tasks processed by thread, [E-20](#)  
 IM scan CUs column not in memory, [E-20](#)  
 IM scan CUs invalid or missing revert to on disk extent, [E-20](#)  
 IM scan CUs memcompress for capacity high, [E-20](#)  
 IM scan CUs memcompress for capacity low, [E-20](#)  
 IM scan CUs memcompress for dml, [E-20](#)  
 IM scan CUs memcompress for query high, [E-20](#)  
 IM scan CUs memcompress for query low, [E-20](#)  
 IM scan CUs predicates applied, [E-20](#)  
 IM scan CUs predicates optimized, [E-20](#)  
 IM scan CUs pruned, [E-20](#)  
 IM scan EU bytes in-memory, [E-20](#)  
 IM scan EU bytes uncompressed, [E-20](#)  
 IM scan EU rows, [E-20](#)  
 IM scan EUs columns accessed, [E-20](#)  
 IM scan EUs columns decompressed, [E-20](#)  
 IM scan EUs columns theoretical max, [E-21](#)  
 IM scan EUs memcompress for capacity low, [E-21](#)  
 IM scan EUs memcompress for dml, [E-21](#)  
 IM scan EUs memcompress for query high, [E-21](#)  
 IM scan EUs memcompress for query low, [E-21](#)  
 IM scan EUs no memcompress, [E-21](#)  
 IM scan EUs split pieces, [E-21](#)  
 IM scan rows, [E-21](#)  
 IM scan rows optimized, [E-21](#)  
 IM scan rows projected, [E-21](#)  
 IM scan rows valid, [E-21](#)  
 IM scan segments minmax eligible, [E-21](#)

statistics (*continued*)

IM space CU bytes allocated, [E-21](#)  
 IM space CU creations initiated, [E-21](#)  
 IM space CU extents allocated, [E-21](#)  
 IM space segments allocated, [E-21](#)  
 IM space segments freed, [E-21](#)  
 IM transactions, [E-21](#)  
 IM transactions CUs invalid, [E-21](#)  
 IM transactions rows invalidated, [E-21](#)  
 IM transactions rows journaled, [E-21](#)  
 immediate (CR) block cleanout applications, [E-15](#)  
 immediate (CURRENT) block cleanout applications, [E-15](#)  
 in call idle wait time, [E-21](#)  
 index cmph cu, uncomp sentinels, [E-21](#)  
 index cmph dm, cu lock expand, [E-21](#)  
 index cmph dm, cu migrate row, [E-21](#)  
 index cmph dm, insert unpurge CU row, [E-22](#)  
 index cmph dm, purge dummy CU, [E-22](#)  
 index cmph dm, split for cu lock expand, [E-22](#)  
 index cmph dm, split for cu migrate row, [E-22](#)  
 index cmph ld, CU fit, [E-22](#)  
 index cmph ld, CU fit, add rows, [E-22](#)  
 index cmph ld, CU negative comp, [E-22](#)  
 index cmph ld, CU over-est, [E-22](#)  
 index cmph ld, CU under-est, [E-22](#)  
 index cmph ld, infinite loop, [E-22](#)  
 index cmph ld, lf blks flushed, [E-22](#)  
 index cmph ld, lf blks w/ und CU, [E-22](#)  
 index cmph ld, lf blks w/o CU, [E-22](#)  
 index cmph ld, lf blks w/o unc r, [E-22](#)  
 index cmph ld, retry in over-est, [E-22](#)  
 index cmph ld, rows compressed, [E-22](#)  
 index cmph ld, rows uncompressed, [E-22](#)  
 index cmph sc, ffs decomp buffers, [E-22](#)  
 index cmph sc, ffs decomp buffers released and found valid, [E-22](#)  
 index cmph sc, ffs decomp buffers rows avail, [E-22](#)  
 index cmph sc, ffs decomp buffers rows used, [E-22](#)  
 index cmph sc, ffs decomp failures, [E-22](#)  
 index cmph sp, leaf 90\_10 failed, [E-22](#)  
 index cmph sp, leaf norecomp limit, [E-22](#)  
 index cmph sp, leaf norecomp negcomp, [E-22](#)  
 index cmph sp, leaf norecomp nospace, [E-22](#)  
 index cmph sp, leaf norecomp notry, [E-23](#)  
 index cmph sp, leaf norecomp oversize, [E-23](#)  
 index cmph sp, leaf norecomp zerocur, [E-23](#)  
 index cmph sp, leaf recomp fewer ucs, [E-23](#)  
 index cmph sp, leaf recomp zero ucs, [E-23](#)  
 index cmph sp, leaf recompress, [E-23](#)  
 index cmpl co, prefix mismatch, [E-23](#)  
 index cmpl ro, blocks not compressed, [E-23](#)  
 index cmpl ro, prefix change at block, [E-23](#)

statistics (*continued*)

index cmpl ro, prefix no change at block, [E-23](#)  
 index cmpl ro, reorg avoid load new block, [E-23](#)  
 index cmpl ro, reorg avoid split, [E-23](#)  
 index fast full scans (direct read), [E-23](#)  
 index fast full scans (full), [E-23](#)  
 index fast full scans (rowid ranges), [E-23](#)  
 large tracked transactions, [E-23](#)  
 leaf node splits, [E-23](#)  
 lob reads, [E-23](#)  
 lob writes, [E-23](#)  
 lob writes unaligned, [E-23](#)  
 logons cumulative, [E-24](#)  
 logons current, [E-24](#)  
 memopt r failed puts, [E-24](#)  
 memopt r failed reads on blocks, [E-24](#)  
 memopt r failed reads on buckets, [E-24](#)  
 memopt r hits, [E-24](#)  
 memopt r lookup detected CR buffer, [E-24](#)  
 memopt r lookups, [E-24](#)  
 memopt r misses, [E-24](#)  
 memopt r puts, [E-24](#)  
 memopt r successful puts, [E-24](#)  
 messages received, [E-24](#)  
 messages sent, [E-24](#)  
 MLE full GC accumulated time, [E-24](#)  
 MLE full GC count, [E-24](#)  
 MLE incremental GC accumulated time, [E-24](#)  
 MLE incremental GC count, [E-24](#)  
 MLE JIT compilation duration cumulative, [E-24](#)  
 MLE JIT compilation duration max, [E-24](#)  
 MLE JIT compilation error count, [E-24](#)  
 MLE JIT compilation success count, [E-24](#)  
 MLE total memory in use, [E-24](#)  
 no buffer to keep pinned count, [E-24](#)  
 no work - consistent read gets, [E-24](#)  
 non-idle wait count, [E-25](#)  
 non-idle wait time, [E-25](#)  
 OLAP Aggregate Function Calc, [E-25](#)  
 OLAP Aggregate Function Logical NA, [E-25](#)  
 OLAP Aggregate Function Precompute, [E-25](#)  
 OLAP Custom Member Limit, [E-25](#)  
 OLAP Engine Calls, [E-25](#)  
 OLAP Fast Limit, [E-25](#)  
 OLAP Full Limit, [E-25](#)  
 OLAP GID Limit, [E-25](#)  
 OLAP Import Rows Loaded, [E-25](#)  
 OLAP Import Rows Pushed, [E-25](#)  
 OLAP INHIER Limit, [E-25](#)  
 OLAP Limit Time, [E-25](#)  
 OLAP Paging Manager Cache Changed Page, [E-25](#)  
 OLAP Paging Manager Cache Hit, [E-25](#)  
 OLAP Paging Manager Cache Miss, [E-26](#)

statistics (*continued*)

OLAP Paging Manager Cache Write, [E-26](#)  
 OLAP Paging Manager New Page, [E-26](#)  
 OLAP Paging Manager Pool Size, [E-26](#)  
 OLAP Perm LOB Read, [E-26](#)  
 OLAP Row Id Limit, [E-26](#)  
 OLAP Row Load Time, [E-26](#)  
 OLAP Row Source Rows Processed, [E-26](#)  
 OLAP Session Cache Hit, [E-26](#)  
 OLAP Session Cache Miss, [E-26](#)  
 OLAP Temp Segment Read, [E-26](#)  
 OLAP Temp Segments, [E-26](#)  
 OLAP Unique Key Attribute Limit, [E-27](#)  
 opened cursors cumulative, [E-27](#)  
 opened cursors current, [E-27](#)  
 operating system  
     OS CPU Qt wait time, [E-27](#)  
     OS Involuntary context switches, [E-27](#)  
     OS Signals received, [E-27](#)  
     OS Swaps, [E-27](#)  
     OS Voluntary context switches, [E-27](#)  
 Parallel operations downgraded 1 to 25 pct, [E-27](#)  
 Parallel operations downgraded 25 to 50 pct, [E-27](#)  
 Parallel operations downgraded 50 to 75 pct, [E-27](#)  
 Parallel operations downgraded 75 to 99 pct, [E-27](#)  
 Parallel operations downgraded to serial, [E-27](#)  
 Parallel operations not downgraded, [E-27](#)  
 parse count (describe), [E-27](#)  
 parse count (hard), [E-27](#)  
 parse count (total), [E-27](#)  
 parse time cpu, [E-27](#)  
 parse time elapsed, [E-28](#)  
 physical maps pmem, [E-28](#)  
 physical read bytes, [E-28](#)  
 physical read flash cache hits, [E-28](#)  
 physical read IO requests, [E-28](#)  
 physical read requests optimized, [E-28](#)  
 physical read total bytes, [E-28](#)  
 physical read total IO requests, [E-28](#)  
 physical read total multi block requests, [E-28](#)  
 physical reads, [E-28](#)  
 physical reads cache, [E-28](#)  
 physical reads cache prefetch, [E-28](#)  
 physical reads direct, [E-28](#)  
 physical reads direct (lob), [E-28](#)  
 physical reads direct temporary tablespace, [E-29](#)  
 physical reads for flashback new, [E-29](#)  
 physical reads pmem, [E-29](#)  
 physical reads pmem decrypt, [E-29](#)  
 physical reads pmem direct path, [E-29](#)

statistics (*continued*)

physical reads pmem exclusive, [E-29](#)  
 physical reads pmem modification, [E-29](#)  
 physical reads pmem promote, [E-29](#)  
 physical reads pmem rollback, [E-29](#)  
 physical reads prefetch warmup, [E-29](#)  
 physical unmaps pmem forced, [E-29](#)  
 physical write bytes, [E-29](#)  
 physical write IO requests, [E-29](#)  
 physical write total bytes, [E-29](#)  
 physical write total IO requests, [E-29](#)  
 physical write total multi block requests, [E-30](#)  
 physical writes, [E-30](#)  
 physical writes direct, [E-30](#)  
 physical writes direct (lob), [E-30](#)  
 physical writes direct temporary tablespace, [E-30](#)  
 physical writes from cache, [E-30](#)  
 physical writes non checkpoint, [E-30](#)  
 pinned buffers inspected, [E-30](#)  
 pinned buffers inspected for pmem, [E-30](#)  
 prefetched blocks aged out before use, [E-30](#)  
 process last non-idle time, [E-30](#)  
 PX local messages rcv'd, [E-30](#)  
 PX local messages sent, [E-30](#)  
 PX remote messages rcv'd, [E-30](#)  
 PX remote messages sent, [E-30](#)  
 queries parallelized, [E-30](#)  
 recovery array read time, [E-30](#)  
 recovery array reads, [E-30](#)  
 recovery blocks read, [E-31](#)  
 recovery blocks read for lost write detection, [E-31](#)  
 recovery blocks skipped lost write checks, [E-31](#)  
 recursive calls, [E-31](#)  
 recursive cpu usage, [E-31](#)  
 redo blocks checksummed by FG (exclusive), [E-31](#)  
 redo blocks checksummed by LGWR, [E-31](#)  
 redo blocks written, [E-31](#)  
 redo buffer allocation retries, [E-31](#)  
 redo entries, [E-31](#)  
 redo entries for lost write detection, [E-31](#)  
 redo log space requests, [E-31](#)  
 redo log space wait time, [E-31](#)  
 redo ordering marks, [E-31](#)  
 redo size, [E-31](#)  
 redo size for lost write detection, [E-31](#)  
 redo synch time, [E-32](#)  
 redo synch writes, [E-32](#)  
 redo wastage, [E-32](#)  
 redo write time, [E-32](#)  
 redo writer latching time, [E-32](#)  
 redo writes, [E-32](#)  
 rollback changes - undo records applied, [E-32](#)

statistics (*continued*)

rollbacks only - consistent read gets, [E-32](#)  
 rows fetched via callback, [E-32](#)  
 scheduler wait time, [E-32](#)  
 SCN increments due to another database, [E-32](#)  
 serializable aborts, [E-32](#)  
 session connect time, [E-32](#)  
 session cursor cache count, [E-32](#)  
 session cursor cache hits, [E-33](#)  
 session logical reads, [E-33](#)  
 session logical reads - IM, [E-33](#)  
 session pga memory, [E-33](#)  
 session pga memory max, [E-33](#)  
 session stored procedure space, [E-33](#)  
 session uga memory, [E-33](#)  
 session uga memory max, [E-33](#)  
 shared hash latch upgrades - no wait, [E-33](#)  
 shared hash latch upgrades - wait, [E-33](#)  
 shared io pool buffer get failure, [E-33](#)  
 shared io pool buffer get success, [E-33](#)  
 slave propagated tracked transactions, [E-33](#)  
 sorts (disk), [E-33](#)  
 sorts (memory), [E-33](#)  
 sorts (rows), [E-33](#)  
 SQL\*Net roundtrips to/from client, [E-34](#)  
 SQL\*Net roundtrips to/from dblink, [E-34](#)  
 summed dirty queue length, [E-34](#)  
 switch current from pmem, [E-34](#)  
 switch current to new buffer, [E-34](#)  
 table fetch by rowid, [E-34](#)  
 table fetch continued row, [E-34](#)  
 table scan blocks gotten, [E-34](#)  
 table scan disk IMC fallback, [E-34](#)  
 table scan disk non-IMC rows gotten, [E-34](#)  
 table scan rows gotten, [E-34](#)  
 table scans (cache partitions), [E-35](#)  
 table scans (direct read), [E-35](#)  
 table scans (IM), [E-35](#)  
 table scans (long tables), [E-35](#)  
 table scans (rowid ranges), [E-35](#)  
 table scans (short tables), [E-35](#)  
 timed, [2-373](#)  
 tracked rows, [E-35](#)  
 tracked transactions, [E-35](#)  
 transaction lock background get time, [E-35](#)  
 transaction lock background gets, [E-35](#)  
 transaction lock foreground requests, [E-35](#)  
 transaction lock foreground wait time, [E-35](#)  
 transaction rollbacks, [E-35](#)  
 transaction tables consistent read rollbacks, [E-35](#)  
 transaction tables consistent reads - undo records applied, [E-35](#)  
 True Cache potentially current buffer made CR, [E-35](#)

statistics (*continued*)

True Cache potentially current buffer made current, [E-35](#)  
 True Cache: message count data send, [E-35](#)  
 True Cache: message count request send, [E-35](#)  
 True Cache: message roundtrip time data send, [E-35](#)  
 True Cache: message roundtrip time request send, [E-35](#)  
 TrueCache: block requests to preferred primary, [E-36](#)  
 TrueCache: block requests to primary, [E-36](#)  
 txns rollback priority\_txns\_high\_wait\_target, [E-36](#)  
 txns rollback  
   priority\_txns\_medium\_wait\_target, [E-36](#)  
 txns track mode  
   priority\_txns\_high\_wait\_target, [E-36](#)  
 txns track mode  
   priority\_txns\_medium\_wait\_target, [E-36](#)  
 user calls, [E-36](#)  
 user commits, [E-36](#)  
 user I/O wait time, [E-36](#)  
 user rollbacks, [E-37](#)  
 very large tracked transactions, [E-37](#)  
 write clones created in background, [E-37](#)  
 write clones created in foreground, [E-37](#)  
 STATISTICS\_LEVEL initialization parameter, [2-359](#)  
 STMT\_AUDIT\_OPTION\_MAP table, [7-155](#)  
 STREAMS\_POOL\_SIZE initialization parameter, [2-360](#)  
 switch redo log file, [2-205](#)  
 SYN synonym for USER\_SYNONYMS view, [7-156](#)  
 SYNONYMS view, [7-156](#)  
 SYS\_OBJECTS view, [7-156](#)  
 SYSCATALOG view, [7-156](#)  
 SYSDATE\_AT\_DBTIMEZONE initialization parameter, [2-361](#)  
 SYSFILES view, [7-156](#)  
 SYSSEGOBJ view, [7-157](#)  
 system global area, [2-2](#)  
   buffer areas, [2-205](#)  
 system performance, [2-2](#)  
 SYSTEM\_PRIVILEGE\_MAP table, [7-157](#)

## T

TAB view, [7-157](#)  
 TABLE\_EXPORT\_OBJECTS view, [7-157](#)  
 TABLE\_PRIVILEGE\_MAP table, [7-158](#)

## tables

data dictionary, [3-1](#)  
 DML locks, [2-124](#)  
 locating free space, [2-173](#)  
 TABLESPACE\_ENCRYPTION initialization parameter, [2-362](#)  
 TABLESPACE\_ENCRYPTION\_DEFAULT\_ALGORITHM initialization parameter, [2-363](#)  
 TABQUOTAS view, [7-158](#)  
 TABS synonym for USER\_TABLES view, [7-158](#)  
 tape archiving destination, [2-191](#)  
 TAPE\_ASYNCH\_IO initialization parameter, [2-364](#)  
 TDE\_CONFIGURATION initialization parameter, [2-365](#)  
 TDE\_KEY\_CACHE initialization parameter, [2-368](#)  
 TEMP\_UNDO\_ENABLED initialization parameter, [2-368](#)  
 territory, [2-237](#), [2-244](#)  
 THREAD initialization parameter, [2-369](#)  
 THREADED\_EXECUTION initialization parameter, [2-370](#)  
 TIME\_AT\_DBTIMEZONE initialization parameter, [2-372](#)  
 TIMED\_OS\_STATISTICS initialization parameter, [2-373](#)  
 TIMED\_STATISTICS initialization parameter, [2-373](#)  
   file read/write statistics, [8-268](#), [10-154](#)  
 TIMEZONE\_VERSION\_UPGRADE\_ONLINE initialization parameter, [2-374](#)  
 TO\_CHAR function, [2-235](#)  
 TO\_DATE function, [2-235](#)  
 trace files  
   destination, [2-388](#)  
   maximum size, [2-214](#)  
 TRACE\_ENABLED initialization parameter, [2-375](#)  
 TRACEFILE\_IDENTIFIER initialization parameter, [2-375](#)  
 TRANSACTION\_RECOVERY initialization parameter, [2-376](#)  
 transactions  
   data locking, [2-124](#)  
 TRANSACTIONS initialization parameter, [2-377](#)  
   DML locks, [2-124](#)  
 TRANSACTIONS\_PER\_ROLLBACK\_SEGMENT initialization parameter, [2-378](#)  
 TRUE\_CACHE initialization parameter, [2-378](#)  
 TRUSTED\_SERVERS view, [7-159](#)  
 TS\_PITR\_CHECK view, [7-159](#)  
 TS\_PITR\_OBJECTS TO\_BE\_DROPPED view, [7-160](#)  
 TXN\_PRIORITY initialization parameter, [2-379](#)



## U

- UNDO\_MANAGEMENT initialization parameter, [2-380](#)
- UNDO\_RETENTION initialization parameter, [2-381](#)
- UNDO\_TABLESPACE initialization parameter, [2-382](#)
- UNI\_PLUGGABLE\_SET\_CHECK view, [7-161](#)
- UNIFIED\_AUDIT\_COMMON\_SYSTEMLOG initialization parameter, [2-383](#)
- UNIFIED\_AUDIT\_SYSTEMLOG initialization parameter, [2-384](#)
- UNIFIED\_AUDIT\_TRAIL view, [7-161](#)
- UNIFORM\_LOG\_TIMESTAMP\_FORMAT initialization parameter, [2-385](#)
- updates
  - locating free space, [2-173](#)
- upgrading
  - scripts, [B-6](#)
- uppercase characters, [2-5](#)
- USABLE\_EDITIONS view, [7-171](#)
- USE\_DEDICATED\_BROKER initialization parameter, [2-386](#)
- USE\_LARGE\_PAGES initialization parameter, [2-387](#)
- user processes
  - trace files, [2-388](#)
- USER\_ADDM\_FDG\_BREAKDOWN view, [7-171](#)
- USER\_ADDM\_FINDINGS view, [7-171](#)
- USER\_ADDM\_INSTANCES view, [7-172](#)
- USER\_ADDM\_TASK\_DIRECTIVES view, [7-172](#)
- USER\_ADDM\_TASKS view, [7-172](#)
- USER\_ADVISOR\_ACTIONS view, [7-172](#)
- USER\_ADVISOR\_DIR\_TASK\_INST view, [7-173](#)
- USER\_ADVISOR\_EXEC\_PARAMETERS view, [7-173](#)
- USER\_ADVISOR\_EXECUTIONS view, [7-173](#)
- USER\_ADVISOR\_FDG\_BREAKDOWN view, [7-173](#)
- USER\_ADVISOR\_FINDINGS view, [7-174](#)
- USER\_ADVISOR\_JOURNAL view, [7-174](#)
- USER\_ADVISOR\_LOG view, [7-174](#)
- USER\_ADVISOR\_OBJECTS view, [7-174](#)
- USER\_ADVISOR\_PARAMETERS view, [7-175](#)
- USER\_ADVISOR\_RATIONALE view, [7-175](#)
- USER\_ADVISOR\_RECOMMENDATIONS view, [7-175](#)
- USER\_ADVISOR\_SQLA\_REC\_SUM view, [7-175](#)
- USER\_ADVISOR\_SQLA\_TABLES view, [7-176](#)
- USER\_ADVISOR\_SQLA\_WK\_MAP view, [7-176](#)
- USER\_ADVISOR\_SQLA\_WK\_STMTS view, [7-176](#)
- USER\_ADVISOR\_SQLPLANS view, [7-176](#)
- USER\_ADVISOR\_SQLSTATS view, [7-177](#)
- USER\_ADVISOR\_SQLW\_JOURNAL view, [7-177](#)
- USER\_ADVISOR\_SQLW\_PARAMETERS view, [7-177](#)
- USER\_ADVISOR\_SQLW\_STMTS view, [7-177](#)
- USER\_ADVISOR\_SQLW\_SUM view, [7-178](#)
- USER\_ADVISOR\_SQLW\_TABLES view, [7-178](#)
- USER\_ADVISOR\_SQLW\_TEMPLATES view, [7-178](#)
- USER\_ADVISOR\_TASKS view, [7-178](#)
- USER\_ADVISOR\_TEMPLATES view, [7-179](#)
- USER\_ALL\_TABLES view, [7-179](#)
- USER\_ANALYTIC\_VIEW\_AGGR\_DIMS view, [7-179](#)
- USER\_ANALYTIC\_VIEW\_AGGR\_FNS view, [7-179](#)
- USER\_ANALYTIC\_VIEW\_AGGR\_FNS\_AE view, [7-180](#)
- USER\_ANALYTIC\_VIEW\_AGR\_DIMS view, [7-180](#)
- USER\_ANALYTIC\_VIEW\_AGR\_DIMS\_AE view, [7-180](#)
- USER\_ANALYTIC\_VIEW\_ATTR\_CLASS view, [7-180](#)
- USER\_ANALYTIC\_VIEW\_ATTR\_CLS view, [7-181](#)
- USER\_ANALYTIC\_VIEW\_ATTR\_CLS\_AE view, [7-181](#)
- USER\_ANALYTIC\_VIEW\_BAS\_MEAS view, [7-181](#)
- USER\_ANALYTIC\_VIEW\_BAS\_MEAS\_AE view, [7-181](#)
- USER\_ANALYTIC\_VIEW\_BASE\_MEAS view, [7-182](#)
- USER\_ANALYTIC\_VIEW\_CALC\_MEAS view, [7-182](#)
- USER\_ANALYTIC\_VIEW\_CLASS view, [7-182](#)
- USER\_ANALYTIC\_VIEW\_CLASS\_AE view, [7-182](#)
- USER\_ANALYTIC\_VIEW\_CLC\_MEAS view, [7-183](#)
- USER\_ANALYTIC\_VIEW\_CLC\_MEAS\_AE view, [7-183](#)
- USER\_ANALYTIC\_VIEW\_COLUMNS view, [7-183](#)
- USER\_ANALYTIC\_VIEW\_COLUMNS\_AE view, [7-183](#)
- USER\_ANALYTIC\_VIEW\_DIM\_ATTRS view, [7-184](#)
- USER\_ANALYTIC\_VIEW\_DIM\_ATTRS\_AE view, [7-184](#)
- USER\_ANALYTIC\_VIEW\_DIM\_ATTRS view, [7-184](#)
- USER\_ANALYTIC\_VIEW\_DIM\_CLASS view, [7-184](#)
- USER\_ANALYTIC\_VIEW\_DIM\_CLS view, [7-185](#)
- USER\_ANALYTIC\_VIEW\_DIM\_CLS\_AE view, [7-185](#)
- USER\_ANALYTIC\_VIEW\_DIMENSIONS view, [7-185](#)
- USER\_ANALYTIC\_VIEW\_DIMS view, [7-185](#)

USER\_ANALYTIC\_VIEW\_DIMS\_AE view, [7-186](#)  
 USER\_ANALYTIC\_VIEW\_FACT\_COLS view, [7-186](#)  
 USER\_ANALYTIC\_VIEW\_FCT\_COLS view, [7-186](#)  
 USER\_ANALYTIC\_VIEW\_FCT\_COLS\_AE view, [7-186](#)  
 USER\_ANALYTIC\_VIEW\_HIER\_CLASS view, [7-187](#)  
 USER\_ANALYTIC\_VIEW\_HIER\_CLS view, [7-187](#)  
 USER\_ANALYTIC\_VIEW\_HIER\_CLS\_AE view, [7-187](#)  
 USER\_ANALYTIC\_VIEW\_HIERS view, [7-187](#)  
 USER\_ANALYTIC\_VIEW\_HIERS\_AE view, [7-188](#)  
 USER\_ANALYTIC\_VIEW\_KEYS view, [7-188](#)  
 USER\_ANALYTIC\_VIEW\_KEYS\_AE view, [7-188](#)  
 USER\_ANALYTIC\_VIEW\_LEVEL\_CLASS view, [7-188](#)  
 USER\_ANALYTIC\_VIEW\_LEVELS view, [7-189](#)  
 USER\_ANALYTIC\_VIEW\_LEVELS\_AE view, [7-189](#)  
 USER\_ANALYTIC\_VIEW\_LVL\_CLS view, [7-189](#)  
 USER\_ANALYTIC\_VIEW\_LVL\_CLS\_AE view, [7-189](#)  
 USER\_ANALYTIC\_VIEW\_LVLGRPS view, [7-190](#)  
 USER\_ANALYTIC\_VIEW\_LVLGRPS\_AE view, [7-190](#)  
 USER\_ANALYTIC\_VIEW\_MEAS\_CLASS view, [7-190](#)  
 USER\_ANALYTIC\_VIEW\_MEAS\_CLS view, [7-190](#)  
 USER\_ANALYTIC\_VIEW\_MEAS\_CLS\_AE view, [7-191](#)  
 USER\_ANALYTIC\_VIEWS view, [7-191](#)  
 USER\_ANALYTIC\_VIEWS\_AE view, [7-191](#)  
 USER\_ANNOTATION\_VALUES view, [7-191](#)  
 USER\_ANNOTATIONS view, [7-192](#)  
 USER\_ANNOTATIONS\_USAGE view, [7-192](#)  
 USER\_APPLICATION\_ROLES view, [7-192](#)  
 USER\_APPLY\_ERROR view, [7-193](#)  
 USER\_AQ\_AGENT\_PRIVS view, [7-193](#)  
 USER\_ARGUMENTS view, [7-193](#)  
 USER\_ASSEMBLIES view, [7-194](#)  
 USER\_ASSOCIATIONS view, [7-194](#)  
 USER\_ATTRIBUTE\_DIM\_ATTR\_CLASS view, [7-194](#)  
 USER\_ATTRIBUTE\_DIM\_ATTR\_CLS view, [7-194](#)  
 USER\_ATTRIBUTE\_DIM\_ATTR\_CLS\_AE view, [7-195](#)  
 USER\_ATTRIBUTE\_DIM\_ATTRS view, [7-195](#)  
 USER\_ATTRIBUTE\_DIM\_ATTRS\_AE view, [7-195](#)  
 USER\_ATTRIBUTE\_DIM\_CLASS view, [7-195](#)  
 USER\_ATTRIBUTE\_DIM\_CLASS\_AE view, [7-196](#)  
 USER\_ATTRIBUTE\_DIM\_JN\_PTHS view, [7-196](#)  
 USER\_ATTRIBUTE\_DIM\_JN\_PTHS\_AE view, [7-196](#)  
 USER\_ATTRIBUTE\_DIM\_JOIN\_PATHS view, [7-196](#)  
 USER\_ATTRIBUTE\_DIM\_KEYS view, [7-197](#)  
 USER\_ATTRIBUTE\_DIM\_KEYS\_AE view, [7-197](#)  
 USER\_ATTRIBUTE\_DIM\_LEVEL\_ATTRS view, [7-197](#)  
 USER\_ATTRIBUTE\_DIM\_LEVELS view, [7-197](#)  
 USER\_ATTRIBUTE\_DIM\_LEVELS\_AE view, [7-198](#)  
 USER\_ATTRIBUTE\_DIM\_LVL\_ATTRS view, [7-198](#)  
 USER\_ATTRIBUTE\_DIM\_LVL\_ATTRS\_AE view, [7-198](#)  
 USER\_ATTRIBUTE\_DIM\_LVL\_CLASS view, [7-198](#)  
 USER\_ATTRIBUTE\_DIM\_LVL\_CLS view, [7-199](#)  
 USER\_ATTRIBUTE\_DIM\_LVL\_CLS\_AE view, [7-199](#)  
 USER\_ATTRIBUTE\_DIM\_ORD\_ATTRS view, [7-199](#)  
 USER\_ATTRIBUTE\_DIM\_ORD\_ATTRS\_AE view, [7-199](#)  
 USER\_ATTRIBUTE\_DIM\_ORDER\_ATTRS view, [7-200](#)  
 USER\_ATTRIBUTE\_DIM\_TABLES view, [7-200](#)  
 USER\_ATTRIBUTE\_DIM\_TABLES\_AE view, [7-200](#)  
 USER\_ATTRIBUTE\_DIMENSIONS view, [7-200](#)  
 USER\_ATTRIBUTE\_DIMENSIONS\_AE view, [7-201](#)  
 USER\_ATTRIBUTE\_TRANSFORMATIONS view, [7-201](#)  
 USER\_AUDIT\_OBJECT view, [7-201](#)  
 USER\_AUDIT\_POLICIES view, [7-202](#)  
 USER\_AUDIT\_POLICY\_COLUMNS view, [7-202](#)  
 USER\_AUDIT\_SESSION view, [7-203](#)  
 USER\_AUDIT\_STATEMENT view, [7-203](#)  
 USER\_AUDIT\_TRAIL view, [7-203](#)  
 USER\_AW\_PS view, [7-204](#)  
 USER\_AWS view, [7-204](#)  
 USER\_BASE\_TABLE\_MVIEWS view, [7-204](#)  
 USER\_BLOCKCHAIN\_ROW\_VERSION\_COLS view, [7-204](#)  
 USER\_BLOCKCHAIN\_ROW\_VERSION\_HISTORY view, [7-205](#)  
 USER\_BLOCKCHAIN\_TABLE\_CHAINS view, [7-205](#)  
 USER\_BLOCKCHAIN\_TABLE\_EPOCHS view, [7-206](#)  
 USER\_BLOCKCHAIN\_TABLE\_HASH\_COL\_ORDER view, [7-206](#)  
 USER\_BLOCKCHAIN\_TABLES view, [7-206](#)  
 USER\_CATALOG view, [7-207](#)  
 CAT synonym, [4-216](#)  
 USER\_CERTIFICATES view, [7-207](#)

- 
- USER\_CHANGE\_NOTIFICATION\_REGS view, [7-207](#)
  - USER\_CLU\_COLUMNS view, [7-207](#)
  - USER\_CLUSTER\_HASH\_EXPRESSIONS view, [7-208](#)
  - USER\_CLUSTERING\_DIMENSIONS view, [7-208](#)
  - USER\_CLUSTERING\_JOINS view, [7-208](#)
  - USER\_CLUSTERING\_KEYS view, [7-209](#)
  - USER\_CLUSTERING\_TABLES view, [7-209](#)
  - USER\_CLUSTERS view, [7-209](#)
    - CLU synonym, [4-217](#)
  - USER\_CODE\_ROLE\_PRIVS view, [7-209](#)
  - USER\_COL\_COMMENTS view, [7-210](#)
  - USER\_COL\_PENDING\_STATS view, [7-210](#)
  - USER\_COL\_PRIVS view, [7-210](#)
  - USER\_COL\_PRIVS\_MADE view, [7-210](#)
  - USER\_COL\_PRIVS\_RECD view, [7-211](#)
  - USER\_COLL\_TYPES view, [7-211](#)
  - USER\_COMPARISON view, [7-211](#)
  - USER\_COMPARISON\_COLUMNS view, [7-211](#)
  - USER\_COMPARISON\_ROW\_DIF view, [7-212](#)
  - USER\_COMPARISON\_SCAN view, [7-212](#)
  - USER\_COMPARISON\_SCAN\_VALUES view, [7-212](#)
  - USER\_CONS\_COLUMNS view, [7-212](#)
  - USER\_CONS\_OBJ\_COLUMNS view, [7-213](#)
  - USER\_CONSTRAINTS view, [7-213](#)
  - USER\_CQ\_NOTIFICATION\_QUERIES view, [7-213](#)
  - USER\_CREDENTIALS view, [7-213](#)
  - USER\_CUBE\_ATTR\_VISIBILITY view, [7-214](#)
  - USER\_CUBE\_ATTRIBUTES view, [7-214](#)
  - USER\_CUBE\_BUILD\_PROCESSES view, [7-214](#)
  - USER\_CUBE\_CALCULATED\_MEMBERS view, [7-214](#)
  - USER\_CUBE\_DIM\_LEVELS view, [7-215](#)
  - USER\_CUBE\_DIM\_MODELS view, [7-215](#)
  - USER\_CUBE\_DIM\_VIEW\_COLUMNS view, [7-215](#)
  - USER\_CUBE\_DIM\_VIEWS view, [7-215](#)
  - USER\_CUBE\_DIMENSIONALITY view, [7-216](#)
  - USER\_CUBE\_DIMENSIONS view, [7-216](#)
  - USER\_CUBE\_HIER\_LEVELS view, [7-216](#)
  - USER\_CUBE\_HIER\_VIEW\_COLUMNS view, [7-216](#)
  - USER\_CUBE\_HIER\_VIEWS view, [7-217](#)
  - USER\_CUBE\_HIERARCHIES view, [7-217](#)
  - USER\_CUBE\_MEASURES view, [7-217](#)
  - USER\_CUBE\_NAMED\_BUILD\_SPECS view, [7-217](#)
  - USER\_CUBE\_SUB\_PARTITION\_LEVELS view, [7-218](#)
  - USER\_CUBE\_VIEW\_COLUMNS view, [7-218](#)
  - USER\_CUBE\_VIEWS view, [7-218](#)
  - USER\_CUBES view, [7-218](#)
  - USER\_DATAPUMP\_JOBS view, [7-219](#)
  - USER\_DB\_LINKS view, [7-219](#)
  - USER\_DBFS\_HS view, [7-219](#)
  - USER\_DBFS\_HS\_COMMANDS view, [7-219](#)
  - USER\_DBFS\_HS\_FILES view, [7-220](#)
  - USER\_DBFS\_HS\_FIXED\_PROPERTIES view, [7-220](#)
  - USER\_DBFS\_HS\_PROPERTIES view, [7-220](#)
  - USER\_DDL\_REGS view, [7-221](#)
  - USER\_DEPENDENCIES view, [7-221](#)
  - USER\_DIM\_ATTRIBUTES view, [7-221](#)
  - USER\_DIM\_CHILD\_OF view, [7-222](#)
  - USER\_DIM\_HIERARCHIES view, [7-222](#)
  - USER\_DIM\_JOIN\_KEY view, [7-222](#)
  - USER\_DIM\_LEVEL\_KEY view, [7-222](#)
  - USER\_DIM\_LEVELS view, [7-223](#)
  - USER\_DIMENSIONS view, [7-223](#)
  - USER\_DOMAIN\_COLS view, [7-223](#)
  - USER\_DOMAIN\_CONSTRAINTS view, [7-224](#)
  - USER\_DOMAINS view, [7-224](#)
  - USER\_DUMP\_DEST initialization parameter, [2-388](#)
  - USER\_EDITED\_TYPES view, [7-224](#)
  - USER\_EDITIONING\_VIEW\_COLS view, [7-225](#)
  - USER\_EDITIONING\_VIEW\_COLS\_AE view, [7-225](#)
  - USER\_EDITIONING\_VIEWS view, [7-225](#)
  - USER\_EDITIONING\_VIEWS\_AE view, [7-225](#)
  - USER\_ENCRYPTED\_COLUMNS view, [7-226](#)
  - USER\_EPG\_DAD\_AUTHORIZATION view, [7-226](#)
  - USER\_ERROR\_TRANSLATIONS view, [7-226](#)
  - USER\_ERRORS view, [7-226](#)
  - USER\_ERRORS\_AE view, [7-227](#)
  - USER\_EVALUATION\_CONTEXT\_TABLES view, [7-227](#)
  - USER\_EVALUATION\_CONTEXT\_VARS view, [7-227](#)
  - USER\_EVALUATION\_CONTEXTS view, [7-227](#)
  - USER\_EXPRESSION\_STATISTICS view, [7-228](#)
  - USER\_EXTENTS view, [7-228](#)
  - USER\_EXTERNAL\_LOCATIONS view, [7-228](#)
  - USER\_EXTERNAL\_TABLES view, [7-228](#)
  - USER\_FLASHBACK\_ARCHIVE view, [7-229](#)
  - USER\_FLASHBACK\_ARCHIVE\_TABLES view, [7-229](#)
  - USER\_FLASHBACK\_TXN\_REPORT view, [7-229](#)
  - USER\_FLASHBACK\_TXN\_STATE view, [7-230](#)
  - USER\_FREE\_SPACE view, [7-230](#)
  - USER\_GOLDENGATE\_PRIVILEGES view, [7-230](#)
  - USER\_HEAT\_MAP\_SEG\_HISTOGRAM view, [7-230](#)
  - USER\_HEAT\_MAP\_SEGMENT view, [7-231](#)
  - USER\_HIER\_CLASS view, [7-231](#)
  - USER\_HIER\_CLASS\_AE view, [7-231](#)
  - USER\_HIER\_COLUMNS view, [7-231](#)
  - USER\_HIER\_COLUMNS\_AE view, [7-232](#)
  - USER\_HIER\_HIER\_ATTR\_CLASS view, [7-232](#)
-



- USER\_HIER\_HIER\_ATTR\_CLASS\_AE view, [7-232](#)  
 USER\_HIER\_HIER\_ATTRIBUTES view, [7-232](#)  
 USER\_HIER\_HIER\_ATTRIBUTES\_AE view, [7-233](#)  
 USER\_HIER\_JOIN\_PATHS view, [7-233](#)  
 USER\_HIER\_JOIN\_PATHS\_AE view, [7-233](#)  
 USER\_HIER\_LEVEL\_ID\_ATTRS view, [7-233](#)  
 USER\_HIER\_LEVEL\_ID\_ATTRS\_AE view, [7-234](#)  
 USER\_HIER\_LEVELS view, [7-234](#)  
 USER\_HIER\_LEVELS\_AE view, [7-234](#)  
 USER\_HIERARCHIES view, [7-234](#)  
 USER\_HIERARCHIES\_AE view, [7-235](#)  
 USER\_HIST\_SAGAS view, [7-235](#)  
 USER\_HISTOGRAMS synonym for  
     USER\_TAB\_HISTOGRAMS, [7-235](#)  
 USER\_HIVE\_COLUMNS view, [7-236](#)  
 USER\_HIVE\_DATABASES view, [7-236](#)  
 USER\_HIVE\_PART\_KEY\_COLUMNS view, [7-236](#)  
 USER\_HIVE\_TAB\_PARTITIONS view, [7-236](#)  
 USER\_HIVE\_TABLES view, [7-237](#)  
 USER\_HOST\_ACES view, [7-237](#)  
 USER\_IDENTIFIERS view, [7-237](#)  
 USER\_ILMDATAMOVEMENTPOLICIES view, [7-237](#)  
 USER\_ILMEVALUATIONDETAILS view, [7-238](#)  
 USER\_ILMOBJECTS view, [7-238](#)  
 USER\_ILMPOLICIES view, [7-239](#)  
 USER\_ILMRESULTS view, [7-239](#)  
 USER\_ILMTASKS view, [7-240](#)  
 USER\_IM\_EXPRESSIONS view, [7-240](#)  
 USER\_IMMUTABLE\_ROW\_VERSION\_COLS view, [7-240](#)  
 USER\_IMMUTABLE\_ROW\_VERSION\_HISTORY view, [7-241](#)  
 USER\_IMMUTABLE\_TABLE\_COLUMNS view, [7-241](#)  
 USER\_IMMUTABLE\_TABLE\_EPOCHS view, [7-242](#)  
 USER\_IMMUTABLE\_TABLES view, [7-242](#)  
 USER\_INCOMPLETE\_SAGAS view, [7-242](#)  
 USER\_IND\_COLUMNS view, [7-243](#)  
 USER\_IND\_EXPRESSIONS view, [7-243](#)  
 USER\_IND\_PARTITIONS view, [7-243](#)  
 USER\_IND\_PENDING\_STATS view, [7-243](#)  
 USER\_IND\_STATISTICS view, [7-244](#)  
 USER\_IND\_SUBPARTITIONS view, [7-244](#)  
 USER\_INDEXES view, [7-244](#)  
     IND synonym, [7-132](#)  
 USER\_INDEXTYPE\_ARRAYTYPES view, [7-244](#)  
 USER\_INDEXTYPE\_COMMENTS view, [7-245](#)  
 USER\_INDEXTYPE\_OPERATORS view, [7-245](#)  
 USER\_INDEXTYPES view, [7-245](#)  
 USER\_INTERNAL\_TRIGGERS view, [7-245](#)  
 USER\_JAVA\_ARGUMENTS view, [7-246](#)  
 USER\_JAVA\_CLASSES view, [7-246](#)  
 USER\_JAVA\_COMPILER\_OPTIONS view, [7-246](#)  
 USER\_JAVA\_DERIVATIONS view, [7-246](#)  
 USER\_JAVA\_FIELDS view, [7-247](#)  
 USER\_JAVA\_IMPLEMENTES view, [7-247](#)  
 USER\_JAVA\_INNERS view, [7-247](#)  
 USER\_JAVA\_LAYOUTS view, [7-247](#)  
 USER\_JAVA\_METHODS view, [7-248](#)  
 USER\_JAVA\_NCOMPS view, [7-248](#)  
 USER\_JAVA\_POLICY view, [7-248](#)  
 USER\_JAVA\_RESOLVERS view, [7-248](#)  
 USER\_JAVA\_THROWS view, [7-249](#)  
 USER\_JOBS view, [7-249](#)  
     ALL\_JOBS synonym, [3-232](#)  
 USER\_JOIN\_IND\_COLUMNS view, [7-249](#)  
 USER\_JOININGROUPS view, [7-249](#)  
 USER\_JSON\_COLLECTION\_TABLES view, [7-250](#)  
 USER\_JSON\_COLLECTION\_VIEWS view, [7-250](#)  
 USER\_JSON\_COLLECTIONS view, [7-251](#)  
 USER\_JSON\_COLUMNS view, [7-251](#)  
 USER\_JSON\_DATAGUIDE\_FIELDS view, [7-251](#)  
 USER\_JSON\_DATAGUIDES view, [7-252](#)  
 USER\_JSON\_DOMAIN\_SCHEMA\_COLUMNS view, [7-252](#)  
 USER\_JSON\_DUALITY\_VIEW\_LINKS view, [7-252](#)  
 USER\_JSON\_DUALITY\_VIEW\_TAB\_COLS view, [7-253](#)  
 USER\_JSON\_DUALITY\_VIEW\_TABS view, [7-253](#)  
 USER\_JSON\_DUALITY\_VIEWS view, [7-253](#)  
 USER\_JSON\_INDEXES view, [7-254](#)  
 USER\_JSON\_SCHEMA\_COLUMNS view, [7-254](#)  
 USER\_KAFKA\_APPLICATIONS view, [7-255](#)  
 USER\_KAFKA\_CLUSTERS view, [7-255](#)  
 USER\_KAFKA\_LOAD\_METRICS view, [7-256](#)  
 USER\_KAFKA\_MESSAGES view, [7-256](#)  
 USER\_KAFKA\_OPS view, [7-257](#)  
 USER\_KAFKA\_OPS\_RESULTS view, [7-257](#)  
 USER\_KAFKA\_PARTITIONS view, [7-258](#)  
 USER\_LIBRARIES view, [7-258](#)  
 USER\_LOB\_PARTITIONS view, [7-258](#)  
 USER\_LOB\_SUBPARTITIONS view, [7-258](#)  
 USER\_LOB\_TEMPLATES view, [7-259](#)  
 USER\_LOBS view, [7-259](#)  
 USER\_LOG\_GROUP\_COLUMNS view, [7-259](#)  
 USER\_LOG\_GROUPS view, [7-259](#)  
 USER\_MEASURE\_FOLDER\_CONTENTS view, [7-260](#)  
 USER\_MEASURE\_FOLDER\_SUBFOLDERS view, [7-260](#)  
 USER\_MEASURE\_FOLDERS view, [7-260](#)  
 USER\_METADATA\_PROPERTIES view, [7-260](#)  
 USER\_METHOD\_PARAMS view, [7-261](#)  
 USER\_METHOD\_RESULTS view, [7-261](#)

- USER\_MINING\_MODEL\_ATTRIBUTES view, [7-261](#)  
 USER\_MINING\_MODEL\_PARTITIONS view, [7-261](#)  
 USER\_MINING\_MODEL\_SETTINGS view, [7-262](#)  
 USER\_MINING\_MODEL\_VIEWS view, [7-262](#)  
 USER\_MINING\_MODEL\_XFORMS view, [7-262](#)  
 USER\_MINING\_MODELS view, [7-263](#)  
 USER\_MLE\_ENV\_IMPORTS view, [7-263](#)  
 USER\_MLE\_ENVS view, [7-263](#)  
 USER\_MLE\_MODULES view, [7-264](#)  
 USER\_MLE\_PROCEDURES view, [7-264](#)  
 USER\_MVIEW\_AGGREGATES view, [7-264](#)  
 USER\_MVIEW\_ANALYSIS view, [7-265](#)  
 USER\_MVIEW\_COMMENTS view, [7-265](#)  
 USER\_MVIEW\_DETAIL\_LOGICAL\_PARTITION view, [7-265](#)  
 USER\_MVIEW\_DETAIL\_PARTITION view, [7-266](#)  
 USER\_MVIEW\_DETAIL\_RELATIONS view, [7-266](#)  
 USER\_MVIEW\_DETAIL\_SUBPARTITION view, [7-266](#)  
 USER\_MVIEW\_JOINS view, [7-266](#)  
 USER\_MVIEW\_KEYS view, [7-267](#)  
 USER\_MVIEW\_LOGS view, [7-267](#)  
 USER\_MVIEW\_REFRESH\_TIMES view, [7-267](#)  
 USER\_MVIEWS view, [7-267](#)  
 USER\_MVREF\_CHANGE\_STATS view, [7-268](#)  
 USER\_MVREF\_RUN\_STATS view, [7-268](#)  
 USER\_MVREF\_STATS view, [7-268](#)  
 USER\_MVREF\_STATS\_PARAMS view, [7-268](#)  
 USER\_MVREF\_STATS\_SYS\_DEFAULTS view, [7-269](#)  
 USER\_MVREF\_STMT\_STATS view, [7-269](#)  
 USER\_NESTED\_TABLE\_COLS view, [7-269](#)  
 USER\_NESTED\_TABLES view, [7-270](#)  
 USER\_NETWORK\_ACL\_PRIVILEGES view, [7-270](#)  
 USER\_OBJ\_AUDIT\_OPTS view, [7-271](#)  
 USER\_OBJ\_COLATTRS view, [7-271](#)  
 USER\_OBJECT\_SIZE view, [7-271](#)  
 USER\_OBJECT\_TABLES view, [7-272](#)  
 USER\_OBJECT\_USAGE view, [7-272](#)  
 USER\_OBJECTS view, [7-272](#)  
     OBJ synonym, [7-136](#)  
 USER\_OBJECTS\_AE view, [7-272](#)  
 USER\_OGG\_AUTO\_CAPTURED\_TABLES view, [7-273](#)  
 USER\_OPANCILLARY view, [7-273](#)  
 USER\_OPARGUMENTS view, [7-273](#)  
 USER\_OPBINDINGS view, [7-273](#)  
 USER\_OPERATOR\_COMMENTS view, [7-274](#)  
 USER\_OPERATORS view, [7-274](#)  
 USER\_OUTLINE\_HINTS view, [7-274](#)  
     ALL\_OUTLINE\_HINTS synonym, [3-300](#)  
 USER\_OUTLINES view, [7-274](#)  
     ALL\_OUTLINES synonym, [3-300](#)  
 USER\_PARALLEL\_EXECUTE\_CHUNKS view, [7-275](#)  
 USER\_PARALLEL\_EXECUTE\_TASKS view, [7-275](#)  
 USER\_PART\_COL\_STATISTICS view, [7-275](#)  
 USER\_PART\_HISTOGRAMS view, [7-275](#)  
 USER\_PART\_INDEXES view, [7-276](#)  
 USER\_PART\_KEY\_COLUMNS view, [7-276](#)  
 USER\_PART\_LOBS view, [7-276](#)  
 USER\_PART\_TABLES view, [7-276](#)  
 USER\_PARTIAL\_DROP\_TABS view, [7-277](#)  
 USER\_PASSWORD\_LIMITS view, [7-277](#)  
 USER\_PENDING\_CONV\_TABLES view, [7-277](#)  
 USER\_PG\_EDGE\_RELATIONSHIPS view, [7-277](#)  
 USER\_PG\_ELEMENT\_LABELS view, [7-278](#)  
 USER\_PG\_ELEMENTS view, [7-278](#)  
 USER\_PG\_KEYS view, [7-279](#)  
 USER\_PG\_LABEL\_PROPERTIES view, [7-279](#)  
 USER\_PG\_LABELS view, [7-279](#)  
 USER\_PG\_PROP\_DEFINITIONS view, [7-280](#)  
 USER\_PLSQL\_COLL\_TYPES view, [7-280](#)  
 USER\_PLSQL\_OBJECT\_SETTINGS view, [7-280](#)  
 USER\_PLSQL\_TYPE\_ATTRS view, [7-281](#)  
 USER\_PLSQL\_TYPES view, [7-281](#)  
 USER\_POLICIES view, [7-281](#)  
 USER\_POLICY\_ATTRIBUTES view, [7-281](#)  
 USER\_POLICY\_CONTEXTS view, [7-282](#)  
 USER\_POLICY\_GROUPS view, [7-282](#)  
 USER\_PRIVATE\_TEMP\_TABLES view, [7-282](#)  
 USER\_PRIVILEGE\_MAP view, [7-282](#)  
 USER\_PROCEDURES view, [7-283](#)  
 USER\_PROPERTY\_GRAPHS view, [7-283](#)  
 USER\_PROXIES view, [7-283](#)  
 USER\_QUEUE\_EVENT\_STREAMS view, [7-284](#)  
 USER\_QUEUE\_SCHEDULES view, [7-284](#)  
 USER\_QUEUE\_SUBSCRIBERS view, [7-284](#)  
 USER\_QUEUE\_TABLES view, [7-284](#)  
 USER\_QUEUES view, [7-285](#)  
 USER\_RECYCLEBIN view, [7-285](#)  
     RECYCLEBIN synonym, [7-144](#)  
 USER\_REFRESH view, [7-285](#)  
 USER\_REFRESH\_CHILDREN view, [7-285](#)  
 USER\_REFS view, [7-286](#)  
 USER\_REGISTERED\_MVIEWS view, [7-286](#)  
 USER\_REGISTRY view, [7-286](#)  
 USER\_RESOURCE\_LIMITS view, [7-286](#)  
 USER\_RESUMABLE view, [7-287](#)  
 USER\_REWRITE\_EQUIVALENCES view, [7-287](#)  
 USER\_ROLE\_PRIVS view, [7-287](#)  
 USER\_RSRC\_CONSUMER\_GROUP\_PRIVS view, [7-288](#)  
 USER\_RSRC\_MANAGER\_SYSTEM\_PRIVS view, [7-288](#)  
 USER\_RULE\_SET\_RULES view, [7-288](#)  
 USER\_RULE\_SETS view, [7-289](#)  
 USER\_RULES view, [7-289](#)

- USER\_SAGA\_BROKERS view, [7-289](#)
- USER\_SAGA\_DETAILS view, [7-289](#)
- USER\_SAGA\_ERRORS view, [7-290](#)
- USER\_SAGA\_FINALIZATION view, [7-290](#)
- USER\_SAGA\_PARTICIPANT\_SET view, [7-291](#)
- USER\_SAGA\_PARTICIPANTS view, [7-291](#)
- USER\_SAGA\_PENDING view, [7-291](#)
- USER\_SAGAS view, [7-292](#)
- USER\_SCHEDULER\_CHAIN\_RULES view, [7-292](#)
- USER\_SCHEDULER\_CHAIN\_STEPS view, [7-293](#)
- USER\_SCHEDULER\_CHAINS view, [7-293](#)
- USER\_SCHEDULER\_CREDENTIALS view, [7-293](#)
- USER\_SCHEDULER\_DB\_DESTS view, [7-294](#)
- USER\_SCHEDULER\_DESTS view, [7-294](#)
- USER\_SCHEDULER\_FILE\_WATCHERS view, [7-294](#)
- USER\_SCHEDULER\_GROUP\_MEMBERS view, [7-294](#)
- USER\_SCHEDULER\_GROUPS view, [7-295](#)
- USER\_SCHEDULER\_INCOMPAT\_MEMBER view, [7-295](#)
- USER\_SCHEDULER\_INCOMPATS view, [7-295](#)
- USER\_SCHEDULER\_JOB\_ARGS view, [7-295](#)
- USER\_SCHEDULER\_JOB\_DESTS view, [7-296](#)
- USER\_SCHEDULER\_JOB\_LOG view, [7-296](#)
- USER\_SCHEDULER\_JOB\_RUN\_DETAILS view, [7-296](#)
- USER\_SCHEDULER\_JOBS view, [7-296](#)
- USER\_SCHEDULER\_NOTIFICATIONS view, [7-297](#)
- USER\_SCHEDULER\_PROGRAM\_ARGS view, [7-297](#)
- USER\_SCHEDULER\_PROGRAMS view, [7-297](#)
- USER\_SCHEDULER\_REMOTE\_JOBSTATE view, [7-297](#)
- USER\_SCHEDULER\_RESOURCES view, [7-298](#)
- USER\_SCHEDULER\_RSC\_CONSTRAINTS view, [7-298](#)
- USER\_SCHEDULER\_RUNNING\_CHAINS view, [7-298](#)
- USER\_SCHEDULER\_RUNNING\_JOBS view, [7-298](#)
- USER\_SCHEDULER\_SCHEDULES view, [7-299](#)
- USER\_SCHEMA\_PRIVS view, [7-299](#)
- USER\_SEC\_RELEVANT\_COLS view, [7-300](#)
- USER\_SECONDARY\_OBJECTS view, [7-300](#)
- USER\_SEGMENTS view, [7-300](#)
- USER\_SEQUENCES view, [7-300](#)
  - SEQ synonym, [7-153](#)
- USER\_SODA\_COLLECTIONS view, [7-301](#)
- USER\_SOURCE view, [7-301](#)
- USER\_SOURCE\_AE view, [7-301](#)
- USER\_SQL\_TRANSLATION\_PROFILES view, [7-301](#)
- USER\_SQL\_TRANSLATIONS view, [7-302](#)
- USER\_SQLJ\_TYPE\_ATTRS view, [7-302](#)
- USER\_SQLJ\_TYPE\_METHODS view, [7-302](#)
- USER\_SQLJ\_TYPES view, [7-302](#)
- USER\_SQLSET view, [7-303](#)
- USER\_SQLSET\_BINDS view, [7-303](#)
- USER\_SQLSET\_PLANS view, [7-303](#)
- USER\_SQLSET\_REFERENCES view, [7-303](#)
- USER\_SQLSET\_STATEMENTS view, [7-304](#)
- USER\_SQLTUNE\_BINDS view, [7-304](#)
- USER\_SQLTUNE\_PLANS view, [7-304](#)
- USER\_SQLTUNE\_RATIONALE\_PLAN view, [7-304](#)
- USER\_SQLTUNE\_STATISTICS view, [7-305](#)
- USER\_SR\_GRP\_STATUS view, [7-305](#)
- USER\_SR\_GRP\_STATUS\_ALL view, [7-305](#)
- USER\_SR\_OBJ view, [7-305](#)
- USER\_SR\_OBJ\_ALL view, [7-306](#)
- USER\_SR\_OBJ\_STATUS view, [7-306](#)
- USER\_SR\_OBJ\_STATUS\_ALL view, [7-306](#)
- USER\_SR\_PARTN\_OPS view, [7-306](#)
- USER\_SR\_STLOG\_EXCEPTIONS view, [7-307](#)
- USER\_SR\_STLOG\_STATS view, [7-307](#)
- USER\_STAT\_EXTENSIONS view, [7-307](#)
- USER\_STATEMENTS view, [7-307](#)
- USER\_STORED\_SETTINGS view, [7-308](#)
- USER\_SUBPART\_COL\_STATISTICS view, [7-308](#)
- USER\_SUBPART\_HISTOGRAMS view, [7-308](#)
- USER\_SUBPART\_KEY\_COLUMNS view, [7-308](#)
- USER\_SUBPARTITION\_TEMPLATES view, [7-309](#)
- USER\_SUBSCR\_REGISTRATIONS view, [7-309](#)
- USER\_SYNONYMS view, [7-309](#)
  - SYN synonym, [7-156](#)
- USER\_SYS\_PRIVS view, [7-309](#)
- USER\_SYS\_PRIVS\_ALL view, [7-310](#)
- USER\_TAB\_COL\_STAT\_MODELS view, [7-311](#)
- USER\_TAB\_COL\_STATISTICS view, [7-311](#)
- USER\_TAB\_COLS view, [7-311](#)
- USER\_TAB\_COLUMNS view, [7-312](#)
  - COLS synonym, [4-217](#)
- USER\_TAB\_COMMENTS view, [7-312](#)
- USER\_TAB\_HISTGRM\_PENDING\_STATS view, [7-312](#)
- USER\_TAB\_HISTOGRAMS view, [7-313](#)
  - USER\_HISTOGRAMS synonym, [7-235](#)
- USER\_TAB\_IDENTITY\_COLS view, [7-313](#)
- USER\_TAB\_MODIFICATIONS view, [7-313](#)
- USER\_TAB\_PARTITIONS view, [7-313](#)
- USER\_TAB\_PENDING\_STATS view, [7-314](#)
- USER\_TAB\_PRIVS view, [7-314](#)
- USER\_TAB\_PRIVS\_MADE view, [7-314](#)
- USER\_TAB\_PRIVS\_RECD view, [7-314](#)
- USER\_TAB\_STAT\_PREFS view, [7-315](#)

USER\_TAB\_STATISTICS view, [7-315](#)  
 USER\_TAB\_STATS\_HISTORY view, [7-315](#)  
 USER\_TAB\_SUBPARTITIONS view, [7-315](#)  
 USER\_TABLE\_ACCESS\_STATS view, [7-316](#)  
 USER\_TABLE\_VIRTUAL\_COLUMNS view, [7-316](#)  
 USER\_TABLES view, [7-316](#)  
     TABS synonym, [7-158](#)  
 USER\_TABLESPACES view, [7-317](#)  
 USER\_TRANSFORMATIONS view, [7-317](#)  
 USER\_TRIGGER\_COLS view, [7-317](#)  
 USER\_TRIGGER\_ORDERING view, [7-317](#)  
 USER\_TRIGGERS view, [7-318](#)  
 USER\_TRIGGERS\_AE view, [7-318](#)  
 USER\_TS\_QUOTAS view, [7-318](#)  
 USER\_TSTZ\_TAB\_COLS view, [7-318](#)  
 USER\_TSTZ\_TABLES view, [7-319](#)  
 USER\_TUNE\_MVIEW view, [7-319](#)  
 USER\_TXEVENTQ\_MIGRATION\_STATUS view, [7-319](#)  
 USER\_TYPE\_ATTRS view, [7-320](#)  
 USER\_TYPE\_METHODS view, [7-320](#)  
 USER\_TYPE\_VERSIONS view, [7-320](#)  
 USER\_TYPES view, [7-320](#)  
 USER\_UNUSED\_COL\_TABS view, [7-321](#)  
 USER\_UPDATABLE\_COLUMNS view, [7-321](#)  
 USER\_USERS view, [7-321](#)  
 USER\_USTATS view, [7-326](#)  
 USER\_VARRAYS view, [7-326](#)  
 USER\_VIEWS view, [7-326](#)  
 USER\_VIEWS\_AE view, [7-327](#)  
 USER\_WALLET\_ACES view, [7-327](#)  
 USER\_WARNING\_SETTINGS view, [7-327](#)  
 USER\_XML\_INDEXES view, [7-327](#)  
 USER\_XML\_NESTED\_TABLES view, [7-328](#)  
 USER\_XML\_OUT\_OF\_LINE\_TABLES view, [7-328](#)  
 USER\_XML\_SCHEMA\_ATTRIBUTES view, [7-328](#)  
 USER\_XML\_SCHEMA\_COMPLEX\_TYPES view, [7-328](#)  
 USER\_XML\_SCHEMA\_ELEMENTS view, [7-329](#)  
 USER\_XML\_SCHEMA\_NAMESPACES view, [7-329](#)  
 USER\_XML\_SCHEMA\_SIMPLE\_TYPES view, [7-329](#)  
 USER\_XML\_SCHEMA\_SUBSTGRP\_HEAD view, [7-329](#)  
 USER\_XML\_SCHEMA\_SUBSTGRP\_MBRS view, [7-330](#)  
 USER\_XML\_SCHEMAS view, [7-330](#)  
 USER\_XML\_TAB\_COLS view, [7-330](#)  
 USER\_XML\_TABLES view, [7-330](#)  
 USER\_XML\_VIEW\_COLS view, [7-331](#)  
 USER\_XML\_VIEWS view, [7-331](#)  
 USER\_XTERNAL\_LOC\_PARTITIONS view, [7-331](#)

USER\_XTERNAL\_LOC\_SUBPARTITIONS view, [7-331](#)  
 USER\_XTERNAL\_PART\_TABLES view, [7-332](#)  
 USER\_XTERNAL\_TAB\_PARTITIONS view, [7-332](#)  
 USER\_XTERNAL\_TAB\_SUBPARTITIONS view, [7-332](#)  
 USER\_ZONEMAP\_MEASURES view, [7-332](#)  
 USER\_ZONEMAPS view, [7-333](#)  
 USERLOCK.SQL script, [B-3](#)  
 users  
     authenticating, [2-266](#)  
     multiple, [2-124](#)  
 UTLBSTAT.SQL script, [B-3](#)  
 UTLCHN1.SQL script, [B-3](#)  
 UTLCONST.SQL script, [B-3](#)  
 UTLDTREE.SQL script, [7-122](#), [7-132](#), [B-3](#)  
 UTLESTAT.SQL script, [B-3](#)  
 UTLEXPT1.SQL script, [B-3](#)  
 UTLFIXDIRS.SQL script, [B-4](#)  
 UTLIP.SQL script, [B-4](#)  
 UTLIRP.SQL script, [B-4](#)  
 UTLLOCKT.SQL script, [B-4](#)  
 UTLPWDMDG.SQL script, [B-4](#)  
 UTLRP.SQL script, [B-4](#)  
 UTLSAMPL.SQL script, [B-4](#)  
 UTLSCLN.SQL script, [B-4](#)  
 UTLTKPRF.SQL script, [B-4](#)  
 UTLVALID.SQL script, [B-4](#)  
 UTLXPLAN.SQL script, [B-5](#)

## V

V\$ACCESS view, [8-3](#)  
 V\$ACTIVE\_INSTANCES view, [8-4](#)  
 V\$ACTIVE\_SERVICES view, [8-4](#)  
 V\$ACTIVE\_SESS\_POOL\_MTH view, [8-6](#)  
 V\$ACTIVE\_SESSION\_HISTORY view, [8-7](#)  
 V\$ACTIVITY\_MVIEW view, [8-12](#)  
 V\$ACTIVITY\_TABLE view, [8-14](#)  
 V\$ADVISOR\_PROGRESS view, [8-16](#)  
 V\$ALERT\_TYPES view, [8-16](#)  
 V\$ALL\_ACTIVE\_SESSION\_HISTORY view, [8-17](#)  
 V\$ALL\_SQL\_BIND\_CAPTURE view, [8-23](#)  
 V\$ALL\_SQL\_MONITOR view, [8-24](#)  
 V\$ALL\_SQL\_PLAN\_MONITOR view, [8-29](#)  
 V\$AQ view, [8-35](#)  
 V\$AQ\_BACKGROUND\_COORDINATOR view, [8-36](#)  
 V\$AQ\_BMAP\_NONDUR\_SUBSCRIBERS view, [8-36](#)  
 V\$AQ\_CROSS\_INSTANCE\_JOBS view, [8-37](#)  
 V\$AQ\_IPC\_ACTIVE\_MSGS view, [8-38](#)  
 V\$AQ\_IPC\_MSG\_STATS view, [8-39](#)  
 V\$AQ\_IPC\_PENDING\_MSGS view, [8-40](#)  
 V\$AQ\_JOB\_COORDINATOR view, [8-40](#)  
 V\$AQ\_MESSAGE\_CACHE view, [8-41](#)



V\$AQ\_MESSAGE\_CACHE\_ADVICE view, [8-42](#)  
 V\$AQ\_MESSAGE\_CACHE\_STAT view, [8-43](#)  
 V\$AQ\_NONDUR\_REGISTRATIONS view, [8-45](#)  
 V\$AQ\_NONDUR\_SUBSCRIBER view, [8-46](#)  
 V\$AQ\_NONDUR\_SUBSCRIBER\_LWM view, [8-47](#)  
 V\$AQ\_NOTIFICATION\_CLIENTS view, [8-48](#)  
 V\$AQ\_PARTITION\_STATS view, [8-49](#)  
 V\$AQ\_REMOTE\_DEQUEUE\_AFFINITY view, [8-51](#)  
 V\$AQ\_SERVER\_POOL view, [8-51](#)  
 V\$AQ\_SHARDED\_SUBSCRIBER\_STAT view, [8-52](#)  
 V\$AQ\_SUBSCRIBER\_LOAD view, [8-53](#)  
 V\$ARCHIVE view, [8-54](#)  
 V\$ARCHIVE\_DEST view, [8-55](#)  
 V\$ARCHIVE\_DEST\_STATUS view, [8-58](#)  
 V\$ARCHIVE\_GAP view, [8-61](#)  
 V\$ARCHIVE\_PROCESSES view, [8-61](#)  
 V\$ARCHIVED\_LOG view, [8-62](#)  
 V\$ASM\_ACFD\_ENCRYPTION\_INFO view, [8-64](#)  
 V\$ASM\_ACFSAUTORESIZE view, [8-65](#)  
 V\$ASM\_ACFDREPL view, [8-66](#)  
 V\$ASM\_ACFDREPLTAG view, [8-68](#)  
 V\$ASM\_ACFSSNAPSHOTS view, [8-69](#)  
 V\$ASM\_ACFSTAG view, [8-70](#)  
 V\$ASM\_ACFD VOLUMES view, [8-71](#)  
 V\$ASM\_ALIAS view, [8-72](#)  
 V\$ASM\_ATTRIBUTE view, [8-73](#)  
 V\$ASM\_AUDIT\_CLEANUP\_JOBS view, [8-74](#)  
 V\$ASM\_AUDIT\_CONFIG\_PARAMS view, [8-75](#)  
 V\$ASM\_AUDIT\_LAST\_ARCH\_TS view, [8-76](#)  
 V\$ASM\_CLIENT view, [8-76](#)  
 V\$ASM\_DBCLONE\_INFO view, [8-78](#)  
 V\$ASM\_DISK view, [8-78](#)  
 V\$ASM\_DISK\_IOSTAT view, [8-83](#)  
 V\$ASM\_DISK\_STAT view, [8-84](#)  
 V\$ASM\_DISKGROUP view, [8-85](#)  
 V\$ASM\_DISKGROUP\_STAT view, [8-87](#)  
 V\$ASM\_ESTIMATE view, [8-87](#)  
 V\$ASM\_FILE view, [8-88](#)  
 V\$ASM\_FILEGROUP view, [8-90](#)  
 V\$ASM\_FILEGROUP\_FILE view, [8-92](#)  
 V\$ASM\_FILEGROUP\_PROPERTY view, [8-92](#)  
 V\$ASM\_FILESYSTEM view, [8-94](#)  
 V\$ASM\_OPERATION view, [8-95](#)  
 V\$ASM\_QUOTAGROUP view, [8-97](#)  
 V\$ASM\_TEMPLATE view, [8-98](#)  
 V\$ASM\_USER view, [8-99](#)  
 V\$ASM\_USERGROUP view, [8-99](#)  
 V\$ASM\_USERGROUP\_MEMBER view, [8-100](#)  
 V\$ASM\_VOLUME view, [8-101](#)  
 V\$ASM\_VOLUME\_STAT view, [8-102](#)  
 V\$AUTHPOOL\_STATS view, [8-103](#)  
 V\$AUTO\_IM\_FEATURES view, [8-104](#)  
 V\$AW\_AGGREGATE\_OP view, [8-104](#)  
 V\$AW\_ALLOCATE\_OP view, [8-105](#)  
 V\$AW\_CALC view, [8-105](#)  
 V\$AW\_LONGOPS view, [8-106](#)  
 V\$AW\_OLAP view, [8-107](#)  
 V\$AW\_SESSION\_INFO view, [8-108](#)  
 V\$BACKUP view, [8-109](#)  
 V\$BACKUP\_ARCHIVELOG\_DETAILS view, [8-109](#)  
 V\$BACKUP\_ARCHIVELOG\_SUMMARY view, [8-110](#)  
 V\$BACKUP\_ASYNC\_IO view, [8-111](#)  
 V\$BACKUP\_CONTROLFILE\_DETAILS view, [8-112](#)  
 V\$BACKUP\_CONTROLFILE\_SUMMARY view, [8-113](#)  
 V\$BACKUP\_COPY\_DETAILS view, [8-113](#)  
 V\$BACKUP\_COPY\_SUMMARY view, [8-114](#)  
 V\$BACKUP\_CORRUPTION view, [8-115](#)  
 V\$BACKUP\_DATAFILE view, [8-116](#)  
 V\$BACKUP\_DATAFILE\_DETAILS view, [8-118](#)  
 V\$BACKUP\_DATAFILE\_SUMMARY view, [8-119](#)  
 V\$BACKUP\_DEVICE view, [8-120](#)  
 V\$BACKUP\_FILES view, [8-120](#)  
 V\$BACKUP\_NONLOGGED view, [8-123](#)  
 V\$BACKUP\_PIECE view, [8-124](#)  
 V\$BACKUP\_PIECE\_DETAILS view, [8-125](#)  
 V\$BACKUP\_REDOLOG view, [8-127](#)  
 V\$BACKUP\_SET view, [8-128](#)  
 V\$BACKUP\_SET\_DETAILS view, [8-129](#)  
 V\$BACKUP\_SET\_SUMMARY view, [8-131](#)  
 V\$BACKUP\_SPFILE view, [8-132](#)  
 V\$BACKUP\_SPFILE\_DETAILS view, [8-132](#)  
 V\$BACKUP\_SPFILE\_SUMMARY view, [8-133](#)  
 V\$BACKUP\_SYNC\_IO view, [8-133](#)  
 V\$BGPROCESS view, [8-134](#)  
 V\$BH view, [8-135](#)  
 V\$BLOCK\_CHANGE\_TRACKING view, [8-137](#)  
 V\$BLOCKING QUIESCE view, [8-137](#)  
 V\$BT\_SCAN\_CACHE view, [8-138](#)  
 V\$BT\_SCAN\_OBJ\_TEMPS view, [8-138](#)  
 V\$BUFFER\_POOL view, [8-139](#)  
 V\$BUFFER\_POOL\_STATISTICS view, [8-140](#)  
 V\$BUFFERED\_PUBLISHERS view, [8-141](#)  
 V\$BUFFERED\_QUEUES view, [8-142](#)  
 V\$BUFFERED\_SUBSCRIBERS view, [8-143](#)  
 V\$CACHE view, [8-144](#)  
 V\$CACHE\_LOCK view, [8-146](#)  
 V\$CACHE\_TRANSFER view, [8-147](#)  
 V\$CELL\_\* views, [8-3](#)  
 V\$CHUNK\_METRIC view, [8-149](#)  
 V\$CIRCUIT view, [8-149](#)  
 V\$CLASS\_CACHE\_TRANSFER view, [8-150](#)  
 V\$CLEANUP\_PROCESS view, [8-151](#)  
 V\$CLIENT\_SECRETS view, [8-152](#)  
 V\$CLIENT\_STATS view, [8-153](#)  
 V\$CLONEDFILE view, [8-154](#)

V\$CLUSTER\_INTERCONNECTS view, [8-154](#)  
 V\$CODE\_CLAUSE view, [8-155](#)  
 V\$CON\_EVENT\_HISTOGRAM\_MICRO view, [8-156](#)  
 V\$CON\_SYS\_TIME\_MODEL view, [8-157](#)  
 V\$CON\_SYSMETRIC view, [8-157](#)  
 V\$CON\_SYSMETRIC\_HISTORY view, [8-158](#)  
 V\$CON\_SYSMETRIC\_SUMMARY view, [8-159](#)  
 V\$CON\_SYSSTAT view, [8-160](#)  
 V\$CON\_SYSTEM\_EVENT view, [8-160](#)  
 V\$CON\_SYSTEM\_WAIT\_CLASS view, [8-161](#)  
 V\$CONFIGURED\_INTERCONNECTS view, [8-162](#)  
 V\$CONTAINER\_TOPOLOGY view, [8-163](#)  
 V\$CONTAINERS view, [8-164](#)  
 V\$CONTEXT view, [8-165](#)  
 V\$CONTROLFILE view, [8-166](#)  
 V\$CONTROLFILE\_RECORD\_SECTION view, [8-166](#)  
 V\$COPY\_CORRUPTION view, [8-168](#)  
 V\$COPY\_NONLOGGED view, [8-168](#)  
 V\$CORRUPT\_XID\_LIST view, [8-169](#)  
 V\$CPOOL\_CC\_INFO view, [8-170](#)  
 V\$CPOOL\_CC\_STATS view, [8-170](#)  
 V\$CPOOL\_CONN\_INFO view, [8-171](#)  
 V\$CPOOL\_STATS view, [8-172](#)  
 V\$CR\_BLOCK\_SERVER view, [8-173](#)  
 V\$CURRENT\_BLOCK\_SERVER view, [8-174](#)  
 V\$DATABASE view, [8-175](#)  
 V\$DATABASE\_BLOCK\_CORRUPTION view, [8-184](#)  
 V\$DATABASE\_INCARNATION view, [8-184](#)  
 V\$DATABASE\_KEY\_INFO view, [8-185](#)  
 V\$DATAFILE view, [8-186](#)  
 V\$DATAFILE\_COPY view, [8-188](#)  
 V\$DATAFILE\_HEADER view, [8-190](#)  
 V\$DATAGUARD\_CONFIG view, [8-191](#)  
 V\$DATAGUARD\_PROCESS view, [8-192](#)  
 V\$DATAGUARD\_STATS view, [8-197](#)  
 V\$DATAGUARD\_STATUS view, [8-198](#)  
 V\$DATAPUMP\_SESSIONWAIT\_INFO view, [8-199](#)  
 V\$DB\_CACHE\_ADVICE view, [8-200](#)  
 V\$DB\_OBJECT\_CACHE view, [8-201](#)  
 V\$DB\_PIPES view, [8-202](#)  
 V\$DB\_TRANSPORTABLE\_PLATFORM view, [8-203](#)  
 V\$DBFILE view, [8-204](#)  
 V\$DBLINK view, [8-204](#)  
 V\$DEAD\_CLEANUP view, [8-205](#)  
 V\$DELETED\_OBJECT view, [8-206](#)  
 V\$DG\_BROKER\_CONFIG view, [8-207](#)  
 V\$DG\_BROKER\_ROLE\_CHANGE view, [8-207](#)  
 V\$DIAG\_ALERT\_EXT view, [8-208](#)  
 V\$DIAG\_APP\_TRACE\_FILE view, [8-210](#)  
 V\$DIAG\_INCIDENT view, [8-211](#)  
 V\$DIAG\_INFO view, [8-212](#)  
 V\$DIAG\_OPT\_TRACE\_RECORDS view, [8-213](#)  
 V\$DIAG\_PROBLEM view, [8-214](#)  
 V\$DIAG\_SESS\_OPT\_TRACE\_RECORDS view, [8-215](#)  
 V\$DIAG\_SESS\_SQL\_TRACE\_RECORDS view, [8-216](#)  
 V\$DIAG\_SQL\_TRACE\_RECORDS view, [8-217](#)  
 V\$DIAG\_TRACE\_FILE view, [8-219](#)  
 V\$DIAG\_TRACE\_FILE\_CONTENTS view, [8-219](#)  
 V\$DISPATCHER view, [8-220](#)  
 V\$DISPATCHER\_CONFIG view, [8-221](#)  
 V\$DISPATCHER\_RATE view, [8-222](#)  
 V\$DNFS\_CHANNELS view, [8-226](#)  
 V\$DNFS\_FILES view, [8-227](#)  
 V\$DNFS\_SERVERS view, [8-228](#)  
 V\$DNFS\_STATS view, [8-229](#)  
 V\$DYNAMIC\_REMASTER\_STATS view, [8-230](#)  
 V\$EDITIONABLE\_TYPES view, [8-231](#)  
 V\$EMON view, [8-231](#)  
 V\$ENABLEDPRIVS view, [8-233](#)  
 V\$ENABLEDSCHEMAPRIVS view, [8-233](#)  
 V\$ENCRYPTED\_TABLESPACES view, [8-234](#)  
 V\$ENCRYPTION\_KEYS view, [8-235](#)  
 V\$ENCRYPTION\_WALLET view, [8-237](#)  
 V\$ENQUEUE\_LOCK view, [8-239](#)  
 V\$ENQUEUE\_STAT view, [8-240](#)  
 V\$ENQUEUE\_STATISTICS view, [8-240](#)  
 V\$EQ\_CACHED\_PARTITIONS view, [8-241](#)  
 V\$EQ\_CROSS\_INSTANCE\_JOBS view, [8-242](#)  
 V\$EQ\_INACTIVE\_PARTITIONS view, [8-244](#)  
 V\$EQ\_MESSAGE\_CACHE view, [8-244](#)  
 V\$EQ\_MESSAGE\_CACHE\_ADVICE view, [8-245](#)  
 V\$EQ\_MESSAGE\_CACHE\_STAT view, [8-247](#)  
 V\$EQ\_NONDUR\_SUBSCRIBER view, [8-249](#)  
 V\$EQ\_NONDUR\_SUBSCRIBER\_LWM view, [8-250](#)  
 V\$EQ\_PARTITION\_STATS view, [8-250](#)  
 V\$EQ\_REMOTE\_DEQUEUE\_AFFINITY view, [8-252](#)  
 V\$EQ\_SUBSCRIBER\_LOAD view, [8-253](#)  
 V\$EQ\_SUBSCRIBER\_STAT view, [8-254](#)  
 V\$EQ\_UNCACHED\_PARTITIONS view, [8-255](#)  
 V\$EVENT\_HISTOGRAM view, [8-256](#)  
 V\$EVENT\_HISTOGRAM\_MICRO view, [8-256](#)  
 V\$EVENT\_NAME view, [8-257](#)  
 V\$EVENTMETRIC view, [8-258](#)  
 V\$EXADIRECT\_ACL view, [8-258](#)  
 V\$EXECUTION view, [8-259](#)  
 V\$EXP\_STATS view, [8-259](#)  
 V\$FALSE\_PING view, [8-260](#)  
 V\$FAST\_START\_FAILOVER\_CONFIG view, [8-261](#)  
 V\$FAST\_START\_SERVERS view, [8-264](#)  
 V\$FAST\_START\_TRANSACTIONS view, [8-264](#)  
 V\$FILE\_CACHE\_TRANSFER view, [8-265](#)

V\$FILE\_HISTOGRAM view, [8-266](#)  
 V\$FILEMETRIC view, [8-267](#)  
 V\$FILEMETRIC\_HISTORY view, [8-267](#)  
 V\$FILESPACE\_USAGE view, [8-268](#)  
 V\$FILESTAT view, [8-268](#)  
 V\$FIXED\_TABLE view, [8-269](#)  
 V\$FIXED\_VIEW\_DEFINITION view, [8-270](#)  
 V\$FLASHBACK\_DATABASE\_LOG view, [8-270](#)  
 V\$FLASHBACK\_DATABASE\_LOGFILE view, [8-271](#)  
 V\$FLASHBACK\_DATABASE\_STAT view, [8-271](#)  
 V\$FLASHBACK\_LOG\_DEST view, [8-272](#)  
 V\$FLASHBACK\_TXN\_GRAPH view, [8-273](#)  
 V\$FLASHBACK\_TXN\_MODS view, [8-274](#)  
 V\$FLASHFILESTAT view, [8-275](#)  
 V\$FOREIGN\_ARCHIVED\_LOG view, [8-275](#)  
 V\$FS\_FAILOVER\_OBSERVERS view, [8-278](#)  
 V\$FS\_FAILOVER\_STATS view, [8-279](#)  
 V\$FS\_OBSERVER\_HISTOGRAM view, [8-279](#)  
 V\$GC\_ELEMENT view, [8-281](#)  
 V\$GC\_ELEMENTS\_WITH\_COLLISIONS view, [8-281](#)  
 V\$GCR\_ACTIONS view, [8-282](#)  
 V\$GCR\_LOG view, [8-283](#)  
 V\$GCR\_METRICS view, [8-283](#)  
 V\$GCR\_STATUS view, [8-285](#)  
 V\$GCSHVMaster\_INFO view, [8-285](#)  
 V\$GCSPFMASTER\_INFO view, [8-286](#)  
 V\$GES\_BLOCKING\_ENQUEUE view, [8-286](#)  
 V\$GES\_CONVERT\_LOCAL view, [8-287](#)  
 V\$GES\_CONVERT\_REMOTE view, [8-288](#)  
 V\$GES\_ENQUEUE view, [8-289](#)  
 V\$GES\_LATCH view, [8-290](#)  
 V\$GES\_RESOURCE view, [8-291](#)  
 V\$GES\_STATISTICS view, [8-291](#)  
 V\$GG APPLY\_COORDINATOR view, [8-292](#)  
 V\$GG APPLY\_READER view, [8-294](#)  
 V\$GG APPLY\_RECEIVER view, [8-296](#)  
 V\$GG APPLY\_SERVER view, [8-297](#)  
 V\$GLOBAL\_BLOCKED\_LOCKS view, [8-300](#)  
 V\$GLOBAL\_TRANSACTION view, [8-300](#)  
 V\$GOLDENGATE\_CAPABILITIES view, [8-301](#)  
 V\$GOLDENGATE\_CAPTURE view, [8-302](#)  
 V\$GOLDENGATE\_MESSAGE\_TRACKING view, [8-305](#)  
 V\$GOLDENGATE\_PROCEDURE\_STATS view, [8-306](#)  
 V\$GOLDENGATE\_TABLE\_STATS view, [8-307](#)  
 V\$GOLDENGATE\_TRANSACTION view, [8-308](#)  
 V\$HANG\_INFO view, [8-310](#)  
 V\$HANG\_SESSION\_INFO view, [8-312](#)  
 V\$HANG\_STATISTICS view, [8-313](#)  
 V\$HEAT\_MAP\_SEGMENT view, [8-313](#)  
 V\$HM\_CHECK view, [8-314](#)  
 V\$HM\_CHECK\_PARAM view, [8-315](#)  
 V\$HM\_FINDING view, [8-315](#)  
 V\$HM\_INFO view, [8-316](#)  
 V\$HM\_RECOMMENDATION view, [8-317](#)  
 V\$HM\_RUN view, [8-318](#)  
 V\$HS\_AGENT view, [8-318](#)  
 V\$HS\_PARAMETER view, [8-319](#)  
 V\$HS\_SESSION view, [8-319](#)  
 V\$HVMaster\_INFO view, [8-320](#)  
 V\$IM\_COLUMN\_LEVEL view, [9-1](#)  
 V\$IM\_SEGMENTS view, [9-2](#)  
 V\$IM\_USER\_SEGMENTS view, [9-4](#)  
 V\$INDEX\_USAGE\_INFO view, [9-5](#)  
 V\$INDEXED\_FIXED\_COLUMN view, [9-6](#)  
 V\$INMEMORY\_AREA view, [9-7](#)  
 V\$INMEMORY\_FASTSTART\_AREA view, [9-8](#)  
 V\$INMEMORY\_SIZE\_ADVICE view, [9-9](#)  
 V\$INSTANCE view, [9-9](#)  
 V\$INSTANCE\_CACHE\_TRANSFER view, [9-12](#)  
 V\$INSTANCE\_PING view, [9-13](#)  
 V\$INSTANCE\_RECOVERY view, [9-14](#)  
 V\$IO\_CALIBRATION\_STATUS view, [9-16](#)  
 V\$IO\_OUTLIER view, [9-16](#)  
 V\$IOFUNCMETRIC view, [9-17](#)  
 V\$IOFUNCMETRIC\_HISTORY view, [9-17](#)  
 V\$IOS\_CLIENT view, [9-18](#)  
 V\$IOSTAT\_CONSUMER\_GROUP view, [9-18](#)  
 V\$IOSTAT\_FILE view, [9-19](#)  
 V\$IOSTAT\_FUNCTION view, [9-20](#)  
 V\$IOSTAT\_FUNCTION\_DETAIL view, [9-21](#)  
 V\$IOSTAT\_NETWORK view, [9-22](#)  
 V\$IP\_ACL view, [9-23](#)  
 V\$JAVA\_LIBRARY\_CACHE\_MEMORY view, [9-23](#)  
 V\$JAVA\_POOL\_ADVICE view, [9-24](#)  
 V\$KERNEL\_IO\_OUTLIER view, [9-25](#)  
 V\$KEY\_VECTOR view, [9-26](#)  
 V\$LATCH view, [9-28](#)  
 V\$LATCH\_CHILDREN view, [9-29](#)  
 V\$LATCH\_MISSES view, [9-30](#)  
 V\$LATCH\_PARENT view, [9-31](#)  
 V\$LATCHHOLDER view, [9-31](#)  
 V\$LATCHNAME view, [9-31](#)  
 V\$LCR\_CACHE view, [9-32](#)  
 V\$LGWRIO\_OUTLIER view, [9-33](#)  
 V\$LIBCACHE\_LOCKS view, [9-34](#)  
 V\$LIBRARY\_CACHE\_MEMORY view, [9-34](#)  
 V\$LIBRARYCACHE view, [9-35](#)  
 V\$LICENSE view, [9-36](#)  
 V\$LOADISTAT view, [9-36](#)  
 V\$LOADPSTAT view, [9-37](#)  
 V\$LOCK view, [9-37](#)  
 V\$LOCK\_ACTIVITY view, [9-39](#)  
 V\$LOCK\_TYPE view, [9-40](#)  
 V\$LOCKDOWN\_RULES view, [9-41](#)  
 V\$LOCKED\_OBJECT view, [9-41](#)  
 V\$LOG view, [9-42](#)  
 V\$LOG\_HISTORY view, [9-43](#)

V\$LOGFILE view, [9-44](#)  
 V\$LOGHIST view, [9-44](#)  
 V\$LOGMNR\_CONTENTS view, [9-45](#)  
 V\$LOGMNR\_DICTIONARY view, [9-50](#)  
 V\$LOGMNR\_DICTIONARY\_LOAD view, [9-51](#)  
 V\$LOGMNR\_LATCH view, [9-52](#)  
 V\$LOGMNR\_LOGS view, [9-52](#)  
 V\$LOGMNR\_PARAMETERS view, [9-53](#)  
 V\$LOGMNR\_PROCESS view, [9-54](#)  
 V\$LOGMNR\_SESSION view, [9-55](#)  
 V\$LOGMNR\_STATS view, [9-57](#)  
 V\$LOGSTDBY view, [9-59](#)  
 V\$LOGSTDBY\_PROCESS view, [9-59](#)  
 V\$LOGSTDBY\_PROGRESS view, [9-60](#)  
 V\$LOGSTDBY\_STATE view, [9-61](#)  
 V\$LOGSTDBY\_STATS view, [9-62](#)  
 V\$LOGSTDBY\_TRANSACTION view, [9-64](#)  
 V\$MANAGED\_STANDBY view, [9-65](#)  
 V\$MAP\_COMP\_LIST view, [9-67](#)  
 V\$MAP\_ELEMENT view, [9-68](#)  
 V\$MAP\_EXT\_ELEMENT view, [9-68](#)  
 V\$MAP\_FILE view, [9-69](#)  
 V\$MAP\_FILE\_EXTENT view, [9-70](#)  
 V\$MAP\_FILE\_IO\_STACK view, [9-70](#)  
 V\$MAP\_LIBRARY view, [9-71](#)  
 V\$MAP\_SUBELEMENT view, [9-72](#)  
 V\$MAPPED\_SQL view, [9-72](#)  
 V\$MEMOPTIMIZE\_WRITE\_AREA view, [9-73](#)  
 V\$MEMORY\_CURRENT\_RESIZE\_OPS view, [9-74](#)  
 V\$MEMORY\_DYNAMIC\_COMPONENTS view, [9-75](#)  
 V\$MEMORY\_RESIZE\_OPS view, [9-75](#)  
 V\$MEMORY\_TARGET\_ADVICE view, [9-76](#)  
 V\$METRIC view, [9-77](#)  
 V\$METRIC\_HISTORY view, [9-79](#)  
 V\$METRICGROUP view, [9-78](#)  
 V\$METRICNAME view, [9-79](#)  
 V\$MTTR\_TARGET\_ADVICE view, [9-80](#)  
 V\$MUTEX\_SLEEP view, [9-81](#)  
 V\$MUTEX\_SLEEP\_HISTORY view, [9-82](#)  
 V\$MVREFRESH view, [9-82](#)  
 V\$MYSTAT view, [9-83](#)  
 V\$NFS\_CLIENTS view, [9-83](#)  
 V\$NFS\_LOCKS view, [9-84](#)  
 V\$NFS\_OPEN\_FILES view, [9-84](#)  
 V\$NLS\_PARAMETERS view, [9-85](#)  
 V\$NLS\_VALID\_VALUES view, [9-85](#)  
 V\$NONLOGGED\_BLOCK view, [9-86](#)  
 V\$OBJECT\_DEPENDENCY view, [9-87](#)  
 V\$OBJECT\_PRIVILEGE view, [9-88](#)  
 V\$OBSOLETE\_BACKUP\_FILES view, [9-88](#)  
 V\$OBSOLETE\_PARAMETER view, [9-90](#)  
 V\$OFFLINE\_RANGE view, [9-90](#)  
 V\$OFS\_STATS view, [9-91](#)  
 V\$OFS\_THREADS view, [9-93](#)  
 V\$OFSMOUNT view, [9-94](#)  
 V\$ONLINE\_REDEF view, [9-94](#)  
 V\$OPEN\_CURSOR view, [9-95](#)  
 V\$OPTIMIZER\_PROCESSING\_RATE view, [9-97](#)  
 V\$OPTION view, [9-97](#)  
 V\$OSSTAT view, [9-98](#)  
 V\$PARALLEL\_DEGREE\_LIMIT\_MTH view, [9-100](#)  
 V\$PARAMETER view, [9-100](#)  
 V\$PARAMETER\_VALID\_VALUES view, [9-103](#)  
 V\$PARAMETER2 view, [9-103](#)  
 V\$PASSWORDFILE\_INFO view, [9-105](#)  
 V\$PATCHES view, [9-106](#)  
 V\$PDB\_INCARNATION view, [9-106](#)  
 V\$PDBS view, [9-107](#)  
 V\$PERSISTENT\_PUBLISHERS view, [9-109](#)  
 V\$PERSISTENT\_QMN\_CACHE view, [9-110](#)  
 V\$PERSISTENT\_QUEUES view, [9-111](#)  
 V\$PERSISTENT\_SUBSCRIBERS view, [9-113](#)  
 V\$PGA\_TARGET\_ADVICE view, [9-114](#)  
 V\$PGA\_TARGET\_ADVICE\_HISTOGRAM view, [9-116](#)  
 V\$PGASTAT view, [9-117](#)  
 V\$PKCS11\_PATH view, [9-119](#)  
 V\$PLSQL\_DEBUGGABLE\_SESSIONS view, [9-119](#)  
 V\$PMEM\_FILESTORE view, [9-120](#)  
 V\$PQ\_SESSTAT view, [9-121](#)  
 V\$PQ\_SLAVE view, [9-122](#)  
 V\$PQ\_SYSSTAT view, [9-122](#)  
 V\$PQ\_TQSTAT view, [9-124](#)  
 V\$PROCESS view, [9-124](#)  
 V\$PROCESS\_MEMORY view, [9-126](#)  
 V\$PROCESS\_MEMORY\_DETAIL view, [9-126](#)  
 V\$PROCESS\_POOL view, [9-127](#)  
 V\$PROPAGATION\_RECEIVER view, [9-128](#)  
 V\$PROPAGATION\_SENDER view, [9-129](#)  
 V\$PROXY\_ARCHIVEDLOG view, [9-131](#)  
 V\$PROXY\_ARCHIVELOG\_DETAILS view, [9-132](#)  
 V\$PROXY\_ARCHIVELOG\_SUMMARY view, [9-133](#)  
 V\$PROXY\_COPY\_DETAILS view, [9-134](#)  
 V\$PROXY\_COPY\_SUMMARY view, [9-135](#)  
 V\$PROXY\_DATAFILE view, [9-135](#)  
 V\$PROXY\_PDB\_TARGETS view, [9-137](#)  
 V\$PWFILERS view, [9-138](#)  
 V\$PX\_INSTANCE\_GROUP view, [9-140](#)  
 V\$PX\_PROCESS view, [9-140](#)  
 V\$PX\_PROCESS\_DETAIL view, [9-141](#)  
 V\$PX\_PROCESS\_SYSSTAT view, [9-141](#)  
 V\$PX\_SERVER view, [9-143](#)  
 V\$PX\_SESSION view, [9-143](#)  
 V\$PX\_SESSTAT view, [9-144](#)  
 V\$QMON\_COORDINATOR\_STATS view, [9-145](#)  
 V\$QMON\_SERVER\_STATS view, [9-146](#)  
 V\$QMON\_TASK\_STATS view, [9-147](#)  
 V\$QMON\_TASKS view, [9-147](#)



V\$QUARANTINE view, [9-148](#)  
 V\$QUARANTINE\_SUMMARY view, [9-148](#)  
 V\$QUEUE view, [9-149](#)  
 V\$QUEUEING\_MTH view, [9-149](#)  
 V\$RECOVER\_FILE view, [9-150](#)  
 V\$RECOVERY\_AREA\_USAGE view, [9-150](#)  
 V\$RECOVERY\_FILE\_DEST view, [9-151](#)  
 V\$RECOVERY\_FILE\_STATUS view, [9-151](#)  
 V\$RECOVERY\_LOG view, [9-152](#)  
 V\$RECOVERY\_PROGRESS view, [9-153](#)  
 V\$RECOVERY\_SLAVE view, [9-155](#)  
 V\$RECOVERY\_STATUS view, [9-155](#)  
 V\$RECOVERY\_WORKER view, [9-156](#)  
 V\$REDO\_DEST\_RESP\_HISTOGRAM view, [9-158](#)  
 V\$REQDIST view, [9-158](#)  
 V\$RESERVED\_WORDS view, [9-159](#)  
 V\$RESOURCE view, [9-159](#)  
 V\$RESOURCE\_LIMIT view, [9-160](#)  
 V\$RESTORE\_POINT view, [9-161](#)  
 V\$RESULT\_CACHE\_DEPENDENCY view, [9-162](#)  
 V\$RESULT\_CACHE\_MEMORY view, [9-162](#)  
 V\$RESULT\_CACHE\_OBJECTS view, [9-163](#)  
 V\$RESULT\_CACHE\_STATISTICS view, [9-165](#)  
 V\$RESULT\_SUBCACHE\_STATISTICS view, [9-166](#)  
 V\$RMAN\_BACKUP\_JOB\_DETAILS view, [9-166](#)  
 V\$RMAN\_BACKUP\_SUBJOB\_DETAILS view, [9-168](#)  
 V\$RMAN\_BACKUP\_TYPE view, [9-169](#)  
 V\$RMAN\_COMPRESSION\_ALGORITHM view, [9-170](#)  
 V\$RMAN\_CONFIGURATION view, [9-170](#)  
 V\$RMAN\_ENCRYPTION\_ALGORITHMS view, [9-171](#)  
 V\$RMAN\_OUTPUT view, [9-172](#)  
 V\$RMAN\_STATUS view, [9-173](#)  
 V\$RO\_USER\_ACCOUNT view, [9-174](#)  
 V\$ROLLNAME view, [9-175](#)  
 V\$ROLLSTAT view, [9-175](#)  
 V\$ROWCACHE view, [9-176](#)  
 V\$ROWCACHE\_PARENT view, [9-177](#)  
 V\$ROWCACHE\_SUBORDINATE view, [9-178](#)  
 V\$RSRC\_CONS\_GROUP\_HISTORY view, [9-178](#)  
 V\$RSRC\_CONSUMER\_GROUP view, [9-181](#)  
 V\$RSRC\_CONSUMER\_GROUP\_CPU\_MTH view, [9-184](#)  
 V\$RSRC\_PDB view, [9-185](#)  
 V\$RSRC\_PDB\_HISTORY view, [9-187](#)  
 V\$RSRC\_PLAN view, [9-188](#)  
 V\$RSRC\_PLAN\_CPU\_MTH view, [9-190](#)  
 V\$RSRC\_PLAN\_HISTORY view, [9-191](#)  
 V\$RSRC\_SESSION\_INFO view, [9-192](#)  
 V\$RSRCMGRMETRIC view, [9-197](#)  
 V\$RSRCMGRMETRIC\_HISTORY view, [9-199](#)  
 V\$RSRCPDBMETRIC view, [9-199](#)  
 V\$RSRCPDBMETRIC\_HISTORY view, [9-201](#)  
 V\$RULE view, [9-201](#)  
 V\$RULE\_SET view, [9-202](#)  
 V\$RULE\_SET\_AGGREGATE\_STATS view, [9-203](#)  
 V\$SCHEDULER\_IN\_MEMORY\_TRACE view, [10-1](#)  
 V\$SCHEDULER\_RUNNING\_JOBS view, [10-1](#)  
 V\$SECUREFILE\_SHRINK view, [10-2](#)  
 V\$SECUREFILE\_TIMER view, [10-3](#)  
 V\$SEGMENT\_STATISTICS view, [10-4](#)  
 V\$SEGSTAT view, [10-4](#)  
 V\$SEGSTAT\_NAME view, [10-5](#)  
 V\$SERV\_MOD\_ACT\_STATS view, [10-5](#)  
 V\$SERVICE\_DRAIN\_TIMEOUT\_ADVICE view, [10-6](#)  
 V\$SERVICE\_EVENT view, [10-7](#)  
 V\$SERVICE\_REGION\_METRIC view, [10-8](#)  
 V\$SERVICE\_STATS view, [10-9](#)  
 V\$SERVICE\_WAIT\_CLASS view, [10-10](#)  
 V\$SERVICEMETRIC view, [10-10](#)  
 V\$SERVICEMETRIC\_HISTORY view, [10-11](#)  
 V\$SERVICES view, [10-12](#)  
 V\$SES\_OPTIMIZER\_ENV view, [10-14](#)  
 V\$SESS\_IO view, [10-15](#)  
 V\$SESS\_TIME\_MODEL view, [10-15](#)  
 V\$SESSION view, [10-18](#)  
 V\$SESSION\_BLOCKERS view, [10-25](#)  
 V\$SESSION\_CONNECT\_INFO view, [10-25](#)  
 V\$SESSION\_CURSOR\_CACHE view, [10-27](#)  
 V\$SESSION\_EVENT view, [10-27](#), [C-1](#)  
 V\$SESSION\_FIX\_CONTROL view, [10-28](#)  
 V\$SESSION\_LONGOPS view, [10-29](#)  
 V\$SESSION\_OBJECT\_CACHE view, [10-30](#)  
 V\$SESSION\_WAIT view, [10-31](#), [C-1](#)  
 V\$SESSION\_WAIT\_CLASS view, [10-33](#)  
 V\$SESSION\_WAIT\_HISTORY view, [10-34](#)  
 V\$SESSIONS\_COUNT view, [10-34](#)  
 V\$SESSMETRIC view, [10-35](#)  
 V\$SESSTAT view, [10-35](#), [E-1](#)  
 V\$SGA view, [10-36](#)  
 V\$SGA\_CURRENT\_RESIZE\_OPS view, [10-36](#)  
 V\$SGA\_DYNAMIC\_COMPONENTS view, [10-37](#)  
 V\$SGA\_DYNAMIC\_FREE\_MEMORY view, [10-38](#)  
 V\$SGA\_RESIZE\_OPS view, [10-38](#)  
 V\$SGA\_TARGET\_ADVICE view, [10-39](#)  
 V\$SGAINFO view, [10-40](#)  
 V\$SGASTAT view, [10-40](#)  
 V\$SHARD\_ACK\_RECEIVER view, [10-40](#)  
 V\$SHARD\_ACK\_SENDER view, [10-42](#)  
 V\$SHARD\_APPLY\_COORDINATOR view, [10-42](#)  
 V\$SHARD\_APPLY\_LCR\_READER view, [10-44](#)  
 V\$SHARD\_APPLY\_READER view, [10-45](#)  
 V\$SHARD\_APPLY\_SERVER view, [10-47](#)  
 V\$SHARD\_LCR\_LOGS view, [10-48](#)  
 V\$SHARD\_LCR\_PERSISTER view, [10-49](#)  
 V\$SHARD\_LCR\_PRODUCER view, [10-50](#)

V\$SHARD\_NETWORK\_RECEIVER view, [10-51](#)  
 V\$SHARD\_NETWORK\_SENDER view, [10-53](#)  
 V\$SHARD\_REPLICATION\_UNIT view, [10-54](#)  
 V\$SHARED\_POOL\_ADVICE view, [10-56](#)  
 V\$SHARED\_POOL\_RESERVED view, [10-56](#)  
 V\$SHARED\_SERVER view, [10-57](#)  
 V\$SHARED\_SERVER\_MONITOR view, [10-58](#)  
 V\$SHARED\_SERVER\_STAT view, [10-59](#)  
 V\$SORT\_SEGMENT view, [10-60](#)  
 V\$SPPARAMETER view, [10-61](#)  
 V\$SQL view, [10-61](#)  
 V\$SQL\_BIND\_CAPTURE view, [10-68](#)  
 V\$SQL\_BIND\_DATA view, [10-69](#)  
 V\$SQL\_BIND\_METADATA view, [10-70](#)  
 V\$SQL\_CS\_HISTOGRAM view, [10-71](#)  
 V\$SQL\_CS\_SELECTIVITY view, [10-72](#)  
 V\$SQL\_CS\_STATISTICS view, [10-72](#)  
 V\$SQL\_CURSOR view, [10-73](#)  
 V\$SQL\_HISTORY view, [10-74](#)  
 V\$SQL\_JOIN\_FILTER view, [10-75](#)  
 V\$SQL\_MONITOR view, [10-76](#)  
 V\$SQL\_MONITOR\_SESSTAT view, [10-82](#)  
 V\$SQL\_MONITOR\_STATNAME view, [10-82](#)  
 V\$SQL\_OPTIMIZER\_ENV view, [10-83](#)  
 V\$SQL\_PLAN view, [10-84](#)  
 V\$SQL\_PLAN\_MONITOR view, [10-86](#)  
 V\$SQL\_PLAN\_STATISTICS view, [10-92](#)  
 V\$SQL\_PLAN\_STATISTICS\_ALL view, [10-94](#)  
 V\$SQL\_REDIRECTION view, [10-97](#)  
 V\$SQL\_SHARD view, [10-98](#)  
 V\$SQL\_SHARED\_CURSOR view, [10-99](#)  
 V\$SQL\_SHARED\_MEMORY view, [10-102](#)  
 V\$SQL\_TESTCASES view, [10-103](#)  
 V\$SQL\_WORKAREA view, [10-104](#)  
 V\$SQL\_WORKAREA\_ACTIVE view, [10-105](#)  
 V\$SQL\_WORKAREA\_HISTOGRAM view, [10-107](#)  
 V\$SQLAREA view, [10-108](#)  
 V\$SQLAREA\_PLAN\_HASH view, [10-112](#)  
 V\$SQLCOMMAND view, [10-116](#)  
 V\$SQLFN\_ARG\_METADATA view, [10-116](#)  
 V\$SQLFN\_METADATA view, [10-117](#)  
 V\$SQLSTATS view, [10-118](#)  
 V\$SQLSTATS\_PLAN\_HASH view, [10-121](#)  
 V\$SQLTEXT view, [10-121](#)  
 V\$SQLTEXT\_WITH\_NEWLINES view, [10-122](#)  
 V\$STANDBY\_EVENT\_HISTOGRAM view, [10-122](#)  
 V\$STANDBY\_LOG view, [10-123](#)  
 V\$STATISTICS\_LEVEL view, [10-124](#)  
 V\$STATNAME view, [10-125](#), [E-1](#)  
 V\$STATS\_ADVISOR\_RULES view, [10-126](#)  
 V\$STREAMS\_APPLY\_COORDINATOR view, [10-127](#)  
 V\$STREAMS\_APPLY\_READER view, [10-129](#)  
 V\$STREAMS\_APPLY\_SERVER view, [10-131](#)  
 V\$STREAMS\_POOL\_ADVICE view, [10-134](#)  
 V\$STREAMS\_POOL\_STATISTICS view, [10-134](#)  
 V\$SUBCACHE view, [10-135](#)  
 V\$SUBSCR\_REGISTRATION\_STATS view, [10-136](#)  
 V\$SYS\_OPTIMIZER\_ENV view, [10-137](#)  
 V\$SYS\_TIME\_MODEL view, [10-137](#)  
 V\$SYSAUX\_OCCUPANTS view, [10-138](#)  
 V\$SYSMETRIC view, [10-138](#)  
 V\$SYSMETRIC\_HISTORY view, [10-139](#)  
 V\$SYSMETRIC\_SUMMARY view, [10-140](#)  
 V\$SYSSTAT view, [10-141](#), [E-1](#)  
 V\$SYSTEM\_CURSOR\_CACHE view, [10-142](#)  
 V\$SYSTEM\_EVENT view, [10-142](#), [C-1](#)  
 V\$SYSTEM\_FIX\_CONTROL view, [10-143](#)  
 V\$SYSTEM\_PARAMETER view, [10-144](#)  
 V\$SYSTEM\_PARAMETER2 view, [10-146](#)  
 V\$SYSTEM\_WAIT\_CLASS view, [10-147](#)  
 V\$TABLE\_ACCESS\_STATS view, [10-148](#)  
 V\$TABLESPACE view, [10-148](#)  
 V\$TDM\_STATS view, [10-149](#)  
 V\$TEMP\_CACHE\_TRANSFER view, [10-150](#)  
 V\$TEMP\_EXTENT\_MAP view, [10-151](#)  
 V\$TEMP\_EXTENT\_POOL view, [10-151](#)  
 V\$TEMP\_SPACE\_HEADER view, [10-152](#)  
 V\$TEMPFILE view, [10-152](#)  
 V\$TEMPORARY\_LOBS view, [10-153](#)  
 V\$TEMPSEG\_USAGE view, [10-153](#)  
 V\$TEMPSTAT view, [10-154](#)  
 V\$TEMPUNDOSTAT view, [10-155](#)  
 V\$TEXT\_WAITING\_EVENTS view, [10-156](#)  
 V\$THREAD view, [10-157](#)  
 V\$THRESHOLD\_TYPES view, [10-158](#)  
 V\$TIMER view, [10-159](#)  
 V\$TIMEZONE\_FILE view, [10-159](#)  
 V\$TIMEZONE\_NAMES view, [10-159](#)  
 V\$TOPLEVELCALL view, [10-160](#)  
 V\$TRANSACTION view, [10-160](#)  
 V\$TRANSACTION\_ENQUEUE view, [10-162](#)  
 V\$TRANSPORTABLE\_PLATFORM view, [10-163](#)  
 V\$TRUE\_CACHE view, [10-163](#)  
 V\$TSDP\_SUPPORTED\_FEATURE view, [10-164](#)  
 V\$TYPE\_SIZE view, [10-165](#)  
 V\$UNDOSTAT view, [10-165](#)  
 V\$UNUSABLE\_BACKUPFILE\_DETAILS view, [10-167](#)  
 V\$VERSION view, [10-168](#)  
 V\$VPD\_POLICY view, [10-168](#)  
 V\$WAIT\_CHAINS view, [10-169](#)  
 V\$WAITCLASSMETRIC view, [10-171](#)  
 V\$WAITCLASSMETRIC\_HISTORY view, [10-171](#)  
 V\$WAITSTAT view, [10-172](#)  
 V\$WALLET view, [10-172](#)  
 V\$WORKLOAD\_REPLAY\_THREAD view, [10-173](#)  
 V\$XML\_AUDIT\_TRAIL view, [10-175](#)  
 V\$XSTREAM\_APPLY\_COORDINATOR view, [10-177](#)

[V\\$XSTREAM\\_APPLY\\_READER view, 10-179](#)  
[V\\$XSTREAM\\_APPLY\\_RECEIVER view, 10-181](#)  
[V\\$XSTREAM\\_APPLY\\_SERVER view, 10-182](#)  
[V\\$XSTREAM\\_CAPTURE view, 10-185](#)  
[V\\$XSTREAM\\_MESSAGE\\_TRACKING view, 10-188](#)  
[V\\$XSTREAM\\_OUTBOUND\\_SERVER view, 10-190](#)  
[V\\$XSTREAM\\_TABLE\\_STATS view, 10-193](#)  
[V\\$XSTREAM\\_TRANSACTION view, 10-194](#)  
[V\\$ZONEMAP\\_USAGE\\_STATS view, 10-195](#)  
 views  
     data dictionary views, [3-1](#)

## W

### wait events

[alter system set dispatcher, C-5](#)  
[ARCH Remote Write, C-5](#)  
[ASYNCR Remote Write, C-5](#)  
[BFILE check if exists, C-5](#)  
[BFILE check if open, C-6](#)  
[BFILE closure, C-6](#)  
[BFILE get length, C-6](#)  
[BFILE get name object, C-6](#)  
[BFILE get path object, C-6](#)  
[BFILE internal seek, C-7](#)  
[BFILE open, C-7](#)  
[BFILE read, C-7](#)  
[broadcast mesg queue transition, C-7](#)  
[broadcast mesg recovery queue transition, C-8](#)  
[buffer busy waits, C-8](#)  
[buffer deadlock, C-9](#)  
[buffer latch, C-9](#)  
[buffer read retry, C-9](#)  
[checkpoint completed, C-10](#)  
[cleanup of aborted process, C-10](#)  
[controlfile parallel write, C-10](#)  
[controlfile sequential read, C-10](#)  
[controlfile single write, C-11](#)  
[cursor: mutex S, C-11](#)  
[cursor: mutex X, C-11](#)  
[cursor: pin S, C-12](#)  
[cursor: pin S wait on X, C-12](#)  
[cursor: pin X, C-12](#)  
[db file async I/O submit, C-13](#)  
[db file parallel read, C-13](#)  
[db file parallel write, C-13](#)  
[db file scattered read, C-14](#)  
[db file sequential read, C-14](#)  
[db file single write, C-15](#)  
[DFS lock handle, C-15](#)  
[direct path read, C-16](#)  
[direct path sync, C-16](#)  
[direct path write, C-16](#)

### wait events (*continued*)

[Disk file operations I/O, C-17](#)  
[dispatcher shutdown, C-17](#)  
[dispatcher timer, C-18](#)  
[dupl. cluster key, C-18](#)  
[enq: OW - initialization, C-18](#)  
[enq: OW - termination, C-19](#)  
[enq: SV - contention, C-19](#)  
[enq: TX - index contention, C-19](#)  
[enq: TX - row lock \(HIGH priority\), C-19](#)  
[enq: TX - row lock \(LOW priority\), C-20](#)  
[enq: TX - row lock \(MEDIUM priority\), C-20](#)  
[enq: TX - row lock contention, C-21](#)  
[enqueue, C-21](#)  
[flashback buf free by RVWR, C-22](#)  
[flashback log file sync, C-22](#)  
[free buffer waits, C-22](#)  
[free global transaction table entry, C-23](#)  
[free process state object, C-23](#)  
[gc buffer busy acquire, C-23](#)  
[gc buffer busy release, C-23](#)  
[gc cr block 2-way, C-24](#)  
[gc cr block 3-way, C-24](#)  
[gc cr block busy, C-24](#)  
[gc cr block congested, C-25](#)  
[gc cr block direct read, C-25](#)  
[gc cr block lost, C-25](#)  
[gc cr grant read-mostly invalidation, C-26](#)  
[gc cr multi block grant, C-26](#)  
[gc cr multi block mixed, C-26](#)  
[gc cr request, C-27](#)  
[gc current block 2-way, C-27](#)  
[gc current block 3-way, C-27](#)  
[gc current block busy, C-27](#)  
[gc current block congested, C-28](#)  
[gc current block direct read, C-28](#)  
[gc current block lost, C-29](#)  
[gc current request, C-29](#)  
[inactive session, C-29](#)  
[inactive transaction branch, C-30](#)  
[index split completion, C-30](#)  
[instance state change, C-30](#)  
[io done, C-30](#)  
[ksxr wait for mount shared, C-31](#)  
[ktm: instance recovery, C-31](#)  
[latch activity, C-31](#)  
[latch free, C-32](#)  
[latch redo copy, C-32](#)  
[library cache load lock, C-32](#)  
[library cache lock, C-33](#)  
[library cache pin, C-33](#)  
[library cache: mutex X, C-34](#)  
[Log archive I/O, C-34](#)  
[log buffer space, C-34](#)  
[log file parallel write, C-35](#)  
[log file sequential read, C-35](#)

wait events (*continued*)

- log file single write, [C-35](#)
- log file switch (archiving needed), [C-36](#)
- log file switch (checkpoint incomplete), [C-36](#)
- log file switch (clearing log file), [C-36](#)
- log file switch (private strand flush incomplete), [C-36](#)
- log file switch completion, [C-36](#)
- log file sync, [C-36](#)
- log switch/archive, [C-37](#)
- optimizer stats update retry, [C-37](#)
- parallel recovery change buffer free, [C-37](#)
- parallel recovery control message reply, [C-37](#)
- parallel recovery coord send blocked, [C-38](#)
- parallel recovery coord wait for reply, [C-38](#)
- parallel recovery coordinator waits for slave cleanup, [C-38](#)
- parallel recovery read buffer free, [C-38](#)
- parallel recovery slave next change, [C-38](#)
- pending global transaction(s), [C-38](#)
- pipe get, [C-39](#)
- pipe put, [C-39](#)
- PL/SQL lock timer, [C-39](#)
- pmon timer, [C-39](#)
- prior spawner clean up, [C-40](#)
- process startup, [C-40](#)
- PX dequeue wait, [C-40](#)
- PX qref latch, [C-41](#)
- PX server shutdown, [C-41](#)
- PX signal server, [C-41](#)
- rdbms ipc message, [C-41](#)
- rdbms ipc message block, [C-42](#)
- rdbms ipc reply, [C-42](#)
- read by other session, [C-42](#)
- recovery active instance mapping setup, [C-42](#)
- recovery apply pending, [C-42](#)
- recovery cancel, [C-43](#)
- recovery checkpoint, [C-43](#)
- recovery file header update for checkpoint, [C-43](#)
- recovery file header update for fuzziness, [C-43](#)
- recovery image pending, [C-43](#)
- recovery marker apply, [C-43](#)
- recovery metadata latch, [C-43](#)
- recovery move influx buffers, [C-43](#)
- recovery read, [C-43](#)
- recovery receive buffer free, [C-44](#)
- recovery remote file verification, [C-44](#)
- recovery send buffer free, [C-44](#)
- recovery shutdown, [C-44](#)
- Redo Transport Attach, [C-44](#)
- Redo Transport Close, [C-44](#)
- Redo Transport Detach, [C-45](#)
- Redo Transport Open, [C-45](#)
- Redo Transport Ping, [C-45](#)

wait events (*continued*)

- Redo Transport Slave Startup, [C-45](#)
- Redo Writer Remote Sync Complete, [C-45](#)
- Redo Writer Remote Sync Notify, [C-45](#)
- resmgr: I/O rate limit, [C-46](#)
- resmgr:become active, [C-46](#)
- resmgr:cpu quantum, [C-46](#)
- resmgr:pq queued, [C-47](#)
- rolling migration: cluster quiesce, [C-47](#)
- row cache lock, [C-47](#)
- RVWR wait for flashback copy, [C-48](#)
- sbtbufinfo, [C-48](#)
- sbtgetbuf, [C-48](#)
- sbtmapbuf, [C-48](#)
- sbtrelbuf, [C-48](#)
- scginq AST call, [C-49](#)
- SGA: allocation forcing component growth, [C-49](#)
- SGA: MMAN sleep for component shrink, [C-49](#)
- SGA: sga\_target resize, [C-49](#)
- Shared IO Pool Memory, [C-49](#)
- shared server idle event, [C-50](#)
- single-task message, [C-50](#)
- smon timer, [C-50](#)
- SQL\*Net break/reset to client, [C-50](#)
- SQL\*Net break/reset to dblink, [C-51](#)
- SQL\*Net message from client, [C-51](#)
- SQL\*Net message from dblink, [C-51](#)
- SQL\*Net message to client, [C-52](#)
- SQL\*Net message to dblink, [C-52](#)
- SQL\*Net more data from client, [C-52](#)
- SQL\*Net more data from dblink, [C-53](#)
- SQL\*Net more data to client, [C-53](#)
- SQL\*Net more data to dblink, [C-53](#)
- Streams AQ: waiting for messages in the queue, [C-53](#)
- switch logfile command, [C-54](#)
- SYNC Remote Write, [C-54](#)
- timer in sksawt, [C-54](#)
- transaction, [C-55](#)
- unbound tx, [C-55](#)
- undo segment extension, [C-55](#)
- undo segment recovery, [C-56](#)
- undo segment tx slot, [C-56](#)
- undo\_retention publish retry, [C-55](#)
- utl\_file I/O, [C-56](#)
- virtual circuit wait, [C-56](#)
- WCR: replay client notify, [C-56](#)
- WCR: replay clock, [C-57](#)
- WCR: replay lock order, [C-57](#)
- WCR: replay paused, [C-57](#)
- WCR: Sync context busy, [C-57](#)
- write complete waits, [C-57](#)
- WALLET\_ROOT initialization parameter, [2-389](#)

---

WORKAREA\_SIZE\_POLICY initialization  
parameter, [2-392](#)

## X

---

XML\_DB\_EVENTS initialization parameter, [2-393](#)  
XML\_PARAMS initialization parameter, [2-394](#)